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Letter to the Editor

Physical Exercises and Motor Skills in Autistic Children

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Dear Editor-in-Chief

In this paper, we report the effect of physical exercise on motor skills in autistic children. This is important because the number of autistic children has rapidly increased in these years. Autism is a disorder that covers a wide range of motor, cognitive and behavioral disturbances and influences personal and social conduct of the individual (1). Due to the fact that children with autism are faced with movement problems because of their avoidance to participate in physical activity, they face difficulty in learning motor skills (2). The identification of these problems enables the teachers and trainers to adopt strategies to improve and facilitate motor skills.

This quasi-experimental study was conducted to determine the effect of selected group motor training on motor skills among autistic children. The results indicated that participating in 10 weeks of group motor skills program had a significant effect on the improvement of some motor skills. The results showed that the progress of the experimental group is significantly ($P<0.05$) higher than the progress in the control group (except bilateral coordination, running speed & agility and response speed. This indicates that our group motor training has had positive effects on promoting motor skills such as strength, balance, upper limb coordination, upper limb speed and dexterity, and visual–motor control.

These results are in agreement with the finding of other researchers who have examined the effect of physical and sport training programs on cognitive, motor and behavior of children with autism (3-5). The result of the present study showed that training can cause an improvement in visual-motor control of these children. Despite the fact that children with autism often face difficulties in maintaining balance due to the problem of hypotonia and looseness of the muscles, strength and balance and agility skills were also improved. Maybe muscle strengthening effects of our training have effected these improvements. Bilateral coordination and response speed are complex perceptual-motor skills that associated highly with speed and accuracy (6). One of the reasons for failure to improve in this regard may also be the presence of a complex task that required simultaneous coordination in upper and lower limbs. Drawing circles by fingers while striking alternatively by feet (Bilateral coordination subtitle task) and holding a falling ruler as fast as possible (response speed subtitle task) requires focused attention, eye- hand coordination and eye-foot coordination. Lack of significant improvement in some of the subtests after training may also be attribut-

ed to the fact that children with autism face abnormal sensations (7), in addition, specific behavioral conduct such as hyperactivity and lack of emotional regulation causes poor performance in motor skill execution that require muscular precision and control or behaviors that are time dependent (8). Some researchers have focused on the effects of play and sport on the development of perceptual-motor skills (9). It is possible that the sport activities performed in this study could force them to have a more organized perception related to the action and such condition resulted in an improvement in some perceptual-motor skills. One of the benefits of the present study in contrast to the previous studies was the use of physical activity programs for enhancing perceptual-motor ability that were pleasant for the children. Another merit of the present study was the use of group physical exercises. All of the exercise training sessions were held in the group training form. The instructors trained children together and group cooperation was the core of our protocol. Researchers still debate the nature of training sessions. Possibly, sport group training as well as positive feedback from instructors in front of their peers and parents, has motivated them to continue training sessions to the best of their ability (10).

Since childhood is a very important and sensitive period in the development and the formation of many motor patterns complete in these years, early interventions are important for the treatment of disorders in children who have special needs.

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