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

Doctoral Degree
2016

Author	**:**	**El-Sayed Said Abd El-Kader Salem Mehrem**
Title	**:**	**Effectiveness of Sensorimotor Stimulation on Oral Feeding Skills in Preterm Neonates**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira Mohamed El-Tohamy**
	2.	**Ola Said Ismail**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	
Aim: This study was conducted to investigate effectiveness of sensorimotor stimulation on oral feeding skills in preterm neonates. Methods and subjects: the study was performed on fifty preterm neonate patients; they were divided into two equal groups, 25 patients as a control group received traditional medical treatment and the other 25 patients as a study group received traditional medical treatment plus sensorimotor stimulation program (perioral and intraoral stimulation, tactile/ kinesthetic intervention, feeding position and oral support during feeding). They evaluated by preterm infant oral feeding readiness assessment scale and feeding performance. Results: there was significant difference between groups regarding oral feeding ($p<0.001$), time to achieve exclusive oral feeding ($p<0.001$), duration of maturation ($p<0.001$), growth measures by the weight ($p=0.026$), and total hospital stay ($p<0.001$) while there was no significant difference in time taken for transition from tube to full oral feeds ($p=0.226$). Conclusion: sensorimotor stimulation had a modulating effect on oral feeding skills and maturation of preterm neonates.		
Key words	**1.**	**sensorimotor stimulation**
	2.	**oral feeding**
	3.	**preterm neonates**
	4.	**Skills in Preterm Neonates**
Classification number	**:**	**000.000.**
Pagination	**:**	**109 p.**
Arabic Title Page	**:**	**تأثير التنبيه الحسي الحركي على مهارات الرضاعة بالفم في الأطفال المبتسرين ناقصي النمو.**
Library register number	**:**	**4817-4818.**

Author	**:**	**Hazem Atyea Ali Ali**
Title	**:**	**Prevalence of Developmental Coordination Disorder in Egyptian Children**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira Mohamed Eltohamy**
	2.	**Amany Mousa Mohamed**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	
Aim: To investigate the prevalence of developmental coordination disorder (DCD) in Egyptian children. Subjects: 1025 normal children of both genders with age ranged from 5 to 15 years (IQ > 70) participated in this study. They were selected randomly from different school levels. Methods: The subsamples size was based on a stratified random sample proportion to the subpopulation size according to Central Agency of Public Mobilization and Statistics (CAMPS). The assessment was carried out by the developmental coordination disorder questionnaire'07. Results: According to our study, the prevalence of DCD in Egyptian children is estimated to range between 5.88% and 5.925%. This range has 95% chance to be true. The girls represented 38.3%, while boys were 61.7%. In addition, the higher percentage was found in younger children (48.3 %). Finally, 60% showed lower scores in fine motor/ handwriting, 10% in control during movement, while 30 % had lower scores in general coordination. Conclusion: Our data indicate that developmental coordination disorder is a prevalent disorder that requires more attention and clear diagnosis.		
Key words	**1.**	**Developmental coordination disorder**
	2.	**developmental coordination disorder questionnaire'07**
	3.	**postural control**
	4.	**Egyptian Children**
Classification number	**:**	**000.000.**
Pagination	**:**	**92 p.**
Arabic Title Page	**:**	**إنتشار اضطراب التوافق النمو ى لدي الأطفال المصريين.**
Library register number	**:**	**4651-4652.**

Author	**:**	**Heba Saad Abd- El Tawab Abou- El Azm**
Title	**:**	**Correlation between Weight and Coordination in School Aged Children**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El Sayed Salem**
	2.	**Lobna Salaah Elhadidy**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Background: Coordination is the product of a complex set of cognitive and physical processes that are often taken for granted in children who are developing normally. Purpose: To investigate the correlation between weight and coordination in primary school aged children. Procedures : One hundred children ranged from 7-10 years from both sex (43 boys and 57 girls) participated in this study, all children were exposed to quick neurological screening test (Fifteen observed tasks), and Bruininks-Oseretsky Test of Motor Proficiency (bilateral coordination, upper limb coordination and visual motor control) . Results: The result revealed strong positive significant correlation between body weight with quick neurological screening test and a moderate negative significant correlation with Bruininks-Oseretsky Test of Motor Proficiency of bilateral coordination, upper limb coordination and visual motor control. Body mass index had a strong positive significant correlation with quick neurological screening test and a moderate negative significant correlation with Bruininks-Oseretsky Test of Motor Proficiency of bilateral coordination and upper limb coordination, and a strong negative significant correlation visual motor control. Conclusion: This study demonstrate weight and Body mass index had significant inverse correlations with coordination during childhood period.

Key words	**1.**	**Weight**
	2.	**Coordination**
	3.	**Quick Neurological screening test**
	4.	**School Aged Children**
	5.	**Children**
Classification number	**:**	**000.000.**
Pagination	**:**	**167 p.**
Arabic Title Page	**:**	**الارتباط بين الوزن والتوافق العضلى العصبى عند أطفال سن المدارس**
Library register number	**:**	**4703-4704.**

Author	**:**	**Maha Samir Younis**
Title	**:**	**Low Frequency Ultrasound Cavitation versus Phosphatidylcholine Injection on Fat Adiposity in Females with Gynoid Obesity**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Hala Mohamed Ezzeldeen**
	2.	**Mohamed Aboulghate**
	3.	**Mariam Elsayed Mohamed**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Overweight and obesity is a world epidemic problem, many therapeutic approaches are used to overcome the problem of overweight and localized obesity. Low frequency ultrasound cavitation and mesotherapy injection were recommended as different ways to get rid of localized adiposity. The aim of the current study was to compare between the effect of low frequency ultrasound cavitation versus phosphatidylcholine injection on fat adiposity in females with gynoid obesity. Forty overweight females with age ranged from 30-40 years, and their body mass indices ranged between 25-30kg/m^2 were included in the study. The subjects were divided into two equal groups: group A received low frequency ultrasound cavitation twice weekly and group B received phosphatidylcholine injection every two weeks and both groups received treatment for 4 months. The mean values of waist/hip ratio, fat percentage, and skin fold thickness were significantly changed from 0.71± 0.03, 30.7 ± 1.88, and 35.4 ± 1.26 to 0.77 ± 0.004, 25.6 ± 1.89, and 26.1 ± 2.02 respectively, in group I and from 0.69 ± 0.004, 32 ± 3.36, and 36 ± 0.81 to 0.73 ± 0.009, 27.1 ± 1.66, and 31.1 ± 1.66 respectively, in group II. Also, there was a significant difference between the two groups after treatment on waist/hip ratio and skin fold thickness variables. It is suggested that low frequency ultrasound cavitation is more effective and safe to decrease fat adiposity than phosphatidylcholine injection in females with gynoid obesity.

Key words	**1.**	**Low frequency ultrasound cavitation**
	2.	**Phosphatidylcholine injection**
	3.	**Gynoid obesity**
	4.	**Fat Adiposity**
	5.	**Females**
	6.	**Gynoid Obesity**
Classification number	**:**	**000.000.**
Pagination	**:**	**149 p.**
Arabic Title Page	**:**	**الموجات فوق الصوتية التجويفي ذات التردد المنخفض مقابل حقن الفوسفاتيديل كولين على الترسبات الدهنية في حالات السمنة النسائية لدى الإناث.**
Library register number	**:**	**4803-4804.**

Author	**:**	**Mahmoud Samir Mohamed**
Title	**:**	**Comparative Study of Two Different Foot Orthoses on Balance in Children with Spastic Cerebral palsy**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El-Sayed Salem**
	2.	**Eman Ibrahim El-Hadidy**
	3.	**Moustafa El-Sherbeny**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Foot is a very important structure to achieve postural stability according to its structure and shape, so any mechanical disturbance to the foot will cause postural instability. Purposes: to determine the effects of the University of California Biomechanics Laboratory Shoe Insert and the Supramalleolar orthosis on balance, to compare between the effects of the two orthosis and to compare between the effects of unilateral and bilateral use of the two orthoses in mild hemiparetic cerebral palsy children with Pronated feet. Subjects: sixty spastic hemiparetic children ranged in age from six to ten years participated in this study. They were assigned randomly into four groups of equal numbers; group (A) children wore unilateral University of California Biomechanics Laboratory Shoe Insert, group (B) children wore unilateral Supramalleolar orthosis and group (C) children wore bilateral University of California Biomechanics Laboratory Shoe Insert and group (D) children wore bilateral Supramalleolar orthosis. Methods: Each child in the study was evaluated his/her balance before and after using orthoses by Biodex Balance System(anteroposterior, mediolateral and overall stability). All children received a selective physical therapy program for one hour per day, three sessions per week and wore the selective orthoses for eighteen hours per day for six successive weeks. Results: There was no significant difference between the four groups in all measured variables before wearing the orthosis ($p>0.05$), while there was significant difference in all measured variables between pre and post using the two orthosis in the four groups ($p<0.01$). When comparing mean values of the four groups, the results revealed significant improvement in favor of groups C and D ($p<0.01$) and when comparing mean values of group C and D the results revealed significant improvement in favor of group D ($p<0.01$). Conclusion: Both orthoses can enhance balance for these children but bilateral use of the two orthoses can enhance balance better than unilateral use. Also, bilateral use of Supramalleolar orthosis has great advantage in enhancement balance than bilateral use of University of California Biomechanics Laboratory Shoe Insert for hemiparetic children with pronated feet.

Key words	**1.**	**cerebral palsy**
	2.	**hemiparesis**
	3.	**Spastic Cerebral palsy**
	4.	**Foot Orthoses on Balance in Children with**
	5.	**pronated feet**
	6.	**balance**
Classification number	**:**	**000.000.**
Pagination	**:**	**110 p.**
Arabic Title Page	**:**	**دراسة مقارنة بين تأثير نوعين من جبائر القدم المختلفة على التوازن عند الأطفال المصابين بالشلل الدماغى التشنجى.**
Library register number	**:**	**4963-4964.**

Author	**:**	**Manal Helmy Mohamed Koura**
Title	**:**	**Efficacy of Aerobic Training and Vitamin D Intake on Pulmonary Functions in Children with Asthma**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El Sayed Salem**
	2.	**Hebatallah Mohamed Kamal**
	3.	**Sahar Abd Al-Aziz Khairy**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Purpose: The purpose of this study was to investigate the effect of aerobic treadmill training, vitamin D intake, and their combined effect on pulmonary functions in children with asthma. Methods: Sixty asthmatic children of both sexes ranged from 6 to 9 years participated in this study. They were classified randomly into three groups of equal numbers, twenty subjects in each group; Group A received the recommended dose of Vitamin D on daily basis, group B received the selected aerobic treadmill training program three times per week, and group C received both the recommended dose of Vitamin D in addition to the selected aerobic treadmill training program. They were evaluated by Pulmonary Function test "Spirometry" and the Children's Health Survey for Asthma (CHSA) pre and post the treatment program which was conducted for 8 weeks. Results: There was a non-statistically significant difference in the pre-treatment measurements, while there was a statistically significant difference between the pre and post treatment measurements regarding the measured pulmonary functions (FVC, FEV_1, FEV_1/FVC ratio, PEF, $FEF_{25\%-75\%}$) in the three groups ($P<0.001$). In comparison between the post treatment measurements, there was a statistically significant difference between the three groups in favor of group C for all parameters except $FEF_{25\%}$. Regarding CHSA, there was a statistically significant difference between the pre and post treatment mean values in the three groups, while there was a statistically significant difference between the post mean values in the three groups in favor of group B and C. Conclusion: It can be concluded that aerobic training and vitamin D intake can improve the pulmonary functions in asthmatic children.

Key words	**1.**	**Aerobic Training**
	2.	**Vitamin D**
	3.	**Pulmonary Functions**
	4.	**Children**
	5.	**Asthma**
Classification number	**:**	**000.000.**
Pagination	**:**	**148 p.**
Arabic Title Page	**:**	**تأثير التدريب الهوائى وفيتامين د على الوظائف الرئوية فى الأطفال المصابين بالربو الشعبى.**
Library register number	**:**	**4993-4994.**

Author	**:**	**Marian Magdy Shafeek**
Title	**:**	**Effect of usage of baby walker on acquisition and pattern of independent gait in normal children**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Emam Hassan Elnegmy**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

The purpose of this study was to investigate the effect of using baby walker (bw) on acquisition and pattern of independent gait in normal children. One hundred and twenty normal children participated in this research work they were included into two studies (study A and B). Study A included 87 out of 100 normal children their age ranged from 6 to 10 months and categorize according to using the baby walker into three groups: Group (A1) didn't use bw, group (A2) low users of bw and group (A3) high users of bw. The age of acquisition of independent walking were registered by days for all children in all groups (A1, A2 &A3) by following up the children, two methods were used to evaluate gait pattern which included digital camera with AutoCAD motion program and foot print techniques. The results of study A showed statistically significant difference between the three groups in age of acquisition of independent walking in favor of group A1, and also statistically significant difference was recorded in all gait parameter and gait pattern between the three groups and most of these differences came in favor of group A1. Study B included 20 normal children their age ranged from 2.5 to 3.5 years categorized according to using baby walker during the period of gait acquisition into two group, (B1) included 10 of non-user baby walker children and (B2) included 10 of user baby walker children. Two methods used to evaluate gait pattern digital camera with AutoCAD motion program and foot print technique. The results of study B showed non-significant statistical difference in all gait parameter and gait pattern between the two groups (B1&B2)

Key words	**1.**	**Baby walker**
	2.	**Gait acquisition**
	3.	**Gait pattern**
	4.	**normal children**
	5.	**ASQ**
Classification number	**:**	**000.000.**
Pagination	**:**	**135 p.**
Arabic Title Page	**:**	**تأثير استخدام مشاية الطفل علي اكتساب وطريقة المشي لدي الاطفال الاصحاء.**
Library register number	**:**	**4793-4794.**

Author	**:**	**Maya Galal Abd Al-Wahab**
Title	**:**	**Effect of Plyometric Training on Shoulder Strength and Functional Activities in Children with Erb's Palsy**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El Sayed Salem**
	2.	**Eman Ibrahim El-Hadidy**
	3.	**Hassan Magdy El-Barbary**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Background: Children with Erb's palsy often have residual weakness limiting their participation in many activities. Plyometric training is used to improve muscle power. Purpose: To determine the effect of plyometric training on shoulder strength and functional activities in children with Erb's palsy. Methods: Forty children (3 to 6 years) of both sexes had unilateral obstetric Erb's palsy participated in this study. They were randomly assigned into two groups; the control group received a selected physical therapy program and the study group received the same physical therapy program as the control group in addition to plyometric training program. All children received training for 6 successive weeks and were assessed before and after treatment for shoulder strength and functional activities using hand-held dynamometer and the active movement scale. Results: Significant improvement was found in all measured variables of the control and study groups when comparing their before and after treatment mean values except for the active shoulder external rotation movement of the control group. Comparing the after treatment mean values of all measured variables showed non-significant difference between both groups, while the percent of improvement was non-significantly greater in the study than the control group in all the measured variables. Significant positive correlation was found between shoulder strength and active movements in both groups. Conclusion: Plyometric training combined with physical therapy program may improve shoulder strength and functional activities in children with Erb's palsy.

Key words	**1.**	**Plyometric training**
	2.	**shoulder strength**
	3.	**active movement scale**
	4.	**Children**
	5.	**Erb's Palsy**
Classification number	**:**	**000.000.**
Pagination	**:**	**99 p.**
Arabic Title Page	**:**	**تأثير التدريبات البليومتريكية على قوة الكتف والنشاطات الوظيفية فى الأطفال المصابين بشلل ملخ الولادة.**
Library register number	**:**	**4895-4896.**

Author	**:**	**Mohamed Ismail Attia Elassal**
Title	**:**	**Electroneurography prognostic value in infants with Erb's palsy**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Emam Hassan El-Negmy**
	2.	**Shrief George Nasef**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Decisions regarding surgery are commonly taken at 3 months of age according to Gilbert principle, although others wait until 6 or 9 months. Purpose: This study aimed to (1) determine prognostic value of electroneurography in infants with Erb's palsy (2) determine what the best time is for conducting electroneurography to aid in decision making for early surgical interference. Subjects: Thirty infants with Erb's palsy of both genders participated in this study. They were classified according to age into two groups of equal number, group I includes first 3 months of life and group II includes second 3 months of life. Methodology: Evaluation of biceps brachii was done through observation of its contraction during the infant activity using Toronto Active Movement Scale and Percentage of Nerve Degeneration by using Electroneurography. Scores for biceps contraction and percentage of degeneration were measured and recorded for the two groups. Results: The results revealed that there was no significant difference between Active Movement Scale and Percentage of Nerve Degeneration between the two age groups. Also, the results revealed that there was significant inverse relation between Percentage of Nerve Degeneration and Active Movement Scale and between Percentage of Nerve Degeneration and the age for both age groups. Conclusion: the higher Percentage of Nerve Degeneration, the less Active Movement Scale, the more severity and the higher indication for early surgical interference. So, early surgical interference at the age of 3 months is essential in moderate and severe cases of Erb's palsy.

Key words	**1.**	**Erb's palsy**
	2.	**Active movement Scale**
	3.	**Electroneurography**
	4.	**infants**
Classification number	**:**	**000.000.**
Pagination	**:**	**100 p.**
Arabic Title Page	**:**	**القيمة التنبؤية لرسم العصب عند الرضع المصابين بملخ الولادة.**
Library register number	**:**	**5075-5076.**

Author	**:**	**Mostafa Soliman Mostafa Ali**
Title	**:**	**Effect of Core Stabilizing Program on Balance in Children with Spastic Cerebral Palsy**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Faten Hassan Abd El-Aziem**
	2.	**Ghada Mohammad Anwar,**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Children with cerebral palsy (CP) have limitations with postural control and anticipatory postural adjustments. Core stabilization training is thought to improve balance and postural control. The purpose of this study was to investigate the effect of core stabilizing program on balance in children with spastic cerebral palsy and compare the effect of core stabilizing program to enhance balance between hemiplegic and diplegic children. Sixty cerebral palsy children participated in this study; they were subdivided randomly into two groups of equal numbers. The control group consists of thirty children with spastic cerebral palsy (hemiplegic and diplegic) with their mean age 6.98 ± 0.55 years and the study group consists of thirty children with spastic cerebral palsy (hemiplegic and diplegic), their mean age was 7.01 ± 0.6 years. The two groups were evaluated using biodex balance system. Data were compared between the two groups using Paired T test. Study group in comparing with control group were found to be significantly differ in anteroposterior stability index, mediolateral stability index and overall stability index parameters. While when comparing hemiplegic and diplegic children subgroups were non-significant. Conclusion: according to the results of this study it can concluded that stabilizing program aiming for improving postural stability and balance during locomotion abilities is highly recommended to be added to the rehabilitation program for spastic cerebral palsy children.

Key words	**1.**	**Core stability**
	2.	**Cerebral palsy**
	3.	**Children**
	4.	**Balance**
Classification number	**:**	**000.000.**
Pagination	**:**	**124 p.**
Arabic Title Page	**:**	**تأثير برنامج الثبات المحورى على التوازن عند الأطفال المصابين بالشلل الدماغى التشنجى.**
Library register number	**:**	**4997-4998.**

Author	**:**	**Rabab Salah El Din Mohamed**
Title	**:**	**Temperamental Traits for Infants and Toddlers with Rickets**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El Sayed Salem**
	2.	**Fekry Mohamad Al-Etr**
	3.	**Mona Said Ahmad**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

The aim of this study was to find out if there were any differences in temperamental traits between ricketic and normal infants and toddlers. If there were any differences did it vary according to gender? A pilot study was done to test the timing of the questionnaire, appropriateness of the scale in terms of the range of difficulty to the parents and clearance of each statement in the questionnaire. Two hundred children were participated in this study. One hundred normal children as group (G1) divided into two equal age groups of 50 children. G{1a} from 6 months to 12 months(28 girls-22 boys) and G{1b} from 18 months to 24 months(24 girls -26 boys) and one hundred ricketic children as group (G2) divided into two equal age groups of 50 children. G{2a}from 6 months to 12 months(27 girls -23 boys) and G{2b}from 18 months to 24 months(24 girls -26 boys). The data regarding to their age and sex had been collected from both questionnaires (Infant Behavior Questionnaire-Revised &Early Childhood Behavioral Questionnaire). For both groups the measurement of psychological dimensions was taken in one session by an interview with parents for thirty minutes. The results of this study revealed that there were some dimensions with high significant differences and others with significant differences while the rest of dimensions had no statistical significant differences between both groups after considering age and sex differences. Approving that ricketic infants and toddlers differ in their temperamental traits than normal ones.

Key words	**1.**	**Rickets**
	2.	**temperamental traits**
	3.	**Infants**
	4.	**Infants**
	5.	**Toddlers**
Classification number	**:**	**000.000.**
Pagination	**:**	**109 p.**
Arabic Title Page	**:**	**الصفات المزاجية للأطفال الرضع والدارجين المصابين بالكساح.**
Library register number	**:**	**4743-4744.**

Author	**:**	**Rania Mohamed Mahmoud Bedair**
Title	**:**	**Impact of Virtual Reality Games as an Adjunct Treatment Tool on Rehabilitation of Hand Functions in Spastic Hemiplegic Children**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Hoda Abd Elazem Eltalawy**
	2.	**Kamal El-Sayed Shoukry**
	3.	**Eman Abd-El-Raouf**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Rehabilitation of children with spastic hemiplegics are facing many limitations "poor evidence base, high rehabilitation costs, long period of treatment duration difficulty to elaborate rehabilitation programs at home with a minimum of human intervention. Virtual reality game is a technology provides subject an opportunity to engage in multi-activities that are similar to daily life. It is commercially available with low cost, easy to use and activate goal directed tasks. Purpose; The primary focus of this thesis was to examine the effect of virtual reality games on hand function of spastic hemiparetic children. Forty spastic hemiplegic children ranged in age from five to ten years participating in this thesis were randomly assigned into two groups; control one; which received conventional therapy and study group; which received conventional therapy and Virtual reality games. Upper limb kinematics, object manipulation, visual-motor skills and upper limb functions were measured before and four months post treatment. Results; Significant improvements in both groups in all measuring variables were found. Shoulder flexion, wrist extension, object manipulation, visual-motor skills and upper limb functions were statistically significant at p value<0.005 in study group post treatment compared to control one. Positive correlation noted only between wrist extension and object manipulation in the study group. Conclusion; Virtual reality games improved kinematics of shoulder and wrist joints, hand skills, visual-motor skills of the upper extremity. Based on rationale of international classification of functioning and disability model designed by world health organization, virtual reality games can enhance active participation of children with motor deficits in majority of upper limb activities through consideration of child personality and environmental factors contributing to the model.

Key words	**1.**	**hand function**
	2.	**Hemiplegia**
	3.	**virtual reality games**
	4.	**Spastic Hemiplegic**
	5.	**Children**
	6.	**Rehabilitation of Hand Functions in**
Classification number	**:**	**000.000.**
Pagination	**:**	**109 p.**
Arabic Title Page	**:**	**تأثير ألعاب محاكاة الطبيعة كأداة علاجية مصاحبة لتأهيل وظائف اليد فى حالات الفالج الشقي التقلصي للأطفال.**
Library register number	**:**	**5013-5014.**

Author	**:**	**Rania Salah Swilam**
Title	**:**	**Anticipatory Postural Adjustment Associated with Upper Extremity Movements While Standing in Normal Children**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira Mohamed El Tohamy**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	
Objective: Anticipatory postural adjustments (APAs) play an important role in the performance of many activities requiring the maintenance of vertical posture. However, little is known about how children utilize APAs during self-induced postural perturbations. Any perturbation in the body such as a fast arm or leg movements endangers the body Methods: One hundred normally developed children participated in this study, their age ranged from 7-12 years old. They were divided normally into three aged groups, group A, ranged in age from 7-9 years, group B, ranged in age from 9-11 years and group C, ranged in age from 11-12 years. They were analyzed by EMG during performing unilateral shoulder flexion, the electromyography (EMG) activities of dorsal and ventral trunk and lower limbs muscles were recorded to measure the anticipatory activation of postural muscles (dorsal and ventral trunk and lower limbs muscles) before voluntary arm movement while standing. Results: in all three groups the anticipatory changes in EMG route mean square amplitude, mean amplitude and peak amplitude were higher in the dorsal trunk muscles (ES) on the epsilateral side than in contralateral side and the activity of dorsal leg muscles which were higher in magnitude than the activity of the ventral leg muscles restricting forward movement of the body and preserving balance. It also showed that, the activation of postural trunk and upper leg muscles occurred before burst onset activation of AD in all three groups: the dorsal muscles of the trunk (RES, LES), and then the dorsal muscle of thigh (BF) and followed a proximal to distal order of activation. The remaining muscles (MG, TA, RF, LRA and RRA) followed a distal to proximal order of activation after the focal movement. Conclusion: Normal developing children between age 7 and 12 years are able to generate directionally specific anticipatory postural adjustments while performing unilateral shoulder flexion.		
Key words	**1.**	**Anticipatory postural adjustments**
	2.	**typically normally developed children**
	3.	**Electromyography**
	4.	**self-induced postural perturbation**
	5.	**Upper Extremity Movements**
	6.	**While Standing**
	7.	**Normal Children**
Classification number	**:**	**000.000.**
Pagination	**:**	**106 p.**
Arabic Title Page	**:**	**التعديل الوضعى المتوقع المصاحب لحركة الذراعين أثناء الوقوف لدى الأطفال الطبيعيين.**
Library register number	**:**	**5215-5216.**

Author	**:**	**Rehab Hamed Sediek**
Title	**:**	**Relation between Core-Stability and Functional Abilities in Children with Spastic Cerebral Palsy**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Amira Mohamed El-Tohamy**
	2.	**Ibrahim Ali Nassar**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Background: Attention has been given recently to gain insight about abnormal movements that are present in spastic cerebral palsy (CP) that related to one's level of core stability and how it affects functional abilities. The purposes of the study were to investigate the presence of core stability affection in children with spastic CP, also to determine the relationship between core stability and functional abilities in those children. Subject: Seventy five children participated in this study aged from six to ten years. They were divided into three groups; Group A consisted of twenty five normal healthy children; Group B consisted of twenty five children with spastic hemiplegic CP while Group C consisted of twenty five children with spastic diplegic. Fifty children of spastic CP with level I&II of Gross Motor Function Classification System (GMFCS) and spasticity of grade 1 to1+ according to Modified Ashwarth Scale (MAS). Methods: Each child in three groups was evaluated by using Gross Motor Function Measure Scale (GMFM) to asses function abilities and Biodex Isokinetic Dynamometer to test trunk flexors and extensors peak torques. The results: revealed significant differences in the trunk flexors and extensors peak torques at angular velocity 90, 120,180°/sec as well as GMFM among three groups in favor of Group A. The peak torques and GMFM was significantly higher in Group B when compared to group C. The correlation between trunk flexors and extensors peak torque and GMFM of all participants was significance. Conclusion: Core stability was affected in children with spastic CP and there is positive relation between the core stability and motor function in those children.

Key words	**1.**	**core stability**
	2.	**Gross Motor Function**
	3.	**spastic Cerebral Palsy**
	4.	**Children**
	5.	**Spastic Cerebral Palsy**
	6.	**Functional Abilities**
Classification number	**:**	**000.000.**
Pagination	**:**	**92 p.**
Arabic Title Page	**:**	**العلاقة بين الثبات المحورى والقدرات الوظيفية فى الأطفال المصابين بالشلل الدماغى التشنجي.**
Library register number	**:**	**4811-4812.**

Author	**:**	**Tayseer Saber Abd El-Dayem**
Title	**:**	**Correlation between Gross Motor Activities and Hand Writing Skills in Elementary School Aged Children**
Dept.	**:**	**Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.**
Supervisors	**1.**	**Elham El Sayed Salem**
	2.	**Eman Ibrahim El- Hadidy**
Degree	**:**	**Doctoral.**
Year	**:**	**2016.**
Abstract	**:**	

Background: Hand writing is an essential tool required by students. It is a complex process which involves close coordination between musculoskeletal and nervous systems. Purpose: The purpose of the study was to determine the relation between developmental gross motor activities and hand writing skills in elementary school aged children. Methods: One hundred normal Egyptian children of both sexes were selected out of six hundred children from three private national elementary language schools, their ages ranged from 48 months to 72 months old. Fifty four children were in grade senior kinder (group A), and forty six children were in grade one (group B).Each child in both groups was evaluated individually by using Peabody Developmental Motor Scale (PDMS-2) to determine the level of gross motor activities and the McMaster Handwriting Assessment Protocol (MHAP) to detect level of hand writing skills including speed of near point copying, speed of dictation, hand dominance and type of pencil grasp. Results: The results of the study revealed significant positive correlation between gross motor quotient and speed of near point copying in both groups :group A (r=0.664, p=0.000), group B (r=0.769,p=0.000), and significant positive correlation between gross motor quotient and speed of dictation in both groups: group A (r=0.621,p=0.000),group B (r=0.667, p=0.000). Results also revealed non-significant correlation between gross motor quotient and hand dominance in both groups: group A (r=0.440, p=0.842), group B (r=0.505, p=0.617), and non-significant correlation between gross motor quotient and type of grasp in both groups: group A (r=0.782, p=0.09), group B (r=0.759, p=0.171). Conclusion: It can be concluded that in the selected grade levels, there was strong correlation between gross motor skills and speed of hand writing either in near point copying or dictation and no correlation between gross motor skills and hand dominance or type of pencil grasp.

Key words	**1.**	**Gross Motor Activities**
	2.	**Handwriting**
	3.	**PDMS**
	4.	**Skills**
	5.	**Elementary School Aged**
	6.	**Children**
Classification number	**:**	**000.000.**
Pagination	**:**	**152 p.**
Arabic Title Page	**:**	**الارتباط بين الأنشطة الحركية الإجمالية ومهارات الكتابة اليدوية عند الأطفال فى المرحلة الابتدائية.**
Library register number	**:**	**4757-4758.**