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

Master Degree
2007

Author : Abdel Hamed Nabil Deghiedy.
Title : Effect of Strengthening Program of Shoulder Muscles and Hand Functions in Spastic Hemiplegic Children.
            2. Azza Kamal El Shahawy.
            3. Fatma Moustafa Abd El Aty.
Degree : Master.
Year : 2007.
Abstract: This study determines the effect of strengthening exercises of shoulder muscles on hand functions in spastic hemiplegic cerebral palsied children. This study was carried out on thirty spastic hemiplegic children of both sexes (14 females and 16 males) divided into two equal groups A and B. Their age ranged from six to ten years old. The muscular strength of shoulder flexors and extensors were evaluated by the biodex isokinetic dynamomete. Their hand functions were evaluated by using Peabody development motor scale (PDMS) prior and after three months rehabilitation program. Group A" received the traditional physiotherapy program. Group B received strengthening exercises program for shoulder flexors extensors, hand functions training program in addition to the traditional physiotherapy program. Results revealed to better improvement in group B" more than group A".

Key words 1. Strengthening Exercises.
           2. Hand Functions.
           3. Hemiplegic Children.

Arabic Title Page: تأثير تمرينات تقوية عضلات الكتف على وظائف اليد لدى أطفال الشلل المخ
المصابين بالخلد النصفي والطولي التشنجي.
Library register number : 1693-1694.
The purpose of this study was to compare the effect of the central strategies versus peripheral strategies in training of standing balance in diplegic cerebral palseid children. Thirty diplegic children their age ranging from nine to twelve years, divided randomly in to two groups (group A and group B). The first group received central strategies training, while the second group was received the peripheral strategies training. Evaluation was included measurement of rhythmic weight shift (on axis velocity degree/ second and directional control %) by each children individually by using Balance Master system. The results of the study revealed significant improvement in most of the measured variables of the two groups, but in group two the improvement was better than group one. It may conclude that the peripheral strategies training may be used in habilitation of standing balance of the diplegic children.

<table>
<thead>
<tr>
<th>Key words</th>
<th>1. Central strategies.</th>
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<td>2. Peripheral strategies.</td>
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<td>5. Diplegia.</td>
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<td>6. Cerebral palsy.</td>
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Arabic Title Page: إستراتيجية التدريب الجذعي مقابل التدريب الطرفى على الإتزان عند الأطفال المتقصص.
Library register number: 1593-1594.
The purpose of this study was to examine the effect of iontophoresis in management of juvenile rheumatoid arthritis. Thirty polyarticular JRA children were assigned randomly into two groups of equal numbers. Their age were between 10-14 years, they were recruited from Abu- El-Rish Hospital, Cairo University Hospital and they were treated at outpatient clinic, faculty of physical therapy, Cairo University. The subjects were evaluated for The following parameters knee joints angles (degrees) during stance and swing phase by 3-D motion analysis lab., laboratory examinations, knee circumference and pain intensity before the treatment and after three months of treatment program. Subjects in the control group received selected physical therapy program (stretching exercises, strengthening exercises, infrared radiation and low intensity low frequency pulsed magnetic field), whereas subjects in the study group received the same selected physical therapy program plus iontophoresis therapy. Results: there was significant improvement in the majority of the collected data, in both groups but in favoring to study group. Conclusion: it can be concluded that this suggested physical therapy program plus iontophoresis therapy are effective in improving physical status of JRA children and the selected physical therapy program only is not enough method to improve physical status in poly-articular JRA children.

### Key words
1. JRA (juvenile rheumatoid arthritis).
2. Iontophoresis Therapy.
3. 3-D motion analysis.

### Arabic Title Page
تأثير التالين الكهربائي في علاج روماتويد الصغر.

### Library register number
1527-1528.
### Author
Asmaa Abd El-Star Abo Nour.

### Title
Effect of Fixed versus Dynamic Ankle Foot Orthosis on Energy Expenditure in Hemiplegic Children.

### Dept.

### Supervisors
1. Elham Elsayed Salem.
2. Zeinab Mohamed Helmy.
3. Hekmat Elsayed Elghdban.

### Degree
Master.

### Year
2007.

### Abstract
The purpose of the study was to investigate and compare the effect of fixed and dynamic ankle foot orthosis on the energy expenditure in hemiplegic children. 30 children 8 to 12 years old participated in the study, classified randomly into 2 groups (A&B). Group A; received the especially designed physical therapy program while wearing fixed AFo. Group B; received the same program while wearing dynamic AFo. Energy expenditure was assessed by ergospirometry system, before and after 3 months. Comparing the pre and post-treatment mean values of the two groups revealed significant improvement. However, comparing the post-treatment results was statically non-significant. It can be concluded that, there were some physiological changes in the energy expenditure but these changes were statically non-significant and need further investigations.

### Key words
1. Cerebral palsy.
2. hemiplegia.
3. ankle foot orthosis.
5. energy expenditure.

### Arabic Title Page
تأثير جبيرة كاحل القدم الثابتة مقابل المحركة على الطاقة المستنفدة عند الأطفال المصابين بالشلل القصبي.

### Library register number
1503-1504.
The purpose of this study was to evaluate the improvement in hand skills development following the participation in an occupational therapy program and a new technique which is constraint induced therapy in addition to the selected therapeutic exercise program. Thirty spastic hemiplegic children, ranged in age from 2 to 5 years old participated in this study. They were classified randomly into two groups of equal number, (control and study). The control group received selected therapeutic exercise program, and occupational therapy program, and the study group received the same selected therapeutic exercise program and occupational therapy program, in addition to new technique which is constrained induced movement therapy technique. Hand skills development were assessed using the Peabody developmental motor scale and pinch grip were assessed using JAMAR Hand Held Pinch Dynamometer in both groups, before and after six successive weeks of the application of the treatment program. The results of this study revealed statistically highly significant improvement in all of the measuring variables of the study group (P<0.05) when comparing its pre and post treatment results, and when comparing the post treatment results of the control group. From the obtained results of this study, it can be concluded that, constraint induced therapy is an effective technique to improve hand skills among a carefully selected group of hemiparetic children.

Key words

1. constraint induced therapy.
2. hand skills.
3. cerebral palsy.
5. Hemiparasis.
6. pinch grip measurement.

The control group

Comparing the post treatment results of the study group (P<0.05) when comparing its pre and post treatment results, and when this study revealed statistically highly significant improvement in all of the measuring variables before and after six successive weeks of the application of the treatment program. The results of the study group received the same selected therapeutic exercise program, and occupational therapy program, and the study group received the same selected therapeutic exercise program and occupational therapy program, in addition to new technique which is constraint induced movement therapy technique. Hand skills development were assessed using the Peabody developmental motor scale and pinch grip were assessed using JAMAR Hand Held Pinch Dynamometer in both groups, before and after six successive weeks of the application of the treatment program. The results of this study revealed statistically highly significant improvement in all of the measuring variables of the study group (P<0.05) when comparing its pre and post treatment results, and when comparing the post treatment results of the control group. From the obtained results of this study, it can be concluded that, constraint induced therapy is an effective technique to improve hand skills among a carefully selected group of hemiparetic children.

Key words

1. constraint induced therapy.
2. hand skills.
3. cerebral palsy.
5. Hemiparasis.
6. pinch grip measurement.

The effect of constraint induced therapy on fine motor skills in hemiparetic children.

The purpose of this study was to evaluate the improvement in hand skills development following the participation in an occupational therapy program and a new technique which is constraint induced therapy in addition to the selected therapeutic exercise program. Thirty spastic hemiplegic children, ranged in age from 2 to 5 years old participated in this study. They were classified randomly into two groups of equal number, (control and study). The control group received selected therapeutic exercise program, and occupational therapy program, and the study group received the same selected therapeutic exercise program and occupational therapy program, in addition to new technique which is constraint induced movement therapy technique. Hand skills development were assessed using the Peabody developmental motor scale and pinch grip were assessed using JAMAR Hand Held Pinch Dynamometer in both groups, before and after six successive weeks of the application of the treatment program. The results of this study revealed statistically highly significant improvement in all of the measuring variables of the study group (P<0.05) when comparing its pre and post treatment results, and when comparing the post treatment results of the control group. From the obtained results of this study, it can be concluded that, constraint induced therapy is an effective technique to improve hand skills among a carefully selected group of hemiparetic children.
The purpose of this study was to investigate the effect of functional electrical stimulation on standing in children with myelomeningocele. 20 children from 3 to 5 years participated in this study. They were divided into control and study groups and evaluated by rheobase, chronaxie and G M F M scale. Control group received a selected exercise. The study group received the same program in addition to electrical stimulation of quadriceps and gluteus maximus. The pre-treatment results revealed non significant difference. Also, significant improvement was obtained in both groups when comparing their pre and post-treatment results. The post treatment results revealed highly significant difference in favor of study group.

Key words
1. myelomeningocele.
2. functional electrical stimulation.
3. Children.

Arabic Title Page
تأثير التنبيه الكهربائي الوظيفي على الوقوف في الأطفال المصابين بفقد الحبل الشوكي وسحاياه.

Library register number : 1499-1500.
The aim of this study is to know the effect of music therapy for improving attention, social relations and fine motor skills in autistic children. Twenty autistic children participated in this study. Their age ranged from 6 to 14 years old. They suffered from their inability to use their hands effectively in fine motor skills. They were chosen from some schools of children of special needs and some private clinics. The children were divided randomly into two equal groups. The first group was treated with music therapy in addition to a specially designed occupational therapy program while the second group was treated with occupational therapy program only and the treatment program lasted for three months. Social quotient (SQ) and fine motor quotient (FMQ) were detected before and after three months of treatment. The results of this study showed a significant improvement in both social relations and fine motor skills in the first group, also there was improvement in the fine motor skills in the second group. According to these results, music therapy is considered an effective technique in treating autistic children.

**Key words**

1. autism.
2. music therapy.
3. occupational therapy.
5. attention.

**Arabic Title Page**

تأثير العلاج بالموسيقى على زيادة الانتباه ونمو المهارات الحركية لدى أطفال التوحد.

**Library register number**

1667-1668.
<table>
<thead>
<tr>
<th>Author</th>
<th>Mohamed Ali Ibrahim El-Dosoky.</th>
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<tbody>
<tr>
<td>Title</td>
<td>Efficacy of Dynamic Suspension on Gait Pattern in Spastic Children.</td>
</tr>
<tr>
<td>Supervisors</td>
<td>1. Faten Hassen Abd-Elaziem.</td>
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<td>2. Kamal El-Sayied Shokry.</td>
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<td>3. Mohamed Talat Kashaba.</td>
</tr>
<tr>
<td>Degree</td>
<td>Master.</td>
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<tr>
<td>Year</td>
<td>2007.</td>
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<tr>
<td>Abstract</td>
<td>Evaluate the efficacy of the Dynamic Suspension on Gait Pattern in Spastic Children. Twenty children with spastic diplegia, ranged in age from 5 to 8 years old participated in this study. They were classified randomly into two groups of equal number (control and study). The control group received a selected physical therapy program, while the study group was trained in the dynamic suspension unit in addition to the same physical therapy program given to the control group. Gait parameters and gross motor developmental age were assessed before and after three months of application of the treatment program using motion analysis system and gross motor developmental age by in DDST for both groups. The results of the study revealed significant improvement in all measured variables for both groups. Also showed significance difference between the two groups after application in favor of the study group.</td>
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<td>Key words</td>
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<td>2. Gait.</td>
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<td>Arabic Title Page</td>
<td>فاعليّة القفص العكبوتي الديناكيكي على النموذج المشي لدى الأطفال المصابين بالتشكيل التلقائي.</td>
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<td>Library register number</td>
<td>1605-1606.</td>
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**Background:** The purpose of this study was to examine the effect of hyperbaric oxygen therapy on crouch gait. Thirty spastic diplegic children were assigned randomly into two groups (study and control). Subjects in the study group (n = 15) received traditional physical therapy program (stretching, strengthening, balance and gait training exercises) only, whereas subjects in the control group (n = 15) received the same traditional physical therapy program in addition to hyperbaric oxygen therapy. Gait parameters including hips, knees and ankles joints excursion during initial contact phase, step length (meters), gait velocity (meter/second) and cadence (steps/minutes) were measured before, one month and after three months of treatment program by 3D motion analysis. Results: There was a statistically significant improvement in both groups regarding all the measured variables and a statistically significant difference among both groups in favor to the study group. Conclusion: Physical therapy program in addition to hyperbaric oxygen therapy are effective in improving crouch gait in spastic diplegic children.
**Title**: Treadmill Training Versus Chest Physical Therapy on Ventilatory Functions in Down’s Syndrome Children.

**Dept.**


**Supervisors**

1. Elham El Sayed Salem.
3. Ehab Mohamed Abo El-Soad Abd El-Kafy.

**Abstract**

The purpose of this study was to evaluate the effect of the chest physiotherapy program versus treadmill training on ventilatory functions in Down’s syndrome children. Young children with Down's syndrome have many respiratory problems due to immune dysfunction, hypotonia and weakness of respiratory muscles. Thirty Down’s syndrome children aged from 8 to 12 years participated in this study. They were classified randomly into 2 groups of equal number. Zan-680"Ergospirometry system" was used to measure the ventilatory functions. Vital Capacity (VC), Forced Vital Capacity (FVC), Forced Expiratory Volume (FEV1) and Peak Expiratory Flow Rate (PEFR) were measured before and after three Successive months of application of the selected programs. All of the measured variables were significantly improved. Showing that treadmill training could improve the ventilatory functions in Down’s syndrome children.

**Key words**

1. Down’s syndrome.
2. Ventilatory functions.
3. Treadmill.
5. Chest physiotherapy.

**Arabic Title Page**

التدريب باستخدام سير المشي المتحرك مقابل تدريبات التنفس على وظائف الرئة في الأطفال المصابين بمتلازمة داون.

**Library register number**

1677-1678.
The purpose of this study was to investigate the effect of functional electrical stimulation combined with a selected exercise program on bone mineral density in Erb's palsied children. Twenty Erb's palsied children ranging in age from two to five years participated in this study. They were divided randomly into two groups of equal numbers (control and study). The control group was treated by specially designed exercise program, while the study group received the same program given to the control group in addition to the functional electrical stimulation during the exercise program, via the faradic stimulation with special parameters and special ON/OFF time. Both groups received the traditional exercise program. Evaluation was carried out for each child individually before and after three months of application of different treatment programs; it included measurement of the Bone Mineral Density by Dual Energy X-ray Absorptiometry. The results of the study after the suggested period of treatment revealed significant improvement in the measuring variables (p< 0.05) pre and post treatment in both groups with higher percentage of improvement of the study group. From the obtained results of this study, it can be concluded that, improvement in the study group may be attributed to the effect of functional electrical stimulation during the exercise program. So it is considered a beneficial adjunct with the traditional line of treatment in habilitation of Erb's palsied children.

Key words
1. Functional electrical stimulation.
2. Bone Mineral Density.
3. Erb's palsy.
Author : Rasha Abd El-Sattar Allam.
Title : Effect of Weights on Ground Reaction Force in Hemiparetic Children.
Supervisors
1. Emam Hassan El-Negmy.
2. Hala Salah El-Din.
3. Fatma Moustafa Abd El-Aty.
Degree : Master.
Year : 2007.
Abstract:
The purpose of this study was to determine the effect of weights on ground reaction force in hemiparetic children. Thirty hemiparetic children ranged in age from six to eight years participated in this study. They were classified randomly into two groups of equal numbers (control and study). A motion analysis system for evaluation was used for both groups, before and after three months of application of the treatment programs. The control group received a physical therapy program while the study group received the same program given to the control group but through using weights. The pre treatment results revealed no significant differences between the two groups. Comparing the pre and post-treatment mean values of the measuring variables of the two groups revealed significant improvement. However, comparing the post treatment results of the two groups revealed highly significant improvement in the study group.

Key words
1. Cerebral Palsy.
2. Hemiparesis.
5. Weights.

Arabic Title Page : تأثير اضافة الأوزان على قوة رد فعل الأرض لدى أطفال الخذل النصفي.
Library register number : 1623-1624.
The study aimed to assess 73 clinical instructors from the clinical departments of the Faculty. An assessment questionnaire was developed for the collection of data. It was filled out by both students and Faculty members. Results of the assessment showed increased level of performance with the increase in experience and level of education and there was a significant difference between the results obtained from students and Faculty member. From these results it was concluded that there was inadequate orientation about the profession of clinical instructor; training courses are required to clinical instructors.

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<thead>
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<th>Key words</th>
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<td>1. Assessment.</td>
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<td>2. clinical instructor's Performance.</td>
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<td>3. Children.</td>
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Arabic Title Page : تقييم أداء المعلمين بكلية العلاج الطبيعي جامعة القاهرة.

Library register number : 1551-1552.
The purpose of this study was to investigate the effect of visual motor integration training program on dyspraxia in spastic children. Twenty spastic diplegic cerebral palsied children (age from five to eight years) participated in this study. VMI abilities and praxis process were evaluated to all children before and after three successive months of training program. PDMS-2, RehaCom system, and BOTMP were used to assess the children. They received VMI training program which included grasping and visual motor integration exercises programs, in addition, two programs in RehaCom System. Results showed significant improvement of VMI abilities and praxis process in all participated children.

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<td>1. Spasticity.</td>
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<td>3. Praxia.</td>
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<td>5. Dyspraxia.</td>
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<td>9. RehaCom System.</td>
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Arabic Title Page: تأثير تدريب البصري الحركي على اختلال المهارة الحركية للأطفال المصابين بالشلل التشنجي.

Library register number: 1549-1550.
The purpose of this study was to evaluate the pressure distribution at certain points of the foot in normal children, and to compare between them and clubfoot children, who had been treated conservatively as a retrospective study. One hundred children ranged in age from two and half to three years participated in this study, group (A) contains 50 normal children from both sexes and group (B) contains 50 children with unilateral Clubfoot selected from Abo El-Rish Hospital. The evaluation had been done through foot scan plat using system from Rs scan international, to evaluate the maximum foot pressure at six selective points represent the all foot areas. The results of this study revealed no significant difference between the unaffected sides with the normal group. And significant reduction of foot pressure at all tested points for the affected side than the normal group, also there is significant reduction of the pressure in affected rather than the unaffected side in clubfoot children.

Key words
1. Clubfoot.
2. foot pressure.
3. foot scan.

Arabic Title Page
ضغط القدم للأطفال الأصحاء مقابل الأطفال ذوى القدم الحنفاء.

Library register number
1529-1530.
Thirty, spastic hemiparetic cerebral palsy children of both sexes with age ranging from 4 to 6 years old with balance problem and abnormal gait pattern subdivided randomly into two groups of equal number, control and study groups. Evaluation was conducted before and after three successive months of treatment using spasticity, balance and gait analysis. The control group received neurodevelopmental techniques outside the spider cage while the study group received the same exercises but inside the spider cage using its facilities. Significant difference was recorded in favor of the study group after the treatment which supports using of spider cage in treatment of hemiparetic cerebral palsy children.

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<td>1.</td>
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<td>2.</td>
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<td>Spastic hemiparetic.</td>
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Arabic Title Page: استخدام جهاز فك العنكبوت للتحسين التوازن الحركي لدى الأطفال المصابين بالشلل الشمسي.
**Title**: Effect of lidocaine phonophoresis in spasticity modulation of spastic hemiplegic children.

**Dept.**: Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.

**Supervisors**
1. Emam Hassan El-Negmy.

**Abstract**
Back ground: The purpose of study was to examine the effect of lidocaine phonophoresis in spasticity modulation of spastic hemiplegic child. Thirty spastic hemiplegic cerebral palsied children were assigned randomly into two equal groups. Subjects in study group (n = 15) received lidocaine phonophoresis in addition to traditional exercise program. Whereas subjects in control group (n =15) received therapeutic ultrasound, topical anesthesia (lidocaine) and traditional exercise treatment. The following parameters including muscle tone and laboratory examination (3-D motion) were measured before and after three months of treatment. Results: there is significant improvement in the study group in comparison to control group. Conclusion: lidocaine phonophoresis is an effective additional tool to physical therapy program in treatment of hemiparetic C.P. children as it plays an important role in decreasing spasticity and improving patient gait pattern.

**Key words**
1. cerebral palsy.
2. spasticity.
3. lidocaine phonophoresis.

**Arabic Title Page**: تأثير اللوقاكنى على الموجات فوق الصوتية في تثبيط التشنج العضلي في الأطفال المصابين بالشلل النصفي التشنجي.

**Library register number**: 1515-1516.
Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common behavioral disorders of childhood. The purpose of this study was to investigate the value of the coordination training on the management of attention on Attention Deficit Hyperactivity Disorder children. Thirty ADHD children ranged from 6-9 years participated in this study. These were randomly divided into two equal groups. Study group which received treatment program for three months and control group which did not receive treatment program. This training was divided into movement coordination exercises, early learning fun from Macmillan, eye hand coordination toys, and attention book exercises. The two groups were evaluated at the beginning and after three months by DSM-IV-TR Diagnostic Criteria for ADHD, RehaCom to evaluate attention and concentration levels and reduce its number of error and median reaction time, additionally in motor proficiency. There was significant improvement of motor proficiency for bilateral coordination, upper limb coordination, and visual motor control when comparing study and control group. From the previous data it could be concluded that the coordination training are beneficial therapeutic modalities that can be used to improve attention in ADHD children, while they were not more efficient to reduce hyperactivity for these children.

**Key words**
1. Attention Deficit Hyperactivity Disorder (ADHD).
2. Bruininks.
3. Osertsky test of motor proficiency.
5. Coordination training.
6. RehaCom system.

**Abstract**

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common behavioral disorders of childhood. The purpose of this study was to investigate the value of the coordination training on the management of attention on Attention Deficit Hyperactivity Disorder children. Thirty ADHD children ranged from 6-9 years participated in this study. These were randomly divided into two equal groups. Study group which received treatment program for three months and control group which did not receive treatment program. This training was divided into movement coordination exercises, early learning fun from Macmillan, eye hand coordination toys, and attention book exercises. The two groups were evaluated at the beginning and after three months by DSM-IV-TR Diagnostic Criteria for ADHD, RehaCom to evaluate attention and concentration levels and reduce its number of error and median reaction time, additionally in motor proficiency. There was significant improvement of motor proficiency for bilateral coordination, upper limb coordination, and visual motor control when comparing study and control group. From the previous data it could be concluded that the coordination training are beneficial therapeutic modalities that can be used to improve attention in ADHD children, while they were not more efficient to reduce hyperactivity for these children.

<table>
<thead>
<tr>
<th>Author</th>
<th>Walaa Mohamed Abd-Allah</th>
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<tbody>
<tr>
<td>Title</td>
<td>Effect of Coordination Training in Attention Deficit Hyperactivity Disorder</td>
</tr>
<tr>
<td>Dept.</td>
<td>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery</td>
</tr>
</tbody>
</table>
| Supervisors             | 1. Faten Hassan Abd – Elazeim.  
                          | 2. Lobna Abd - Elgawad Mansour |
| Degree                  | Master |
| Year                    | 2007 |
| Abstract                | Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common behavioral disorders of childhood. The purpose of this study was to investigate the value of the coordination training on the management of attention on Attention Deficit Hyperactivity Disorder children. Thirty ADHD children ranged from 6-9 years participated in this study. These were randomly divided into two equal groups. Study group which received treatment program for three months and control group which did not receive treatment program. This training was divided into movement coordination exercises, early learning fun from Macmillan, eye hand coordination toys, and attention book exercises. The two groups were evaluated at the beginning and after three months by DSM-IV-TR Diagnostic Criteria for ADHD, RehaCom to evaluate attention and concentration levels and reduce its number of error and median reaction time, additionally in motor proficiency. There was significant improvement of motor proficiency for bilateral coordination, upper limb coordination, and visual motor control when comparing study and control group. From the previous data it could be concluded that the coordination training are beneficial therapeutic modalities that can be used to improve attention in ADHD children, while they were not more efficient to reduce hyperactivity for these children. |
| Arabic Title Page       | تأثير تدريب التوافق العضلي العصبي للأطفال المصابين بمتلازمة فرط الحركة وقصور الانتباه |
| Library register number | 1673-1674 |