

Psychometric Properties of the Dizziness Handicap Inventory Child/Adolescent (DHI-CA)

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Introduction: Imbalance and vertigo are the symptoms that most negatively affect the well-being of patients of both genders and different age-ranges (1). Vestibulopathy is a disorder that causes a series of signs and symptoms, and may affect children and adolescents(2), interfering in their psychological behavior and performance at school(3). The episodes of vertigo reported by the children must almost always indicate the presence of vestibular dysfunction. Vertigo in children is manifested in various forms and their complaints are similar to those of adults. Therefore, as in adults, children may also present progressive or chronic loss of vestibular function that affects the development of postural control (2). However, there is difficulty in diagnosing vestibular dysfunction in childhood, due to the variety of symptoms presented, and by the difficulty with reporting them (4). Researchers (2) have made reference to Epidemiological studies with school-age children, which have shown that around 15% had experienced at least one episode of dizziness during the period of one year. These same authors pointed out innumerable studies about the most common disturbances that cause vertigo and imbalance in children. These publications have shown the extent to which the suffering of children that have vertigo and imbalance has been neglected, when compared with the publications about dizziness in adults, revealing a certain failure to observe the suffering dizziness causes in the child population. The incapacity caused by dizziness, whether from the emotional, functional, or physical aspects, is most important in the social and personal context of individuals, irrespective of its etiology, since it considerably affects their quality of life(5). Concerned about quantifying the interference of dizziness in the day-to-day life of children, researchers elaborated the Dizziness Handicap Inventory Child/Adolescent (DHI-CA)(6), from the Dizziness Handicap Inventory (DHI). The DHI is an inventory designed to measure the incapacitating effect imposed by dizziness on the quality of life of adult subjects. The purpose of using it is not only to diagnose, but also to evaluate the effects of treatment (7). At present, there are few studies that make reference to the DHI as a tool for evaluating the impact of dizziness in pediatric patients, namely: the DHI-PC, which evaluates children's dizziness from the perspective of care-givers (8) and the DHI-CA (6), which

measures the impact of dizziness on the quality of life of children and adolescents, for the purpose of quantifying the effects imposed on daily life functions. These tools may be incorporated in the evaluation of children who suffer from vertigo. Vestibulopathy in childhood is capable of compromising children's performance in the school environment, affecting their ability to communicate and their psychological state. The changes resulting from this disturbance in children lead to the lack of balance, compromised body posture and motor coordination, lack of aptness to practice physical exercises, distorted feelings about their own bodies and surrounding objects, because they have the greatest difficulty in maintaining postural stability during readouts. In view of the need to perform complex tasks, the development of communicative skills requires linguistic and semantic capacities, in addition to skills such as perception and eye movements. Symptoms such as nausea, emesis (vomiting), and frequent falls during activities that involve movement also form part of the day-to-day life of children with vestibular disturbance (1). Considering the subjective nature of dizziness, and assuring the metric properties of the self-report instruments, these may be useful in the evaluation of and intervention in dizziness in children and adolescents who are in the process of learning at school. In this context, it is important to point out that because the issue concerns children and adolescents, an instrument with a smaller quantity of questions would possibly obtain their most faithful responses, considering that the attention span in this age group is limited/reduced. Furthermore, the authors emphasize that in addition to the DHI/CA-SF being quicker to apply, it may be used for triage in schools and/or health services, when there are reports of symptoms of dizziness by children and adolescents, bearing in mind that this symptom presents elevated prevalence in this age group, according to the national and international literature. In view of the foregoing, the aim of this study was to develop and verify the applicability of the short version of the Dizziness Handicap Inventory-Child/Adolescent (DHI-CA) in school-going children and adolescents. Methods: A methodological validation study developed in municipal public network teaching units of Cabula Sanitary District/ Beiru de Salvador, Bahia. Data were collected by means of the Dizziness

Handicap Inventory Child/Adolescent (DHI-CA) and proposed short version denominated Dizziness Handicap Inventory Child/Adolescent short form (DHI-CA/SF). The DHI-CA/SF is composed of 15 objective questions divided into subscales corresponding to emotional, physical and functional aspects. Results: The sample of 97 children and adolescents was composed of 69 girls (71.1%) and 28 (28.9%), boys. The age-range was from 7 to 15 years with mean age of 11 years. Internal consistency relative to the total scale was $\alpha=0.84$; and $\alpha=0.66$ for the functional; $\alpha=0.61$, emotional, and $\alpha=0.65$ for the physical subscale. Relative to agreement between the two applications of DHICA/SF, the authors verified that the intra-examiner intraclass correlation coefficients demonstrated satisfactory agreement, and satisfactory to excellent agreement for the items in the second application. Agreement values in the second application were: - emotional: 0.70; - Functional: 0.93, and Physical: 0.80. Conclusion: By means of the Dizziness Handicap Inventory Child/Adolescent DHI-CA it was possible to obtain a short version denominated Dizziness Handicap Inventory Child/Adolescent short form (DHI/CA-SF) applicable in children or adolescents with complaints of dizziness.

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