

“Disregard of development”. How does it affect in the hemiplegic upper limb?

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Children with unilateral infantile cerebral palsy (ICP) learn strategies and techniques to perform daily tasks with one hand. Thus, the performance of tasks is more efficient and effective using the unaffected hand, even if there is only a slight deterioration in the affected upper limb. A few years ago, DeLuca introduced the term “Disregard of development” for it, children with congenital hemiplegia who usually do not use affected upper limb in bimanual tasks and do not involve the paretic upper limb as support and assistance for the healthy upper limb, which is accentuated by the failure to use the arm and affected hand in activities of daily life. They do not use the paretic hand as an assist device for bimanual tasks (where they usually use other body surfaces such as the mouth, chin or trunk [1]).

In other circumstances, children completely ignore the affected upper limb, without being aware of its presence, so that it is in a passive position, sometimes uncomfortable, dysfunctional what can sometimes occur structured deformities and functional impotence, increasing the degree of severity functional of the upper limb and reducing its daily participation. In other cases, the children develop negative attitudes towards the affected upper limb, and it is called as inert or refer to it as a “thing”. Occasionally, children refuse to use the paretic upper limb [1].

Eliasson suggested that non-use could be a different phenomenon in children who suffer an early brain injury. Unlike an adult who has acquired damage neurological at a time in his life, a child with congenital hemiplegia has not had the experience of normal motor function of the affected upper limb. There is no potential to unmask motor function that is inhibited [2].

Therefore, therapy should create the opportunity, the experience and the environment in which a child can learn to use his affected upper limb. This experience must reverse the behavioural aspect of the suppression of use of the affected upper limb and reward the use of that member even in the simplest tasks, such as the stabilization of an object [1].

Another important factor that can contribute to disregard of the development of the affected upper limb in a child with hemiplegia is the presence of mirror movements. These occur when the repetitive

voluntary movements of a hand are accompanied by an involuntary reflected movement of the other hand. The results of a study by Kuhtz Buschbeck et al. [3] in the year 2000 showed that mirror activity is associated with a poor bimanual coordination. What is due to the two hands performing asymmetric actions in most of the activities of daily life and in these situations reflex mirror movements which alter coordinated performance and hand role.

Spatial neglect is also observed in children with unilateral affection of the upper limb. Children they draw figures asymmetrically or neglect the side of the figure corresponding to the affected body side. Trauner [4] evaluated this phenomenon in young children with brain damage unilateral early and the results found that spatial neglect occurs with a minor exploration of the objects in the contralateral hemisphere. Some children seem to ignore, or they are not aware of the affected upper limb and, therefore, cannot use it or even look at it. Children may not be completely explained by motor diseases, but perceptual-visual alterations would exacerbate motor disorders [4].

Houwink et al. [5] interpreted the symptoms of inattention as a consequence of the disregard development phenomenon can be aggravating factors. Therefore, deficits in the body representation compromise motor learning and motor control in the daily activities.

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