

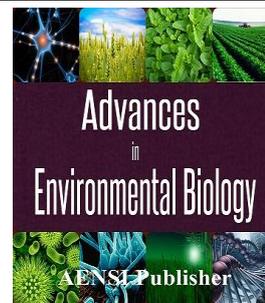


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The Study Equilibrium State of Educable Mentally Retarded Children In Comparison with Normal Children

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ABSTRACT

This study was conducted to compare the balance in children with normal children were mentally retarded. The study included 33 children with intellectual disability and 39 normal students in the age of 7, 9 and 11 years were conducted in schools in Sabzevar. Samples of interest were selected by multistage cluster sampling method. Two tests were used to analyze the BBS and TGUGT and data using SPSS and statistical methods Kryska Wallis and U were analyzed. The results showed that all age groups of normal children compared with children with intellectual disability in the BBS test scores gained more and in case TGUGT normal children and children with intellectual disability to spend less time doing the test. These findings suggest that the balance of ordinary people with mental disabilities better. The comparison between normal subjects and patients with mental disabilities at age 7, 9 and 11 were who are mentally disabled and in normal aging, BBS increased test scores by TGUGT test scores declined in both groups, which in total represent a balance of up to 11 years.

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INTRODUCTION

Educable mentally retarded child is someone who cannot take enough advantage of the regular school curriculum, but with proper education, capacity development in three areas that include:

1) Train at the level of primary education; 2) Train the social compromise independence so that baby can reach a good society; 3) to obtain a job with which adults can fully or partially cover their expenses and hold. But one of the main problems that arise is educable retarded children this is an issue of balance Balance is the ability to maintain or restore the status of the body. Balance is the key element of all motor skills. Have a good balance of performance, suggests that the relationship between the center of gravity of the body and its inner surface is made. When the body's center of balance is reliance placed directly on the surface. Situ and constant motion, such as gestures of the body, arms and thighs also occur in the absence of gravity becomes a mainstay of the match. If the center of gravity to move out of the base of support, public space and the body will move in any direction. Poor or efficient movement depends on the extent to which an individual is able to control your balance and restore the lost balance. The body's ability maintains or restores the balance of certain sensory organs record. Vestibular system in the inner ear, serves as the center of balance; for this reason, performing exercises, bending the body at different angles and directions and rotational movements is recommended for children. This exercise helps children to learn how to improve the stability of your body and restore balance and maintain their skills. Muscles, tendons and joints are sensory receptors called proprioception. These receptors create the impression of a person by which one becomes aware of the condition of the body in space; this phenomenon is called kinetic sense that it can encourage children to learn. In this way, they will be added to the sense of self-awareness and relationship between different parts of the body during movement in space becomes apparent. Visual perception plays an important role in maintaining balance. In determining the relative position of the body in space, will help us and without the knowledge of the success of the space significantly altered. Children should be encouraged to participate in various positions, with eyes open and eyes closed by the body to maintain balance. It helps children practice their awareness of their situation in space, both by sight and develop without it. Balance as well as the basic source for understanding the ways, both in terms of space and the space

has been given. This causes the child's perception with respect to its center of gravity, the directions up, down, forward, backward, right, left, and to understand. The concept of balance as the reference point is very important for spatial awareness [1]

Balance is the ability to maintain and restore the body's stance. There are three systems in the body are working together to preserve balance. These systems include systems such as eyesight and sense of vestibular sensory-motor system and biomechanical system including bones, joints and muscles [2] There are problems with each of these systems leads to a reduction in the balance of care. This lack of balance is a lot of complications, including delayed mental development process - a move involving the neck, crawl, walk, crawl and stand. The walk also distorts and physically possible deformation of the spine, pelvis and legs cause. Children three years old can maintain his balance on one foot for a brief moment, the four-year-old children are grown and they are able to substantially balance a few seconds to keep your balance on one foot. Children 5 years old and children can be substantially improved balance on your toes to maintain balance; some researchers believe that after 11 years of not balance and equilibrium growth until the peak ages, but some believe that the equilibrium growth continues until age 14 [3] Many studies have been done on the development of human balance. Balance growth in normal children aged 6 to 18 months, with the balance reflexes begins and then permanently changed and will remain to the end. These studies have revealed that in terms of mobility, the sequence of muscle activation in a certain pattern and usually appear before 18 months of age. Children at this age can be established with a good balance of gravity of the spatial structure was not good. Coordinating responses of postural control in the age of 4 to 6 years and the evolution of these responses as adults at age 7 to age 10 will develop. Postural responses in the course of 4 to 6 years, causing movement patterns and the lack of coordination in terms of time and quality. Thus we see that a three year old child can keep his balance on one foot for a short moment and the skills to complete the 4 yr old and a second child can establish itself on one leg. Children 5 years and a considerable improvement in balance and the child can stand on one leg most children can keep on your toes. At the age of 6 to 8 years old again, the ability to maintain balance and static and dynamic children's awareness of their situation in space is added [4] So according to the above and considering that the state of equilibrium has educable retarded children in special research has not accepted the aim of this study was to investigate the equilibrium state of educable mentally retarded children 6 to 12 years and compared them with normal children.

Method:

The population, sample and methodology: This non-experimental descriptive or causal - comparative. Population for this study to all boys aged 6-12 years old children are mentally retarded and normal schoolboys formed Sabzevar. The study sample consisted of 33 boys aged 6-12 years old and 39 educable mentally retarded children 6-12 years of normal was Sabzevar as a multi-stage cluster sampling of special and regular schools into three age groups 7, 9, and 11, respectively. Methods this was the first among all the ordinary and special schools, Sabzevar, two randomly selected schools and the multi-grade schools were randomly selected and then selected from those classes were randomly selected and then the tests were run on them. It should be noted that normal children without any problems, anatomic, orthopedic, neurological and specific diseases as well as individuals with intellectual disability other than mental retardation, had none of these problems. To gather the information you need about any of the subjects, the academic records of information about each individual school principal and teachers were used. Meanwhile, during the tests performed in order to select the test, the examiner not interfere all individuals were randomly assigned to the test. In addition, the testing of cosmetic conditions, such as shoes and clothing with the usual conditions were tested. Since people with intellectual disability were tested for justification of test cases, need to train someone to do it for each of mental retardation before the test was performed by the experimenter and to ensure full justification, before the test, once trained the test was then performed. For processing and data analysis and SPSS software was used Study the research hypotheses. Data were analyzed using Kruskal-Wallis and U.

Research Tools:

To assess the balance is usually different approaches such as clinical and functional methods used; data in this study, the following tools are used.

A. Berg Balance Scale (BBS): This test is based on a functional balance of 14 items that are used in everyday life, it assesses. These items include simple motor actions (like move, stand up without support, from sitting to standing, etc.) And applied to the problem of motion (like a pair of stand up, turn 360 degrees and stand on one foot) is every step on the way and quality testing can score from zero to 4 to allocate a score of zero for the lowest level of performance and a score of 4 for the highest level of performance. The maximum score that could be obtained in this case would be 56 and the higher the score indicates a better state of balance in his life.

The subjects based on the total points of each segment are calculated. The imbalance is less than 45 means [5] B: test time getting up, going and returning (TGUGT): This test has 6 stages six steps that one must do it in tandem. To test the handles of the chair and without handle the distance of 3 m from each other and we want

people to Atjam are six stages. Rate this test is the elapsed time and the elapsed time is less than the equilibrium condition is better.

The six steps are:

1. Getting up from a chair without handle; 2. 3m move to the second seat; 3. Turn and sit at the door of the second; 4. Lift the second seat; 5. Returning to the first seat; 6. Turn and sit on the chair. The word began testing begins and then at the end of the sixth stage, the calculated time of 6 [6]

Findings:

The findings described in Tables 1 and 2 (mean \pm SD) and BBS tests TGUGT, for each of the groups educable mentally retarded children and normal children are presented.

Table 1: Mean and standard deviation scores of BBS in educable mentally retarded children and normal children.

	Children with intellectual disability		Normal Children	
	Average	Standard deviation	Average	Standard deviation
Age: 7 year	50/45	1/96	55/07	0/64
Age:9years	50/80	2/29	54/93	1/48
Age 11 years	53/33	2/26	55/81	0/40

As can be seen in Table 1 The mean age of 7, 9 and 11 years, respectively, for children with intellectual disability in the BBS test (50.45, 50.80 and 53.33) and normal children in the same age group (55.07, 54.93 and 55.81) is the mean scores for all age groups of normal children in this test was higher than the scores of children with intellectual disability.

Table 2: Mean and standard deviation scores TGUGT educable mentally retarded children and children.

	Children with intellectual disability		Normal Children	
	Average	Standard deviation	Average	Standard deviation
Age: 7 year	14/37	2/24	11/56	3/56
Age:9years	14/70	2/27	9/51	1/76
Age 11 years	14/72	3/60	10/17	1/29

The results of Table 2 shows that the mean age of 7, 9 and 11 years, children with intellectual disability in order TGUGT test (14.37, 14.70 and 14.72) and normal children in the same age group (11.56, 9.51 and 10.17) is the mean scores for all age groups of children with intellectual disability in higher test scores of normal children. In order to compare the different age groups among the group of mentally retarded children and normal children, Kruskal-Wallis test was used. Information about these tests is presented in Table 3.

Table 3: Results of the Kruskal-Wallis test for variables among the three age groups of children mentally retarded and normal children.

Group	Variable	Chi-Square	df	Significant Level
Children with intellectual disability	B.B.S	8/873	2	0/012
	T.G.U.G.T	6/069	2	0/048
Normal Children	B.B.S	8/251	2	0/016
	T.G.U.G.T	7/447	2	0/024

According to Table 3, the results of the Kruskal-Wallis test shows among different age groups of children with intellectual disability and TGUGT BBS there are significant differences in the variables ($p < 0.05$). In addition, the results of this test in normal children aged between three different groups of variables and TGUGT BBS also shows that there are significant differences between the three age groups ($p < 0.05$). In order to compare the two groups of children, mentally retarded and normal children in the variables of interest, the U test was used. Information about these tests are presented in Table 4.

Table 4: Results of U-test to compare variables between the three age groups of children mentally retarded and normal children.

Age group	Variable	Bowman and Withney	Wilcoxon	Z	Significant Level
Age:7years	B.B.S	000	66/00	-4/23	0/0001
	T.G.U.G.T	42/50	133/50	-1/68	0/003
Age:9years	B.B.S	7/50	62/50	-3/81	0/0001
	T.G.U.G.T	29/50	149/50	-2/52	0/020
Age 11 years	B.B.S	11/50	89/50	-3/55	0/0001
	T.G.U.G.T	14/50	80/50	-3/17	0/001

According to Table 4, the results show that Bowman and Withney between the three age groups of children with intellectual disability and normal children showed significant differences in the variables of interest are in all age groups, the situation is better than normal children and children with intellectual disability.

Discussion and Conclusion:

Based on the findings, normal children compared to children educable mentally retarded BBS test scores gained more and in case TGUGT normal children and children with intellectual disability to spend less time

doing the test. In addition, the BBS test scores in both normal subjects people with intellectual disability and age has been an upward trend, while the test TGUGT this trend, ie with increasing age in both normal subjects and mentally retarded Added BBS test scores and test scores TGUGT reduced. Considering the significant quantities of P-value for the test of the BBS and TGUGT aged 7 years of normal and mentally disabled people both in the $p = 0.0001$ and $p = 0.003$ was found. The balance mentally disabled people in the age range of the balance of ordinary people is a significant difference between both groups rejected this same balance with the low and high mean score TGUGT Myankyn BBS scores of individuals with mental disability, it is clear that the balance of ordinary people in the age group of mentally disabled people better balance. At the age of 9 years of normal and mentally disabled, the values of P-value for the test of the BBS and TGUGT 0001 $p =$ respectively, and $p = 0.020$ significant difference between the two is that the assumption of equal balance between the two groups will be rejected. In the age group 11 years and ordinary people with mental disabilities, the amount of P-value for the test of the BBS and TGUGT $p = 0.001$ respectively, and $p = 0.001$ was obtained. Thus, the difference between the two groups and, assuming equal balance between the two groups will be rejected. On the other hand, by taking the average of the high and low scores BBS TGUGT ordinary people turned out to people with mental disabilities the balance of the ordinary people of the age group of mentally disabled people better.

The comparison between normal subjects and patients with mental disabilities at age 7, 9 and 11 were who are mentally disabled and in normal aging, BBS increased test scores by TGUGT test scores declined in both groups, which in total represent a balance of up to 11 years. On the other hand, compared to a normal and a group ID, according to the desired test scores, impaired balance between the two groups was observed which suggests a better balance in normal subjects is consistent with the Lee and Anderson [7] stating that a stable equilibrium in people with ID is weaker than normal people.

The Best (1992) proposed that the entire state of equilibrium reactions in people with intellectual disabilities grows slower and may be delayed [8]. According Westcott et al [9] suggest that children ages 7 to 10 years old will be able to receive information from receptors vision and sense of body and the sense of sight in both normal and not a problem with mental disabilities, it may be concluded, the potential difference in test scores of the lack of information from receptors in the body and is mentally disabled. TGUGT as high scores and low scores on the BBS mentally disabled people than normal people, perhaps these judgments the lack of stable equilibrium may do any of the above tests affected leading to lower scores on tests of BBS and score higher on tests than the average person is mentally incapable people TGUGT which ultimately leads to poor balance toward peers is common in people with ID. And contrary to common people due to lack of interest on the difference in test scores and timely development of postural reactions and eventually grow to be a balance. Thus, according to the results obtained in this study and studies at different ages in general it can be stated:

1. The balance system performance of a single structure, but a few is involved in the operation of the system: the vestibular system, audio system and sensory system - motor.
2. Develop postural reactions leading to delays in the progress of balance.
3. The balance growth continues until the age of 11 years [8]
4. Finally, the differences in the balance between normal children and children with mental disabilities, based on the theory of Piccione and Rubinstein [10] on the impact of education on reducing the balance, it seems that a balance of skills in children with mental disabilities in the early stages it can be a positive process in improving balance and strengthening postural stability. The limitations of this study include the small sample size noted; another limitation of this study was to study the problem in the process of doing research so that was interfering with the class hours. Therefore, further research is recommended in this study with a larger number of people do. Moreover, given that emotions can affect the test, so before you take the test, students will be given the necessary advice. The present study suggests that variations in girls with mental disabilities and normal girls and boys will be evaluated. In future research into the effects of balance training on reducing poor balance is paid.

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