

DETERMINATION OF UPPER EXTREMITY FUNCTIONS AND SENSORY INTEGRATION FOR SOCIAL PARTICIPATION ON MENTALLY RETARDED CHILDREN

Esra Aki, Meral Huri

Hacettepe University, Ankara, Turkey

Objectives

The aims of this study were (1) to investigate the relationship between quality of upper extremity and sensory integration skills and (2) to compare these functions between the mentally retarded and non-mentally retarded children.

Methods

Twenty-three girls and 19 boys, totally 42 children, were participated in the study. The mean age was 10.38 ± 2 years (min: 7 years, max: 15 years). The Quality of Upper Extremity Skills Test (QUEST) and Southern California Sensory Integration Test - Space Visualization Subtest were used on the mild-moderate mentally retarded (IQ: 40-70) children from a special education center and the non-mentally retarded children from a primary school. There were 21 children in both groups. All the assessments were performed by an ergotherapist.

Results

Thirty-nine of the children were right-handed and the rest was left-handed. The total QUEST score was significantly lower in mentally retarded children than the non-mentally retarded children. In both groups the Space Visualization Subtest score was significantly negative correlated with total QUEST score ($r_1: -0.5$, $r_2: -0.5$; $p < 0.05$). In mentally retarded group Space Visualization Subtest score was negative correlated with bilateral movements ($r: -0.667$, $p < 0.05$), grasp ($r: -0.563$, $p < 0.05$), protective extension ($r: -0.516$, $p < 0.05$) and weight bearing ($r: -0.616$, $p < 0.05$). In non-mentally retarded children group Space Visualization Subtest score was negative correlated with QUEST subtests except bilateral movements subtest. %9 of non-mentally retarded children was unsuccessful in both of tests especially with bilateral movements and weight bearing subtests.

Conclusion

Mental retardation can cause central nerve system defects, postural control problems, reflex abnormalities, upper extremity skills and performance problems, motor planning and sensory integration problems. In mild-moderate mentally retarded children these kinds of problems may be detected. The screening studies in schools may be effective on determining the bilateral movement, weight bearing and sensory integration problems. This is very important for academically success and social participation of children.