

1. Open name of research :Effect of dual task balance training on cognitive functions in people with mental retarded.

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3. Purpose of the study:

With this study, it will be tried to determine whether the addition of physiotherapy program to the education of mentally disabled individuals is effective and necessary in terms of mental performance.

4. MATERIÉLS AND METHOTS

Mental disability levels IQ = 50-79 individuals with mild / border mental disabilities will be included in the study. The disability status of the individuals will be determined by the health report, and the cognitive status of the individuals will be determined by the report given as a result of the evaluation made by the Guidance Research Centers of the National Education Directorates. The 45-person study group will be randomized to 3 groups of 15 persons each. The first group will not be subjected to any application except education. The second group will be the control group and will be taken to the balance training in addition to normal education. In the third group, dual task balance training will be applied within the scope of cognitive rehabilitation. The study will be held from December 2018 to December 2019. Intelligence-related parts of the assessments will be carried out by the expert psychologist. The studies were planned to be 2 times a week for 12 weeks. Before the beginning of the study, at the end and 3 months after the end of the study, the assessments for the groups will be applied and the results will be evaluated statistically within and between the groups. Inclusion

criteria; IQ 50-79, 6-13 years old, take command of Turkish, do not have physical disability, not have metabolic and systemic disease. To have a report on the mental disability and education required by the Ministry of National Education.

Exclusion criteria; To have any situation that prevents the taking of commands related to the exercise program to be implemented, To have a chronic systemic disease, To have an educational diagnosis other than the mental disability.

MOXO Attention Test: Attention, Timing, Impulsivity and Hyperactivity were found to be very effective in measuring performance levels; however, the rapidly increasing popularity of the test is due to the unique Distractor System found in MOXO.

To be able to focus on a simple MOXO task, the individual must ignore the visual and auditory distractors in the test, just as they should do in the same daily life. Individual; In order to achieve this, they must ensure the active inhibition of distractors, which makes the test even more challenging and the advanced characteristics of the test.

WISC-R INTELLIGENT TEST: It is a intelligence test prepared by David Wescler in 1939. This test, which first appeared for adults, was redesigned for children with the arrangements made. The WISC-R Child Intelligence Test is suitable for children aged 6 to 16 years. The individual test is 1-1,5 hours.

Wisc-r intelligence test is a test performed by an expert. WISC-R Intelligence Tests are divided into two main parts.

Verbal Intelligence Departments, Performance Intelligence

There are 6 tests in both sections. Tests for these two sections are given one after the other.

Bruininks-Oseretsky motor competence test: BOT-2 is a set of targeted activities to measure a wide range of motor skills in people aged 4 to 21 years. This test is a tool designed to provide an effective and reliable measurement of fine and rough motor control skills to physiotherapists, researchers and other practitioners. The Bruininks Oseretsky motor proficiency test (BOTMP; Bruininks), first published in 1978, was the most widely used standard measure (R. Bruininks and B. Bruininks, 2005 (3)). While the Bruininks Oseretsky motor competence test (BOT-2) designed to facilitate the evaluation lasts 40-60 minutes for all children with 53 items, the highest score is 320 for this test. The application of the short form of the test, which consists of 14 items, lasts 15-20 minutes the highest score is 88 (R. Bruininks and B. Bruininks, 2005).

COGNIBOARD: CogniBoard is a device that helps the healing process in patients with neurological or orthopedic injuries and diseases, provides multiple exercises, and develops and measures cognitive and motor performance in healthy individuals and athletes. CogniBoard consists of a 64-illuminated button placed on the panel that can be adjusted to the size of the individual. The layout of the keys creates a specially designed 5-ring. The individual is accompanied by lighted instructions and audible warnings are accompanied by exercise. Thus, tactile, visual, proprioceptive and auditory feedback is provided.

Functional Reach Test: The person is asked to lift his right arm about 90 degrees and to make a fist in his hand while he is standing at barefoot as a barefoot. The distance between the third metacarpal in

each case indicates the functional extension. Decreased ability to reach in the future indicates that the risk of falling is approximately 8.2, the average is 4'dur never reach and those who can extend is less than 15.2cm.

PEDIATRIC BALANCE SCALE: Pediatric balance scale is a balance scale which is designed to require minimal special material use which is rated between 0-4 points for each movement according to the measure of success, in which 14 basic movements are evaluated.

Dual Task Balance Training Programs: Dual Task A progressive balance training program will be held twice a week for 12 weeks. Balance training 10 min. start with warming. The first 5 minutes of warming is planned on walking on the treadmill, the next 5 min. The 20-minute Dual Task balance training program is planned to be composed of two sections of 10 minutes. In the first 10 min section, the individual will exercise with the multi-task mode of CogniBoard on the balance ball. In this mode, when a random light goes out, the second light is turned on and the individual presses the button and the process is turned on for 10 minutes. Will be asked to continue throughout. This mode aims at neurocognitive procedures such as attention, short-term memory, hand-eye coordination, focusing and perception. Stroop study will be performed on the balance ball in the second 10 minutes of the exercise. In this study, it is aimed to develop neurocognitive procedures such as focused attention, response inhibition, disruptive effect resistance, information processing speed.

4.1. Number of volunteers::45

4.2. STATISTICS

In the analysis of the results to be obtained in our study, SPS statistics 22.0 version of SPSS statistics will be used under the Windows operating system Statistical Package for Social Sciences (SPSS). Descriptive statistical information shall be shown as arithmetic mean \pm Standard Deviation (\bar{x} istatistiksel \pm Ss) or percentage (%) and the statistical significance level shall be considered as $p \leq 0.05$.

The difference between the groups will be tested by two-factor variance analysis.

The two-factor variance analysis for correlated or repetitive measurements is an independent variable with two or more groups and associated or repeated measurements. Associated or repetitive measurements should be performed on the same subjects at specific time intervals. The purpose of this test is to determine the effect of the independent variable on the associated measurements. Specifically, it is to determine whether the groups of the independent variable have a different effect between the associated or repeated measures. TWO-WAY ANOVA

5. Center / centers where the research will be carried out: The research will be conducted between December 2018 and December 2019 in "Gerçek Dünya" special education and rehabilitation center and "Fark" special education and rehabilitation center.

6. Applicant's:

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