


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Poster · November 2020


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PERZISTANCE OF PRIMITIVE REFLEXES IN CHILDREN WITH CEREBRAL PALSY AND AT RISK CHILDREN

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Introduction

Primitive reflexes play a developmental role, at the beginning they are necessary for the nutrition, survival, protection of the new-born, and later in life they are important for the process of learning, communication, emotions, motivation. Mature responses in a child's psychomotor progress can only occur if the central nervous system itself has reached maturity. The process consists of the transition from a brain stem reflex response to a cortically controlled response.

In typical development, primary reflexes are naturally inhibited in particular order during the first year; they are displaced by substitutional so-called postural reflexes. Retained primitive reflexes can cause developmental delays that are associated with various disorders.

Manifestations of primitive reflexes at a later age than the ontogenetic typical may be associated with frontal dysfunction and cortical disinhibition.

Primitive reflexes and postural reactions are simple and preventive screening tests for early identification of infants at risk for developing cerebral palsy, but also for children who do not belong to the risk group and are very useful in detecting the presence of developmental disorder. One of the early neurodevelopmental signs in the early diagnosis of cerebral palsy involves the delayed persistence of neonatal primitive reflexes.

Objectives

- With this research we intended to determine persistence of primitive reflexes in four groups of respondents. Our idea was to see if there were differences in the integration of primitive reflexes in children with certain developmental disabilities like cerebral palsy and children born with a risk factor, compared to children - their peers in the general population.
- More specifically, we wanted to determine whether brain damage or risk exposure during childbirth would affect the maturation process of the central nervous system and the integration of reflexes.
- Primitive reflexes and postural reactions are one of the earliest, simplest, and most commonly used tools for assessing the integrity of the central nervous system in infants and young children.
- Indirect goal was identification of specific symptoms and signs related to inappropriate reflex integration.

Methodology

This is a transversal explorative, comparative study. The research sample included 183 respondents, aged 3-5 years: Sixty-three of them had been diagnosed with cerebral palsy (thirty were with comorbidity convulsions-epilepsy and thirty-three were without), sixty respondents were born with a risk factor for a developmental delay and 60 were children with typical development.

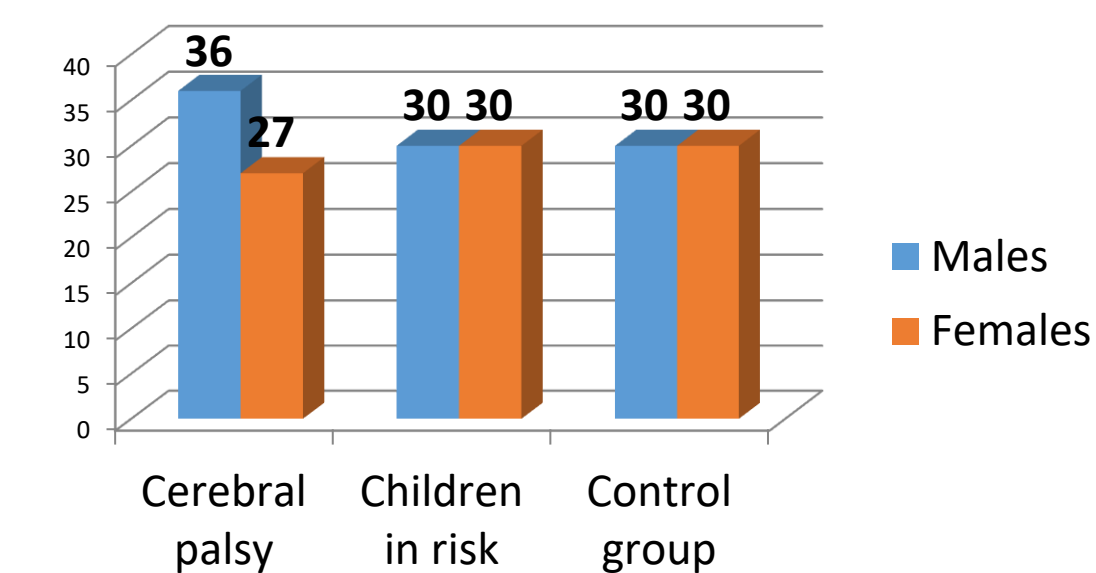


Chart 1. Gender distribution

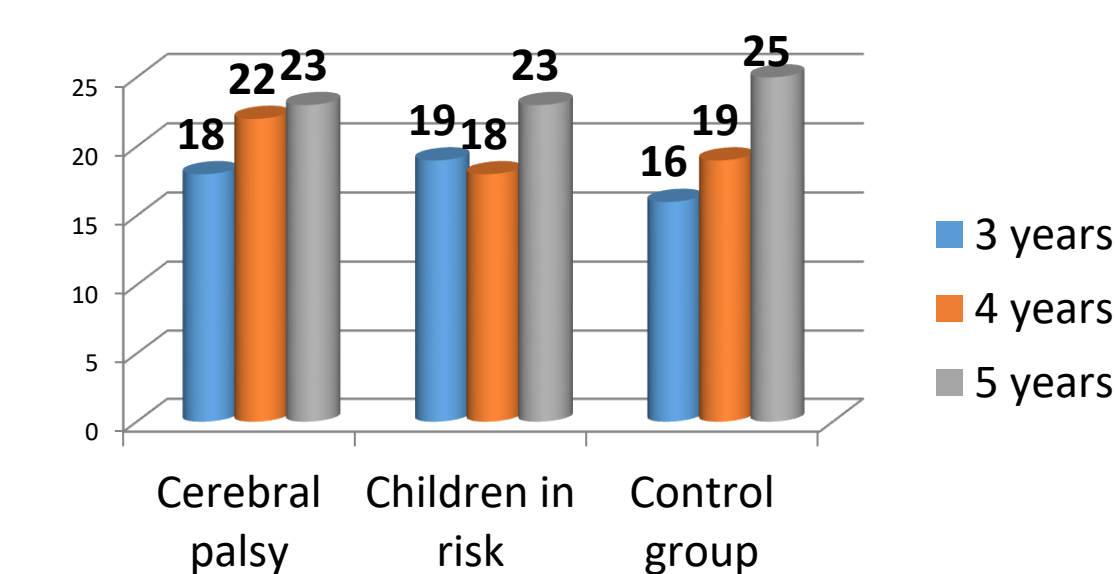


Chart 2. Age distribution

The examinees were assessed with Sally Goddard test for integration of the following reflexes:



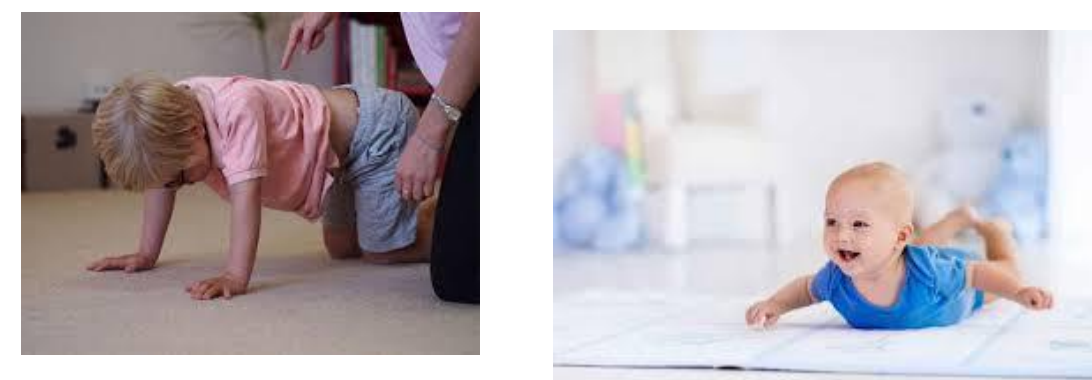
Moro reflex

Palmar reflex



Plantar reflex

Rooting reflex



Spinal Galant r.

Tonic labyrinth r.



ATNR

STNR

The scoring was adapted to our needs and standards, 0 was meaning that there is no presence of the reflex, 1 was meaning easy reaction of the reflex stimulation and 2 was meaning retained reflex. Each reflex was examined up to 5 times if we noticed presence of the reflex in the child or the response was ambiguous, in order to obtain best positive answers.

In 3 years old children tests for the tonic labyrinth reflex were harder to use, so we changed with the test proposed by the Integrated Learning Strategies, from Utah, USA.

Results

The analysis of the obtained data indicates a significantly higher frequency of primitive reflexes that persist even after the usual age of their occurrence and viability in the group of respondents diagnosed with cerebral palsy compared to the group of children at risk and peers from the control group. Most frequent persistence was noticed in examinees with cerebral palsy and comorbidity.

- The Moro reflex is visible in 15% of children with cerebral palsy, three times more often than in the 5% delayed occurrence in the group of children at risk. In the control group there are only two respondents with minor reflex reaction.
- The asymmetric neck reflex and spinal gallant reflex are found with an identical frequency of delayed persistence in 21% of subjects with cerebral palsy compared with 5% of the group with risk factors. In the control group 3 examinees (5%) manifested minor asymmetric neck reflex reaction and 15% showed minor reactions in spinal gallant reflex. One respondent in control group has completely persistent spinal gallant reflex.
- Tonic labyrinth reflex was retained in 27% of children with cerebral palsy, 7% in children born at risk and 2.4% in control group. Three examinees in control group had easy reactions.
- The symmetric neck reflex was not integrated in 25% of examinees with cerebral palsy and 13% of children born at risk and 10% of examinees in the control group indicated minor reactions.
- Rooting, palmar and plantar reflexes were at least common in examinees. Rooting persisted in 4% of examinees with cerebral palsy, palmar and plantar were noticed in 9% of the same group. These three reflexes were completely integrated in the examinees from the control group.

Chart 3. Reflex persistence

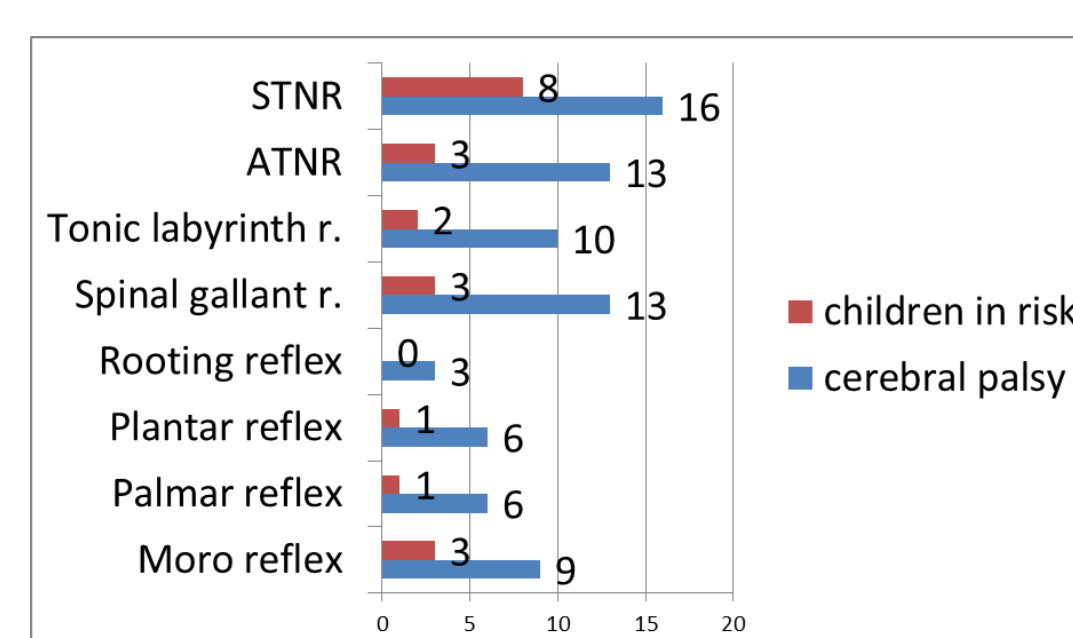
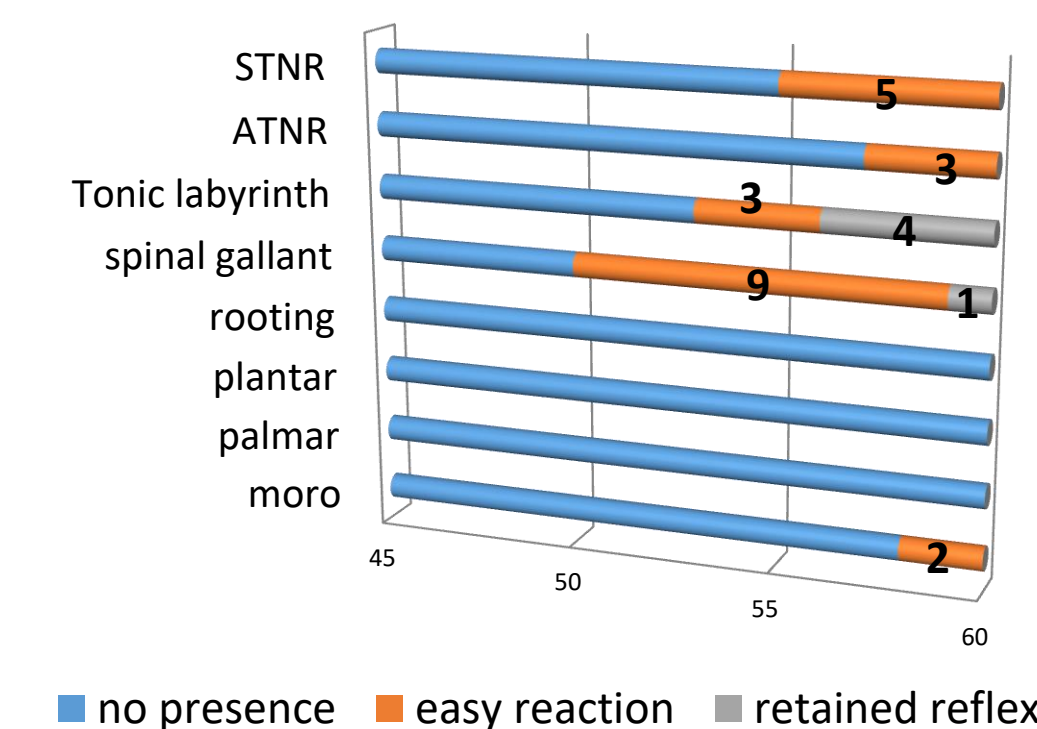


Chart 4. Reflex distribution in control group



Conclusions

The higher prevalence of unintegrated reflexes in the group of children with cerebral palsy is directly related to the higher affected CNS structures in these respondents compared to the group of neurotic infants, which is expected to lead to developmental delays and lower developmental achievements.

Primitive reflexes routinely tested, can contribute to improved early psychomotor development in children, thus preventing many difficulties which children can encounter within their social and school life.

In conclusion, even the primitive reflexes present in traces are significant for psychomotor skills.

References

- Goddard Blythe S. (2002) Reflexes, learning and behaviour: A window into the child's mind. Oregon: Fern Ridge Press;
- Goddard Blythe S. (2014) Neuromotor Immaturity in Children and Adults The INPP Screening Test for Clinicians and Health Practitioners. Oxford: John Wiley & Sons, Ltd;
- Goddard Blythe S. (2017) Attention, Balance and Coordination. UK: John Wiley & Sons Ltd;
- Walker S. (2013) Retained neonatal reflexes – a revolutionary approach to treating children with learning difficulties and behavioural problems. Sydney: Retained Neonatal Reflexes RNR;
- Ewa Z. Gieysztor, E.Z., Choińska, A.M., Paprocka-Borowicz1, M. (2018). Persistence of primitive reflexes and associated motor problems in healthy preschool children. In Persistence of primitive reflexes and associated motor problems in healthy preschool children

Acknowledgments

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EXAMPLES OF INTERVENTION POSITIONS

