

THE IMPACT OF AN EXERCISES PROGRAM USING THE TOOLS ON THE SENSORY RECEPTOR, MOVEMENT INTELLIGENCE AND SOME MALADJUSTABLE BEHAVIORS OF MENTALLY RETARDED PERSONS

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Abstract

Purpose Examine the use of tools to improve the sensory receptor, movement intelligence and some maladjustable behaviors of mentally retarded persons who are the learning.

Methods The researchers design a program for recording the results of the tests under discussion. The study includes the measurements of movement intelligence of mentally retarded persons and measurements of maladjustable behavior.

Results Exercises tools are instrumental in the development of sensory receptors and are successful in the developments of the movement intelligence. The designed program plays also an important rules in reducing the degree of maladjustable behaviors of mentally retarded persons who are the learning.

Conclusions The proposed exercises program using the tools has a positive effect on the improvement of sensory receptors and the development of the movement intelligence. This program also reduce the degree of maladjustable behaviors of mentally retarded persons who are the learning.

Key words: Sensory receptors, mental retardation, maladjustable behaviors

Introduction and research problem

The groups of special needs represent a large proportion of the community. The organizations and the international organization refer to the increasing growth of the numbers of mentally handicapped persons. According to the reports of WHO, there are about 10% - 20% of the population of developing countries has various disabilities, as 41% mentally 35% visually and 35% heavy disability.

The mentally handicapped persons have lack of the general intelligence these disabilities represent an important factors in learning.

The WHO organization identified the international classification of the degree of the mental disability as follows:

- The class of who can learn and his / her IQ is about 55-70%
- The class of who can train and his / her IQ is about 30-50%
- The cases of dependents on others and their IQ is about 30 point or less.

In this study, the two researchers are interested in the class of who can learn. It is characterized by the slow movement, difficulties in coordinator The movements, balance disorders, and movement correspondence.

As we note that these capacities mainly depend on the natural processes, we spotlight the important of the psychological, mental, motor, and social care for the mental handicapped persons in order to increase the agreement and behavior modification other with self or others, turning them into productive power. Also these activities effect on their positive attitude towards themselves. The exercise is one of the most important sport performances which a lot of people depend on, regardless their classes, ages, and races.

Most of developed countries are interested in exercises as the basics of the physical preparation of different sector of people because there isn't any danger or need to special tools and a large number of individuals to practice them in one time without a high degree of capacity. If the exercises are essential to the proper person, they become more necessary for the mentally handicapped persons, as they help improve the motor skills, neuro-muscular balance, accuracy, and the skeleton case of the body.

Logically, the physical activity is the practical field of developing the mentally handicapped persons and modifying their behaviors through the movement and play. They can acquire experience, motives, and needs, interacting with the surround environment through the different senses which represent the first line to receive information. In sport, the individual interacts with each of tools, fellow, space (court), time, distance, lights, obstacles, and other spiritual mobility, where the sensory receptors play a key role in the ability of focus and the correct use of the success of most motor skills.

The nervous system is the dominant at all the vital functions of the body and which links them. It works to achieve the unity of organizer and integration. It consists of a set of nerve cells with special nature gathering each group of cells as specific functions and known as nervous centers. The information exchange and the transition between the nervous system and the various parts of body are to be through these nervous centers. Man's nerves are two networks; one of them comes from the brain while the other backs to it. The motor-nerves are considered a network where the brain is its sources. Then the spinal cord spread them into all parts of the body. Any damage of one of these nerves leads of halt the muscles that are stimulated by that nerve this damaged nerve. In the performance of movement, sensory receptors send nerve signal to determine the range of the movement to be done. Then they come back with these signals to the brain and spinal cord. So they can correct the track of the movement during the performance, if it is needed. Thus, this movement can be played perfectly through the exchange of signals between the muscle-skeletal system, muscles, tendons, joints, and the nerve system.

The sensory receptors are divided to three types

- The external sensory receptors that receive the external stimuli
- The internal sensory receptors that receive the stimuli from the internal organs.
- The motor sensory receptors that receive the stimuli from the muscle skeletal system.

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The motor sensory origins show their importance in feeling of the movement and body status as a whole, as well as the relationship between each part and the other origins. These origins function as sensory corridors for the reflective actions to maintain strength and muscle tone. These organs are in the muscle, tendons, and the joints through three sensory sources as follow:

-The muscle spindles that are found in skeletal muscles and their daily are to provide information to the central nervous system about the stretch of the muscle and its size. They work during the flexibility exercises.

-The receptors of tenders called Golgi's tendon particles, are located near the surface tissue of the tendon. They send signal to the spinal cord and then to the brain. These particles increase its work in the case of defibrillation but it is low in the case of relaxation. It means that they work against the muscle spindles. While the latter feels the expansion, Golgi's particles feel the contraction. These particles serve the movement in two main functions. The first is a preventable function from the increasing tension in the muscle, so these particles work to stop the high contraction. As for the second one which discovered recently. These particles provide the spinal cord with a sensory feedback, even in the low level of the contraction. This function accrued diagnosis of information which helps increase the control of the movement.

-The sense origins in the joints, called proprioceptors, are found in the deep connective tissues around the joint. They alert by the vibration or pressure which on joints during the movement. In addition to the five known senses (sight – hearing – touch – taste – smell) and the nervous system analyze and interpret the information received from the internal and external environment, and then they respond to it.

Also man has two additional senses that are the movement and vestibular sense. The movement sense depends on the receptors in muscles, tendons and joints. It predicts the relative situation of body during the movement. As for the vestibular sense, called the sense of direction or balance, it feels us the direction of movement for each of the head and body to the ground during the motor performance. Muhammad Al-Najjar (2005) mentioned that the motor receptors failure the differences of adaptation phenomenon which depends on the responses of these receptors to the continuous alert. While the rate of nerve signals of the motor receptors with rapid adaptation, planarian capsule, low during a part of minute from the beginning of the continuous alert, the rate of nerve signals of the motor receptors with slow adaptation, as Ruffini Ending-Ruffini-capsule-muscle spindle- Golgi organ continue with this alert.

Also the motor receptors, with rapid adaptation, are very sensitive to any change in the alarm. So it is believed that they are responsible for the sense of joint movement. The motor receptors, with slow adaptation, reaches to the maximum degree of stimulation with a change of joints angles, so it is believed that they are responsible for the sense of joint movement are only activated in the maximum degree of this movement (26:32). The psychologists confirmed that man doesn't have one kind of intelligence but he has multiple intelligences, dealing with the life situation. Gardner mentioned that the capacities or intelligences are found in every individual with varying degrees, they depend on the individual's personality. While they are separated from each other, they work together and are united to form the unique character of each person.

These intelligences can be summarized in (linguistics intelligence – intelligence profile- musical intelligence – logical intelligence – social intelligence)

They associated with thinking; there is a central processor of information which could contact with any kind of intelligence in the mind. This processor has the ability of receiving the information from different sources and co-ordinates between kinds of intelligence directing to the process of solving problems. This task adjusts the functions of brain as comprehension, memory, and learning, even if it applies the different skills of the different kinds of intelligence. The children, characterized by motor intelligence (kinesthetic), are athletes that love the movement and sport. They have the ability to control properly the body activity and movements. That returns to the association between this intelligence and motor skills and physical features which in turn require a type or more than one from the types of the sensory receptors.

The efficiency of sensory receptors associated with the type of motor performance of a child, refers to his/her motor intelligence through which we can judge on his/her excellence in sports. In the field of mentally handicapped persons, the evidences of studies refer to a number of behavioral problems and malady just able behaviors which impede their progress in the learning, training, and qualification programs, so they have effect on their personal, educational, and social growth.

In the view of the tow searches, if the mentally handicapped children have the activity which bring them together and develop their cooperation in a way to express themselves and form social relationship with other performing it very music and tools, this activating will increase the realization of the importance of social relations. Thus it can reduce the degree of maladjustable behaviors which are exposure through their integration with others. Through the researchers, reading on Arabic and English studies, references related to the class of mentally handicapped persons, they found that this class deserves an important, believing in all efforts of community to achieve equal education opportunities for all children. It can be through developing programs and activities which agree with their interests, needs, and characters to have physical fitness and good growth. From this point of view, researchers design a program of exercises with different tools (balls-hoops-chords) in order to develop some of their physical attributes as neuro-muscular corresponding, flexibility, balance, sensory receptors, and motor intelligence to help control on their punts of body and use different senses, performing the sport skills more correct than other non practitioners of sport actively. Thus, they acquire many social skills through developing some of the collective and motor situations which degrees with their abilities, reducing some of their maladjustable behaviors as violence and abuse to increase their own confidence.

The research objectives:

This research aims to design and apply a proposed program of exercises with tools and the knowledge of its effect on.

1-Sensory receptors (balance), motor intelligence, and some none-corresponding behaviors for the mentally handicapped persons who have the ability of learning.

2-Knowing the percentage of developing the sensory receptors, motor intelligence, and some of none-corresponding behaviors for the mentally handicapped persons.

The research hypotheses

1-There are statistical differences between the pre-measurement and the post one in the sensory receptors, motor intelligence, and some of none-corresponding behaviors in favor of the post-measurement.

2-The percentage of improvement of the post-measuring is better than this percentage of the pre-measurement in the sensory receptors, motor intelligence, and some of none-corresponding behaviors. For the mentally handicapped persons who have the ability of learning.

The research approach

The researchers used the experimental approach, because it's suitably the nature of research using a pre-measurement of one experimental group and then the post- one of the sense group.

The research society

The research society was closed from the students of the mentally handicapped school in Minya for the academic year 2010/2011. the student's percentage of intelligence is between 50%-70%) and their mental age is 5-7)years.

This society has reached to 30 students except 8 ones were excluded because of the non-availability of the following contentions

There aren't other disabilities except the mental retardation

-The regular attendance to the school without absence.

-They have maladjustable behaviors through applying the standard of maladjustable behaviors in the class in order to determine the more prevalent ones among these children on the day .

-The following table show the percentage of these maladjustable behaviors which are measured.

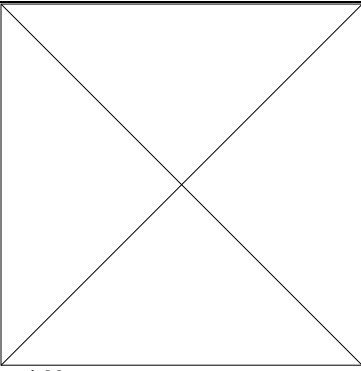
Table 1)

The percentage of the providence and the maladjustable behaviors in the research society

percentage	Frequency	maladjustable behaviors i	μ
100%	50%	the violence and destructive behaviors	1.
85%	40%	anti-social behavior	2.
55%	30%	unruly behavior	3.
50%	25%	the none-trusty behavior	4.
50%	25%	withdrawal	5.
50%	25%	stereotyped behavior and abnormal one	6.
85%	40%	inappropriate social behavior	7.
40%	20%	unacceptable voice habits	8.
50%	25%	unacceptable strange habits	9.
30%	15%	the behavior of self-harm	10.
55%	30%	tendency to –activity	11.
20%	10%	abnormal sexual behavior	12.

Table

Percentage rate of improvement between pre and post tests of the sample under discussion in the sensory receptors Intelligence and motor and some of the MALADJUSTABLE BEHAVIOR n = 12)

	standard deviation	arithmetic	the mean	Mediator	
Torsion coefficient					
	.55	.98	5.30		5.48
	-.59	4.19	134.50		133.67
	.05	4.64	35.50		35.58
				variables,	
				mental age	
				Height	
				weight	
				Intelligence	
				90%	
				45%	
				psychological disorders	
				13.	

-It is clear from table 1) that the most common maladjustable behaviors represent violence, destructive behavior anti-social behavior-inappropriate social behavior and psychological disorders where each percentage is 85% or more.

The research sample became 12 children representing 40 % of the research society. Also there are 10 children were chosen from the research society outside the basic sample, for the exploratory study.

The following table shows that:

1-The research society, basic sample 30 exploratory sample 12, 10 excluded children.

It is clear 8 from table 2) that the research society 15-30 basic sample 12 exploratory samples 8-10

Table 2)

Excluded children	excluded children	exploratory sample	basic sample
8	10	12	30

and the following table shows the coherence between individuals of the research sample and the research variables mental age- height- weight- IQ – battery of motor intelligence and the maladjustable behaviors.

Table 3)

Showing results: Table 4) Significant differences between the average pre and post tests of the sample under discussion in the sensory receptors Intelligence and motor and some of the MALADJUSTABLE BEHAVIOR Wilcoxon Allabaramitrip manner n = 12)

5)

Z value	Post test		pretest		measure ment unit	Variables		
	cv	m	cv	m				
3.06	0.40	1.16	0.11	0.46	Second	Eye open	balance	Sensory receptors
3.06	0.44	1.87	0.10	1.21	Second	Eye closed		

3.06	60.81	142.75	30.46	84.92	Cm	Drop the ball	Movement intelligent					
3.09	7.17	27.58	7.33	37.83	Second	Winding around the circle						
3.15	1.75	4.83	1.36	2.25	Number	Ruler and colored hands						
3.09	0.68	1.58	0.67	3.61	Second	Sound and motion						
3.36	1.15	3.67	1.08	1.58	Number	Walking to the Department						
the percentage of improvement	3.08	4.99	28.25	5.99	34.58	Degree Variables	Violence					
152.17	1.16	0.46	Second	Eye open	Degree	Inappropriate social behavior	Maladjustable behaviors					
54.55	3.09	1.094	1.87	4.17	1.21	1.72	8.67	Second	Eye closed	Degree	Inappropriate social behavior	Sensory receptors
68.10	3.07	4.205	34.92	4.20	28.58	Drop the ball	Degree	Mental disorders				
27.09	27.58	37.83	Second	Winding around the circle	Movement intelligent							
114.67	4.83	2.25	number	Ruler and colored hands								
56.23	1.58	3.61	Second	Sound and motion								
132.28	3.67	1.58	Number	Walking to the Department								
22.77	21.17	27.41	Degree	Violence	Maladjustable behavior							
18.31	28.25	34.58	Degree	Antisocial behavior								
51.90	4.17	8.67	Degree	Inappropriate social behavior								
22.74	22.08	28.58	Degree	Mental disorders								

Presentation and discussion of results:

Is clear from Table 4) that there is significant difference between the mean measurement pre and post in the sensory receptors in the direction of telemetric because researchers to perform the exercises proposed tools, which have exercises to improve sensory receptors through the balance of hard walking Amama with keeping the rope and hoop and the ball high and stability on one foot high and stability as well as walking Amama and succeeding on a rope Unfolded on the ground, stability, one foot on the rope and walk Amama on mattresses - the ground), where children with intellectual disabilities often find it difficult to coordinate sensory input and that the children who suffer from difficulty in inputs sensory may be activity motor either excessive or, more lazy, and unable to shielding correct any that should be ignored or amplify signals that should fall on deaf Sagipoan children who suffer from hyperactivity may find they have to resist engaging in activities such as climbing stairs or descent and may seek help from other people while walking, and longer exercises sensory receptors of exercises that meet the needs of children with sensory either by reducing or inflating the severity of various forms of Allacharat sensual they receive and most of the exercises sensory receptors with children

working to improve the vestibular system, stimulation, and tactile perception, and the vestibular system helps children to be able to stand and to coordinate their movements as they contain a sensory input from the senses of vision and especially located in the inner ear. Prompting researchers to be training on different surfaces so as to increase the ability to control the body and increase the child's sense of place, as well as the attention of casting researchers the existence of exercises to increase balance, because the balance of the most important elements to be used to increase the efficiency of sensory receptors as they researchers gradually made it more difficult performance in some exercise, so exercise and have used some eye closed so as to isolate the sense of sight and therefore are relying on other elements to increase the efficiency of sensory receptors. Also used the exercises and eye open to help in providing information about the child's body and grasp the situation taken by the body, leading to an improvement in the balance disk. This is consistent with Essam El-Din Shaban (2008), that when you isolate the sense of sight will the other senses to Aaradia Kams and the sense of the Conquer, which depends on the stand to the ankles and feet together to cooperate among themselves in order to achieve the required responses in difficult situations (19:5.9), 37:216). Also clear from Table 4) that there is significant difference between the mean measurement pre and post in the intelligence motor in the direction of telemetric and because the researchers to use the exercises to help focus attention in determining the specific colors and Spicy red _ blue _ white _ black) in the tools used Kalkrat, ropes, hoops and balloons and bottles, plastic, which helped in the development of the ability to remember to perform exercises specific tools specific link between them has led to the distinction between the tools and use of colors and movements and thus helps disabled children to participate in the performance of realistic and what is imagined movements satisfy his tastes and desires, and linked that to the whole process of thinking before doing the exercise After reciting the period leading to the availability of information in the nervous system to help the process of feedback, making it easier to perform exercises and making decisions and solving problems that can be matched, by a task and brain functions such as comprehension and memory and learning and through the exercise program where included exercises using balls to throw balls and received between colleagues and drop the ball on the ground forward and kicked the ball foot forward and backward as the performance of exercise walking and cycling around the ring and the rope and the department and the use of different sounds (siren _ applause) to distinguish a particular movement at the sound of a particular, and that these exercises deliberately provoke sensory receptors motor located in the muscles, tendons and joints which enabled the development of neural signals received help distinguish the conditions and movements performed by the body during movement and adaptation to the space around him and this is consistent with Essam El-Din Shaban (2008), and Rehab Mostafa (2006) that this improvement is due to the program exercises with the tools proposed, which contains a variety of team sports that develop teamwork and cooperation, in addition to the competitions which help to dump excess energy in these kids in a positive direction with the dimension of aggression and violence as well as to contain the program on a large number of small instruments varied in shapes and colors to attract the attention of children and gain increased motivation to work.

Is clear from Table 4) that there is significant difference between the mean measurement pre and post in some of the behaviors Allatwafiqip In the direction of telemetric and because the researchers that to contain the exercise program a

range of performance collectively as provide a chance for every student Allastrak with others, to bring the tools, use and participate together and friction direct for longer periods in collective action, which stimulates directing the energies of others addressed properly and negative energies to positive and useful, helping to reduce the degree of violence and destructive behavior has the addition of the performance of some exercises on the melodies of music, fun and fun is giving the listeners. Kmahdt decrease in antisocial behavior through cooperation and the ability to express themselves and the formation of social relationships positively with others and integration into the group dynamics of collective which confirms the understanding of the importance of social relations and directing their behavior and modify it through movement and play in competitions and gain experience, motives, and tendencies to interact with the surrounding environment of the stadium and tools, colleagues and is consistent with Abdul Hamid Sharaf (2003) that the activity of collective works to increase social interaction and adapt to society, and help in modifying the behavior and the acquisition of good behavior is far from the aggressive and satisfying recipe fair competition among the children of children with intellectual disabilities (13:15). As well as a decrease in inappropriate social behavior where Acharsid Sobhi (1990). Quoting Jansen and Combs (1987) that the group exercises as well as methods of promotion and strengthening the positive help to get rid of some of the problems and behavioral disorders suffered by disabled children and emphasizes the study of each of the states of Yahya (2003), Magda Mohamed Hanafi (1996), Mohamed Ibrahim Hamed (1996), education programs that help in modifying the kinetic behavior Allatuaqy in children with intellectual disabilities. And last but not least, there was a decline Kaladtrapat psychological terms included exercises on the maintenance of some of the tools and move out and integration in the collective movements accompanied by music, which helps to decrease tension, anxiety and fear in parts of the unit Altderbep are all consistent with Rehab Mostafa (2006) and the verses of Yahya (2003) that the improvement in the level of cognitive motor due to the education program motor proposed to the content of the basic skills of walking was the Partridge and sliding and the other through a series of exercises and games are easy and exciting with the use of various instruments, which attracted the attention of children and raised the motivation to work with pleasure and joy It is clear from the foregoing to validate the first hypothesis, which stipulates the application of a proposed program of exercises with the tools and knowledge of its impact on the sensory receptors (equilibrium constant), intelligence and motor Allatwafiqip some of the behaviors of mentally retarded persons who are the learning. As shown in Table 5) that there is the proportion of improvement percentage of Kiesin pre and post in the movement intelligence ranged between (27.09: 132.28), where studies have confirmed that the origin of human intelligence of the child with the activities of motor sensory and Astiarp senses (hearing - sight - touch - smell - taste) in addition to the need to exercise motor activity, where genetic factors interact with the environment to determine the efficiency of the work of the mind, we find that the process of intelligence of the child are made through various stages of life and this is consistent with Essam El-Din Sha'ban. Therefore, researchers interested in using the exercises include the raising of the individual senses and abilities such as the use of sound and movement and to distinguish the shapes of triangles, circles, Tmmez colors. Also clear from the table 5) that there is the proportion of improvement percentage of Kiesin pre and post in some of the

behaviors Allatwafiqip of mentally retarded persons who are the learning was ranged between 18.31: 51.90) and explains that the researchers to use the types of exercise, which relied on the collective participation during the performance and the development of social relations between children than it grew their association and affiliation to work motor and integration as a single unit, which helped to reduce some of the behaviors Allatwafiqip under the mentally handicapped, and this agrees with the study of Rehab Mostafa (2006), and the hopes of Mohammed A. (2006).

Conclusions:

Within the objective of the research in light of the assumptions and methodology used and through statistical analysis, the researchers reached the following conclusions:

The proposed program of exercises with the tools have a positive effect on the improvement of sensory receptors and motor development of intelligence and reduce the degree of some of the MALADJUSTABLE BEHAVIOR of mentally retarded persons who are the learning.

Recommendations:

Conclusions in the light of this research the researchers recommend the following:

1 - put the proposed program of exercises with the tools of physical education into the curricula of schools of education property because of its positive impact on the development of effective sensory receptors and motor, low intelligence Allatwafiqip behaviors among students with intellectual disabilities.

2 - to focus on exercise programs, especially the various tools in the schools of education property of mentally retarded persons who are the learning at all stages.

3 - Conducting similar studies of children with intellectual disabilities and massage on the other variables to determine the impact of the exercise by the tools.

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