

LETTER TO THE EDITOR

HOME-BASED EXERCISE TRAINING FOR BLIND CHILDREN

Dear Editor-in-Chief

Legally-blind student is a term used to define students whose best visual ability is 3,6 or lower. According to this definition, a person who cannot read a test card in 90 feet (about 91 cm) is considered blind, as opposed to a visually-able person, who can read it in 60 feet (about 1829 cm) (Cuturi, Aggius-Vella, Campus, Parmiggiani, & Gori, 2016). It is a well-established fact that visual deprivation causes structural and functional reorganization in both the deprived and the intact sensory cortices (Lieberman, Byrne, Mattern, Watt, & Fernandez-Vivo, 2010). Although functional and structural changes after sensory deprivation have been studied extensively, relatively little is known about how these changes relate to each other and there is also lack of a specific non-pharmacological treatment for this issue. Having healthy children can be regarded as God's greatest gift to humankind, but on the other hand, having exceptional children (deaf and blind) puts a lot of psychological pressure on family members, especially mothers (De Laat, Freriksen, & Vervloed, 2013). In many cases, such children are sent by their parents to special educational centers for schooling. However, some of these children are sent to normal schools and are taught using what is known as combined education (Pérez-Pereira & Conti-Ramsden, 2013). It is undeniable that family mental health directly affects the academic achievements of children. Child disability influences the behavior and attitude of mothers, and the process of improvement of mental and physical status of disabilities is under the influence of the characteristics and behavior of mothers (De Laat et al., 2013; Pérez-Pereira & Conti-Ramsden, 2013). As such, it is very important for mothers to know how to improve the abilities of their blind children.

Till now, most past studies are focused on treatment with medicines and there would be some side effects for visually-impaired children. Other forms of treatments are mostly focused on educational improvements that try to improve their abilities with academic learning, but in both of these methods there is a gap in physical activity and exercise. Regular physical activity can affect the physiological, psychological and physical characteristics of children (Shariat, Shariat, Abedi, & Tamrin, 2014). It can directly affect their mood and participation in social physical activities and it can also improve their communication abilities (Lieberman et al., 2010). Plus, as blind children are mostly seated and inactive in comparison with other children, this will result in atrophy in their muscles and it can further impair their balance in gait (Lieberman et al., 2010).

Creating a practical solution to this problem for blind children is a high priority, and this has led to the aim of producing an easy, practical series of training exercises that can be performed at home and will benefit the physical, psychological and physiological abilities of this population without producing any side-effects. The first aim of this series of exercise training will be to improve the balance among blind children. Previous research suggests that doing a series of physical activities would be useful but, so far, there have been no clear instructions regarding the specific exercises that should be undertaken (Lieberman et al., 2010). The main hypothesis underlying this study, based upon the scientific literature, is that improving the balance among blind children can be achieved by increasing the flexibility and strength of trunk muscles.