

Padovan Method as Early Stimulation in Neonatal Intensive Care Unit

COMMENTARY

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Abstract

The pathologies of the neonatal period are largely responsible for infant mortality in the first year of life, as well as neurological sequelae. In support, we have a greater neuroplasticity in the first two years of life, which can provide a rehabilitation of neurological circuits, contributing to the recovery of child neurodevelopment. According to the theories of neuroscience and epigenetics is that the Padovan method of Neurofunctional Reorganization is being used as early stimulation therapy in premature and term infants who suffered perinatal hypoxia, with excellent results in a public hospital in the state of Ceará.

Keywords

Neuroplasticity;
Neonatal asphyxia;
Neurodevelopment; Padovan Method; Neurofunctional Reorganization.

Of the 130 million children born every year, four million die during the neonatal period, and the main direct causes of death are prematurity, infections, asphyxia complications, congenital malformations and maternal factors (LEITE, 2008; LANSKY, 2014)

Preterm newborns (PN) may have delayed neurological maturation, as well as present physiological disorders such as inability to suck, swallow and breathe in a coordinated manner, addition to immaturity to maintain adequate body temperature (MILTERRSTEINER et al., 2003). In addition, the extremely preterm infants with very low birth weight are at increased risk of neurological, cognitive and behavioral complications that are diagnosed during the first years of life (NUNES, 2010).

The neonatal hypoxic-ischemic encephalopathy (HIE) is the most common neurological disease,

more studied and described in the literature, occurring in approximately six per 1,000 live births, an important factor of long-term neurological sequelae. (CECCON, 2003; CECCON, 2010).

The findings of neuroscience and epigenetics indicate that the external environment may exert a regulatory role on neurotransmitter activity and are able to trigger both appropriate sensory stimulation as inadequate, being the organs of the senses responsible for capturing this information (BRUSNSTEIN, 2013).

From 20 to 24 weeks of prenatal life, upon completion of the neuronal migration and the brain already has 100 billion neurons, the baby is able to perceive the environment that surrounds it, and form proto-representations from experiences and emotions that will shape the magical paths of their

developing brain and will form your self, all supported by neuroplasticity, which is higher in the first 2 years (CUNHA, 2002).

Humanized care focused on the development of the preterm neonate include several categories of interventions designed to minimize stress in the Neonatal Intensive Care Unit and we can mention the Kangaroo Care, early neurostimulation techniques, and the ambient light control, the sound noise, temperature and minimization of painful stimuli (PAULETTI; CRUVINEL, 2009).

Early interventions minimize aggravation of symptoms. The earlier treatment is started, the greater the chance of developing normal abilities and decreased abnormal movements and posture errors. Early intervention also increases the mother-baby bond (LEVITT, 2001; CASTRO, 2005).

The first year of life, because of brain plasticity, is considered crucial since that in this period are fast motor, cognitive, linguistic and social acquisitions, which reinforces the importance of vigilance and early stimulation. (RUGOLO, 2012)

We can conclude that if these children are not stimulated early in respect to neurological maturation by professionals in future these babies will have many permanent sequelae, requiring more care from family members, as well overcharge our already precarious health service (MILTERRSTEINER et al., 2003).

The Padovan Method was developed as a treatment modality in which all the neurological organization functions are taken into account. It is a reference in the treatment of children and adults with syndromes, cerebral palsy and stroke victims. Developed by the speech therapist Beatriz Padovan, known worldwide for creating the Padovan Method, their method is based on the teachings of Rudolf Steiner (1861-1915) about the nature of humans and the theory of neurological reorganization, created in the 50s by the American neurologist Temple Fay (1895-1963). After years of study, she developed a series consisting of bodily exercises,

breathing and oral-buccal-facial (are exercises such as rolling, creeping, crawling). The idea is to repeat various stages of development of the neurological system, so the patient recapitulates some processes that may interfere with their normal development (PADOVAN, 1997a; 1997b).

The method is composed of many different exercises, performed in sequential manner and so that the exercises are complementary and always follow the natural order of development (PADOVAN, 1994; 1995 b).

All exercises are accompanied by verses or songs recited by the therapist to give rhythm to the movements, also serving as auditory stimulus (PADOVAN, 1994; 1995a).

Since 2008 is used in the neonatal intensive care unit of the São Lucas Hospital in Juazeiro do Norte, Ceará, having been made an initial survey, in 2010, with positive results in all children who were submitted to the method, being recognized nationally with the first place in the 2nd Medical Innovation Award-service, sponsored by Sanofi-Aventis lab (Pereira, 2010). Of the 11 children in the 2008-2010 period, which required the RNF therapy for presenting deficit or absence of suction, all were born at term, weight ranging from 1.730g-3.895g; 10 had asphyxia during childbirth and 1 presented neurological alteration by Kernicterus, and even a case that had the indication of therapy for presenting incoordination of sucking with breathing due to laringomalacea. Initiation of therapy ranges from 5 days old for 3 months and 12 days and the time of response to therapy, with coordinated sucking, varied from 8 days to 5 months, being 10 cases with response between 8 days and 1 month (ALVES, 2012).

And to this end, the method is being used as a neurofunctional reorganization strategy in neonatal ICU of São Lucas Hospital ICU in babies with sequel by hypoxia and newborns premature for the treatment of apnea of prematurity and lack of coordination of sucking, breathing, swallowing. Gi-

ven the good results already observed to date, in that intensive care unit, is that emerged the idea of spreading the Padovan Method and how it can help to stimulate as soon as possible the five senses: hearing, sight, smell, touch and taste and so, be routinely used as well as prophylactic method of neurostimulation in neonatal ICU (FRAZÃO, 2012).

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