

## **The effect of recreational practice using motor elements on attention deficiency disorder accompanied by hyperactivity in children from 4-6 years old**

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### **Research Introduction & Problem:**

Paying attention to raising and taking care of pre-school children had witnessed a growing interest recently, because this stage have a great importance in forming the child's personality; as many psychologists confirm that the main characteristics of the personality are determined specifically in the first six years of the child's life. Therefore, paying attention to this stage was a helping factor in the early detection of some behavioral problems that face his growth so that these problems can be diagnosed in order to know its reasons and attempt to solve them early.

The attention deficiency symptoms of pre-school children appears as a difficulty in focusing the attention on the tasks which they should pay attention to; as the child tries to pay attention but he gets distracted easily from any stimulus. This resulted in short

attention period, the weak absorption of the instructions directed to him in order to achieve a certain task, and forgetting it quickly. Thus, they become different from their ordinary peers in facing difficulty in selecting and choosing the stimuli that interest them. In addition to less ability to ask questions resulted from the weak strategies they use. (1) (chu, 2003, 218-227).

The hyperactivity is considered one of the most distinguished behavioral patterns that distinguish children who suffer from disorder; Brkley (1998, 55) defines it as hyper or inappropriate growing levels of sharp and continuous motor or sound activity which the child cannot control and does not suit his age. The hyperactivity starts to occur at the age of 4 years old or before that, and it appears as a hyper motor

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activity such as the speedy run inside the house or school, climbing trees and columns in a way that put them to danger, and rotating around chairs and furniture. (2)

Movement is the basic way to express their ideas, feelings, conceptions and self in general. It is a noted physical respond to internal or external stimuli. It is most distinguished by the wide diversification in its forms and techniques, and is considered one of the learning methods that help children to acquire cognitive aspects, solve problems and face the world around them. (3)

The diversification of motor elements is the diversity of movement itself and using new and different moves along with the diversification in using the direction, the path, body form, exerted effort and energy, smooth and different speeds, which makes the moves new, changing and diverse in performance. This is done according to understanding motor elements through using the space (place), diversity of time (different rhythms and tones), and the motor relations with others and things.(4) (5)

Recreation is one of the most important enters to individual upbringing and complete preparation, even that practicing recreational activities needs good educational instruction that leads to the balanced comprehensive growth, improves the individual ability to psychological adaptation and increases the ability to face psychological pressures that the child may face. (6)

There were some studies (7), (8), (9), (10), (11), (12) that addressed the treatment of attention deficiency disorder accompanied by hyperactivity by using computer games, what makes this research valuable is considering the dependence on recreational games.

The importance of this study is due to the fact that attention deficiency disorders accompanied by hyperactivity is more clear in children and accompanied by many behavioral problems such as weak concentration, fidgeting and boredom, not finishing work, daydreams, impulsiveness, sleep disorders, mood disorders, weak self-conception, memory problems, shortage of social skills, and

difficulty in focusing on work. Also, this study gets more important theoretically due to rare Arab studies in this field – as far as the researcher knows – that addressed attention disorders accompanied by hyperactivity of children in pre-school stage as this stage is considered a preparation and rehabilitation for the primary education. These studies also help parents to acquire some necessary skills to train children and educate them the acceptable respond and the attention in addition to some social skills. It also makes the parents understand the needs and problems of their children, and the aims which the child must achieve, which leads to helping the child to grow correctly along with achieving the greatest amount of family harmony and increasing the interaction among family members. Therefore, the researcher decided to study the attention deficiency disorder accompanied by hyperactivity of research sample and to design recreational games using diverse motor elements and recreational homework to raise their interest and motivation and to attract their attention for the longest

possible period in order to improve their level of attention and concentration which decrease the unaccepted behaviors and achieve good harmony with their peers.

#### **Research Aims:**

This research aims to design a program of recreational practice using motor elements and to attempt to recognize the following:

1- Symptoms of attention deficiency disorder accompanied by hyperactivity of research sample before and after the program.

#### **Research Procedures:**

#### **Research Method:**

The researcher used the experimental method as it suits the nature of the research using the before and after experimental design on the individuals of the research sample.

#### **Research Sample & Society:**

The research sample was chosen from children aged 4 – 6 years (nursery years) from Dream language educational Nursery that is under educational supervision after the taking the permission from the manager provided that the children attended regularly. The basic study sample included (30) child, chosen

deliberately depending on the results of the measurement of attention deficiency disorder accompanied by hyperactivity. The sample was chosen by (70%) or more while the pilot sample included (10) children.

### **Consistency of Research Sample:**

The researcher calculated the consistency of research sample in the variables (age, height, weight, body mass and intelligence). The coefficient of torsion values were between - 2.325, 0.464, as they were between ( $\pm 3$ ) which indicates the equivalence of research sample distribution.

### **Pilot study:**

The pilot study was executed in the period from 5/40/2013 to 7/10/2013. The validity of internal consistency of the sub-measurement of hyperactivity was between (0.645 – 0.776). The sub-measurement of impulsiveness was (0.644 – 0.927), while the sub-measurement of attention deficiency was (0.608 – 0.923) which indicates the validity of measurement phases. The stability coefficient of Alfa – Kronbach of hyperactivity, impulsiveness, and attention deficiency: 0.775 – 0.839 – 0.876 respectively which

indicate the measurement validity of evaluating the symptoms of attention deficiency disorder accompanied by hyperactivity on a sample of (10) children from outside the application sample.

### **The recreational program using motor elements:**

The researcher made a program according to scientific bases through reviewing the specialized scientific references and the available related studies in the field of training and recreation according to the following.

### **Program Aim:**

The suggested program aims to limit the attention deficiency disorder accompanied by hyperactivity through recreational practice using motor elements.

### **Program Bases:**

The recreational program using motor elements was made according to the following bases:

- Taking into consideration the program aim.
- Taking into consideration the characteristics of physical, psychological and physiological growth of the age stage from 4-6 years old taking into consideration also the individual differences.

- The importance of warming-up.
- Taking into consideration the sequence of recreational trainings from simple to complex.

### **Program Design:**

The recreational practice program using the motor elements of children studied in the research was designed through the following:

#### **1- Program content.**

The general training program included:

- Trainings to prepare different body muscles and to stimulate blood circulation.
- Trainings to increase the flexibility of body articulations and stretching muscles.
- Training of neuro-muscular accordance.
- Trainings of muscle balance.
- Trainings of motor stretching.
- Motor stories.
- Motor games.
- Competitive competitions games.
- Attention games.
- Motor puzzles games.

#### **2- Recreational Units:**

- The program was executed by (3) units weekly from the 1<sup>st</sup> to the 3<sup>rd</sup> week.
- The program was executed by (4) units weekly from the 4<sup>th</sup> to the 10<sup>th</sup> week (3 units in school, and the other at home).

#### **3- Homework:**

- Represented in some home tasks by making some recreational trainings which achieve attention concentration

through neuro-muscular accordance and muscle balance.

#### **4- Program Duration:**

- Applying the training program took (10) weeks in the period from 19/10/2013 to 26/12/2013.

#### **Basic Study:**

##### **Before Measurement:**

The researcher performed the before measurement in the period from 12/10/2013 to 14/10/2013 on children from 4 – 6 years old (studied in the research).

##### **Executing the suggested program:**

The researcher executed the recreational practice program using motor elements on the studied sample in the period from 19/10/2013 to 26/12/2013. It took (10) weeks; 3 units weekly, each unit duration (45 min.)

##### **After measurement:**

The researcher executed the after measurement on the studied sample in the period from 28/12/2013 to 30/12/2013 under the same conditions.

##### **Statistical Treatments:**

The researcher used the statistical program SPSS to treat the data statistically, and used the following treatments:

- Arithmetic mean.
- Standard deviation.\)
- Correlation coefficient.
- Alfa-Kronbach coefficient
- Repetitions and percentages.
- Differences significance using ca2.

## Display & Discussion of Results:

Table (1)

The relative weight and relative importance of the measurement phrases to evaluate the symptoms of attention deficiency disorder accompanied by hyperactivity (sub-measurement of hyperactivity) before & after program application N= 30

No.	Phrase	Before measurement		After measurement		Differences average	Change percentage
		Relative weight	Relative importance	Relative weight	Relative importance		
1	Continuously moving	42	70.00	22	37.67	20	28.57
2	Speaks loudly without considering order	37	61.67	10	20.00	27	70.27
3	Runs and jumps inside class	28	46.67	19	31.67	9	20.14
4	Climbs walls and trees	39	60.00	11	18.33	28	74.37
5	Fidgeting in his chair	41	68.33	10	17.67	31	78.00
6	Takes things from his colleagues	19	31.67	21	30.00	2	10.00
7	Easily provoked	06	9.33	14	23.33	08	9.81
8	Seems extraordinary talker	49	81.67	11	18.33	38	91.84
9	Difficult for him to sit silent in his chair for short time	46	76.67	14	23.33	32	89.13
10	Misuses things	27	40.00	14	23.33	13	31.80
11	Difficult to play quietly	02	8.67	8	13.33	06	9.10
12	Seems anxious and restless	24	40.00	18	30.00	6	15.00
13	Seems moody	20	41.67	9	10.00	11	24.00
14	Seems impatient and does not stand others	02	8.67	10	17.67	08	9.10
15	Hits & pushes other kids (riotous)	43	71.67	13	21.67	30	83.72
16	Does not follow the system	44	73.33	19	31.67	25	86.36
17	Does not obey instructions & orders	22	37.67	20	33.33	2	2.22

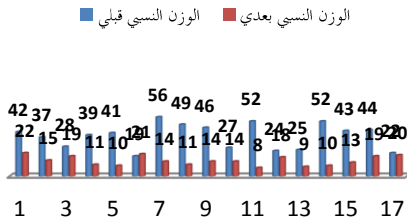


Figure (1)

The relative weight of sub-measurement phrases of hyperactivity before & after program application

Table (2)

The relative weight and relative importance of the measurement phrases to evaluate the symptoms of attention deficiency disorder accompanied by hyperactivity (sub-measurement of impulsiveness) before & after program application (N=30)

No.	Phrase	Before measurement		After measurement		Differences average	Change percentage
		Relative weight	Relative importance	Relative weight	Relative importance		
١	Impulsive in answering the questions	٢٧	٤٥.٠٠	١٠	١٦.٦٧	١٨	٦٦.٦٧
٢	Reacts quickly without thinking	٢٢	٣٦.٦٧	١١	١٨.٣٣	١١	٥٠.٠٠
٣	Moves from an activity to another without finishing it	٢٩	٤٨.٣٣	٢١	٣٥.٠٠	٢٢	٧٥.٨٦
٤	Impatient	٥٣	٨٨.٣٣	١٦	٢٦.٦٧	٥٢	٩٨.١١
٥	Difficult to wait for his turn	٣٩	٦٥.٠٠	١٦	٢٦.٦٧	٣٧	٩٤.٨٧
٦	Seems rush in his answers	٣٠	٥٠.٠٠	١٥	٢٥.٠٠	٢٤	٨٠.٠٠
٧	Seems impulsive in talking and	٣٣	٥٥.٠٠	٢٠	٣٣.٣٣	٢٩	٨٧.٨٨

actions						
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Follow Table (2)

**The relative weight and relative importance of the measurement phrases to evaluate the symptoms of attention deficiency disorder accompanied by hyperactivity (sub-measurement of impulsiveness) before & after program application (N=30)**

No.	Phrase	Before measurement		After measurement		Differences average	Change percentage
		Relative weight	Relative importance	Relative weight	Relative importance		
٨	Interrupts others during conversations	٣٣	٥٥.٠٠	١٥	٢٥.٠٠	٢٩	٨٧.٨٨
٩	Intrudes on others	٢٦	٤٣.٣٣	١٦	٢٦.٦٧	١٦	٦١.٥٤
١٠	Does not wait for instructions	٣٨	٦٣.٣٣	٢٠	٣٣.٣٣	٣٥	٩٢.١١
١١	Fails in following play rules	٢٩	٤٨.٣٣	١٢	٢٠.٠٠	٢٢	٧٥.٨٦

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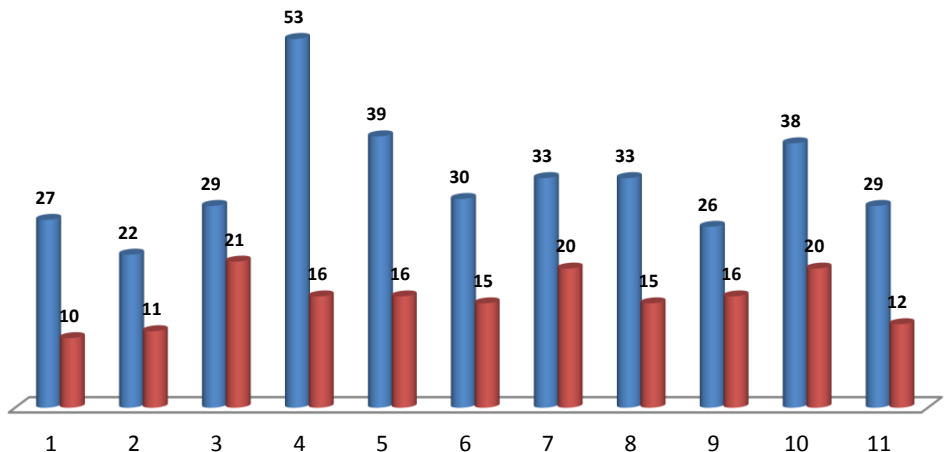


Figure (2)



**The relative weight of sub-measurement phrases of impulsiveness  
before & after program application**

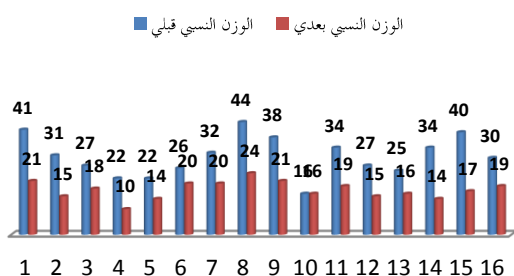
**Table (3)**

**The relative weight and relative importance of the measurement  
phrases to evaluate the symptoms of attention deficiency disorder  
accompanied by hyperactivity (sub-measurement of attention  
deficiency) before & after program application (N=30)**

No.	Phrase	Before measurement		After measurement		Differences average	Change percentage
		Relative weight	Relative importance	Relative weight	Relative importance		
1	Weak concentration	41	78.33	21	30.00	39	90.12
2	Difficult for him to finish the task	31	01.67	10	20.00	23	74.19
3	Unorganized	27	40.00	18	30.00	17	72.96
4	Oblivious	22	37.67	10	17.67	8	37.37
5	Does not pay attention to details	22	37.67	14	23.33	8	37.37
6	Seems absent-minded	26	43.33	20	33.33	14	03.80
7	Short attention range	32	03.33	20	33.33	20	78.13
8	Makes mistakes that indicate lack of attention	44	73.33	24	40.00	43	97.73
9	Difficult for him to follow instructions	38	73.33	21	30.00	34	89.47
10	Easily distracted	16	26.67	16	26.67	0	0.00
11	Difficult for him to focus for long time	34	06.67	19	31.67	29	80.29
12	Difficult for him to finish a task	27	40.00	10	20.00	17	72.96

**Follow Table (3)**  
**The relative weight and relative importance of the measurement phrases to evaluate the symptoms of attention deficiency disorder accompanied by hyperactivity (sub-measurement of attention deficiency) before & after program application (N=30)**

No.	Phrase	Before measurement		After measurement		Differences average	Change percentage
		Relative weight	Relative importance	Relative weight	Relative importance		
13	Avoids doing things that needs continuous mental concentration	٢٥	٤١.٦٧	١٦	٢٦.٦٧	١٢	٤٨.٠٠
14	Loses his tools easily	٣٤	٥٦.٦٧	١٤	٢٣.٣٣	٢٩	٨٥.٢٩
15	Difficult to start in executing works and duties	٤٠	٦٦.٦٧	١٧	٢٨.٣٣	٢٣	٩٢.٥٠
16	Makes mistakes indicate negligence	٣٠	٥٠.٠٠	١٩	٣١.٦٧	١١	٧٠.٠٠



**Figure (3)**

**The relative weight of sub-measurement phrases of attention  
deficiency before & after program application**

**Conclusions:**

Through research problem and aim and in light of research sample and what the researcher reached of results, she concluded the following:

- 1- The improvement of sub-measurement results of hyperactivity after program application.
- 2- The improvement of sub-measurement results of impulsiveness after program application.
- 3- The improvement of sub-measurement results of attention deficiency after program application.

**Recommendations:**

Through research problem and aim and in light of research sample and what the researcher

reached of results, she recommends the following:

- 1- To use the measurement of attention deficiency accompanied by hyperactivity to evaluate the symptoms of hyperactivity in children.
- 2- To pay attention to recreational and small games for children in order to reduce hyperactivity in children.
- 3- To make parents aware of the techniques of treating children to attract their attention.
- 4- To work to adjust children behavior through educating them new positive behaviors.
- 5- To make similar studies on different age stages.