Article

Role of early-childhood reflexes in the psychomotor development of a child, and in learning

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Abstract

Background: The aim of this paper is to present the occurrence of primitive reflexes in children with learning difficulties, and, in particular, to establish whether these are the vestigial forms of primitive reflexes occurring in the case of children at school age suffering from learning difficulties.
Material/Methods: The research group included 27 school children, including 11 male attendees and 16 female children (the average age: between 7.0 and 18.2 years) from the Complex of Educational and Care Facilities in Cracow suffering from learning difficulties and with different intelligence quotient levels. In the investigation, applied was the diagnosing program developed by S. Goddard and intended to be used with children above the age of 7 years; this being composed of large muscle coordination tests and tests of balance, ones investigating the reflexes, and also of the Tansley Test and the Bender-Gestalt Test. Results: It was found that the vestigial primitive reflexes occur in the case of school-age children suffering from academic difficulties. Those reflexes do not decrease simultaneously with the passage of time, but rather become more intensified. In children with low IQ, the vestigial form of preserved primitive reflexes occurs more frequently, and are more intensified. The number of primitive reflexes is not on the decrease simultaneously with the passage of time in the two studied groups. In the case of children whose intelligence quotient is at a lower level, the vestigial form of primitive reflexes occurs more frequently and is more intensified. Conclusions: In school-age children with learning difficulties, primitive reflexes occur in their vestigial form. Those reflexes do not decrease simultaneously with the passage of time, and it rather seems that they have become more intensified.

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... There is another class of reflexespresent at birth or emerging in early infancythat usually have a more temporary or transient existence. These more transient reflexes have been variously referred to as the primitive, neonatal, fetal, or developmental reflexes [10] [11] [12]. Table 1 describes a number of primitive reflexes that have been frequently reviewed in the medical and psychological literature [2,[10][11][12]. ...

... These more transient reflexes have been variously referred to as the primitive, neonatal, fetal, or developmental reflexes [10][11][12]. Table 1 describes a number of primitive reflexes that have been frequently reviewed in the medical and psychological literature [2,[10] [11] [12]. ...

... Rousseau, Matton, Lexuyer, and Lahaye [14] argued that this diminishment or integration of primitive reflex patterns during early infancy plays an important role in children's motor development. Grzywniak [11] hypothesized that the transient nature of primitive reflexes not only facilitates psychomotor development but also learning. For example, persistence of the asymmetrical tonic neck reflex might make it more difficult for a child retain hands-on engagement with their learning materials because the response of turning the head to the right (or left) would elicit extension (and flexing) of the respective arms. ...

Persistence of Primitive Reflexes in Developmental Disorders

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Jun 2021

Jeff Sigafoos · Laura Roche · Mark F O'Reilly · Giulio E. Lancioni

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... Podle polské neuroložky J. Czochańské (1985) ale primární reflexy utvářejí určitý motorický vzor a díky tomu se v prvním a druhém roce života vyvíjejí děti podobným způsobem. Podle polské psycholožky C. Grzywniak (2016) mohou přetrvávající primární reflexy narušit psychomotorický vývoj. Pokud se objevují odchylky v celkovém psychomotorickém vývoji dítěte, je možné, že ani vývoj řeči nebude zcela přiměřený věku dítěte (Bezděková, 2008). ...

... Doposud byla pozornost v lékařské literatuře soustředěna hlavně na výskyt primárních reflexů u dětí trpících dětskou mozkovou obrnou. Americká ergoterapeutka A. J. Ayres ve své práci o senzorické integraci také pojednává o primárních reflexech, které mohou podle jejího názoru narušit vývoj, ale nevyvolávají příznaky tak silné jako u spastické diplegie (in Grzywniak, 2016) . Také podle Bobatha závažná persistence primárních reflexů naznačuje nepřekonatelné organické problémy, jako je dětská mozková obrna (Bobath, 1975). ...

... Primární reflexy se mohou objevit v časech odlišných od fyziologického období výskytu jako reflexy reziduální, způsobující narušení psychomotorického vývoje ve formě tzv. neuro-vývojového opoždění (Grzywniak, 2016) . Tato narušení mají tedy spíše funkční základ, nejde o anatomické poškození CNS. ...

Primary reflexes and their influence on motor and speech development

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Marja Volemanová

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... It consists of a battery of tests, together with an ordered sequence of movements that combine executions which are typical of motor developmental milestones with movements aimed at inhibiting reflexes. This program has studies that endorse both the evaluation and the results of its implementation in different educational centres such as Mellor school, Prince Albert school, Swanwick school, NEELB school in the UK (Blythe, 2005) prior to its official publication (Blythe, 2012), the Care and Educational Complex in Krakow, Poland (Grzywniak, 2016) , different public and nonpublic schools in Vlora, Albania (Bilbilaj et al., 2017), and a group of schools in Lower Silesia, Poland (Gieysztor et al., 2018). Implementing the psychoeducational program has led to improvements in motor areas such as balance and movement coordination (Blythe, 2005;Gieysztor et al., 2018), in academic performance through improved reading and learning skills (Bilbilaj et al., 2017;Blythe, 2005;Chinello et al., 2018;Matuszkiewicz & Gałkowski, 2021), and in behavioural difficulties (Bilbilaj et al., 2017;Grzywniak, 2017). ...

... The Chester Institute of Neurophysiological Psychology-INPP-Developmental Screening (Blythe, 2012) was used for the initial and final assessments. The screening consists of a battery of tests assessing balance, proprioceptive skills, primitive reflexes, and visuomotor functioning through physical procedures that evoke movement (Bilbilaj et al., 2017;Blythe, 2005;Blythe, 2012; Grzywniak, 2016) . The tests appearing in the screening are: ...

Effect of a psychoeducational intervention on motor and perceptual-visual development through the inhibition of primitive

Article

Jun 2023

Lidia Infante-Cañete · Beatriz Aguilar-Guerrero · Agustin Wallace

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... En este sentido, se presenta el programa escolar Assessing neuromotor readiness for learning (Blythe, 2012), que consiste en una batería de pruebas junto con una secuencia ordenada de movimientos que combinan ejecuciones propias de los hitos del desarrollo motor con movimientos destinados a la inhibición de los reflejos. Este programa cuenta con estudios que avalan tanto la evaluación como los resultados de aplicación en diferentes centros educativos como el colegio Mellor, colegio Prince Albert, colegio Swanwick, colegio NEELB en Reino Unido (Blythe, 2005) previo a su publicación oficial (Blythe, 2012), el Complejo de Cuidados y Educativo de Cracovia, Polonia (Grzywniak, 2016) , distintas escuelas públicas y no públicas en Vlora, Albania (Bilbilaj et al., 2017) y en un grupo de colegios de Silesia Baja, Polonia (Gieysztor et al., 2018). La implantación del programa psicoeducativo ha obtenido mejoras en áreas motoras como el equilibrio y la coordinación del movimiento (Blythe, 2005;Gieysztor et al., 2018), en el rendimiento académico a través de la mejora de la lectura y las dificultades de aprendizaje (Bilbilaj et al., 2017;Blythe, 2005;Chinello et al., 2018;Matuszkiewicz y Gałkowski, 2021) y en las dificultades de conducta (Bilbilaj et al., 2017;Grzywniak, 2017). ...

... Para la evaluación inicial y final se ha utilizado el Screening del Desarrollo del Instituto de Psicología Neurofisiológica de Chester, INPP (Blythe, 2012). El screening está formado por una batería de pruebas que valoran: el equilibrio, las habilidades propioceptivas, los reflejos primitivos y el funcionamiento óculo motor a través de procedimientos físicos que evocan el movimiento (Bilbilaj et al., 2017;Blythe, 2005;Blythe, 2012; Grzywniak, 2016) . Las pruebas que aparecen en el screening son: ...

Efecto de una intervención psicoeducativa en el desarrollo motor y perceptivo-visual a través de la inhibición de los reflejos

Article

May 2023 · REV PSICODIDACT

Lidia Infante-Cañete · Beatriz Aguilar-Guerrero · Agustin Wallace

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... The gradual trunk rotation reflex causes the body to rotate. It occurs in the 6th month after birth and continues throughout life (Grzywniak, 2016) . ...

... These reactions allow the body to be positioned according to the center of mass in different positions. Includes balance reactions during supine and prone positions, crawling, sitting, and standing (Grzywniak, 2016) . ...

Chıld and Child Education in the 21 st Century

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Mar 2023

Emre Oguz · Assoc · Ulutaş Ayşegül · Şehnaz Sungurtekin

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... Primární reflexy se mohou objevit v časech odlišných od fyziologického období výskytu jako reflexy reziduální, způsobující narušení psychomotorického vývoje ve formě tzv. neuro-vývojového opoždění (Grzywniak, 2016) . ...

... (Goddard, 2005) ATŠR by měl fyziologicky vyhasnout cca do 3. měsíce věku dítěte. (Volemanová, 2019) U dítěte s aktivním ATŠR je tělo imaginativně rozděleno (z hlediska vnímání osy těla) na dvě poloviny -na pravou a levou, přičemž spolupráce mezi oběma polovinami mozku je minimální a "překročit" pomyslnou střední čáru těla je velice těžké (Grzywniak, 2016) . Proto kdybychom například chtěli po předškolákovi, aby hračku, kterou má v pravé ruce, položil na levou stranu stolu, pravděpodobně přenese pravou ruku na střed těla, tam přendá hračku do levé ruky a teprve pomocí této druhé ruky položí hračku na stůl (pozn. ...

Přetrvávající primární reflexy u dětí předškolního a mladšího školního věku a jejich vliv na edukaci

Conference Paper

Sep 2021

Petra Bendová

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... The researchers claimed that RD and DLD often co-occur, whereas motor impairment that is observed in children with RD may be more a function of language impairment than reading or writing difficulties. A study by Grzywniak (2016) indicated that reading and writing difficulties are related to neuromotor immaturity (NMI), defined as a set of uninhibited PRs. In addition, Gieysztor et al. (2017) found that some healthy children retain PRs. ...

... Studies conducted on the relationship between PRs and RD (Goddard Blythe, 2005; Grzywniak, 2016 Grzywniak, , 2017Jordan-Black, 2005;McClelland et al., 2015;McPhillips et al., 2000;McPhillips & Jordan-Black, 2007;Wahlberg & Ireland, 2005) have examined the tonic labyrinthine reflex (TLR), the asymmetrical tonic neck reflex (ATNR), and the symmetrical tonic neck reflex (STNR). These reflexes are linked to oculomotor functions and changes in muscle tension in different parts of the body during head movements. ...

Developmental Language Disorder and Uninhibited Primitive Reflexes in Young Children

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Feb 2021 · J SPEECH LANG HEAR R

Tadeusz Gałkowski · Maria Matuszkiewicz

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... An increased presence of primary reflexes may be noticed by parents or teachers as clumsiness, problems with balance and coordination, inadequate emotional behavior, or difficulties with concentration. Based on our own and other authors' studies [15, 31] dealing with the coexistence of various developmental problems with active primitive reflexes, it has been demonstrated that a proper diagnosis of the causes of a child's problems is necessary for the process of planning the therapy of children with sensory-motor disorders. Focusing only on symptoms may result in an incorrect selection of therapeutic measures and, as a consequence, ineffective therapy. ...

... However, high levels of reflexes are also observed in some school children. Grzywniak [31] reports that in children with learning difficulties, reflexes do not seem to integrate spontaneously, but increase with age. It is, therefore, reasonable to pay special attention, including long-term observation, in the case of children who have been screened for numerous and strongly expressed primitive reflexes and sensory-motor disorders. ...

Primitive Reflex Activity in Relation to the Sensory Profile in Healthy Preschool Children

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Nov 2020 · Int J Environ Res Publ Health

Anna Pecuch · Ewa Gieysztor · Marlena Telenga · Małgorzata Paprocka-Borowicz

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... The first major sensory system to come online during fetal development is the vestibular system Bradley and Mistretta (1975); Johnson Chacko et al. (2016)). Vestibular input has a significant influence in early movement development and is directly connected to the the existence of primitive reflexes (Brandt and Dieterich, 2015; Grzywniak, 2016) and head and neck movement (Lovell, 2021). Vestibular input serves as the trigger of many primitive reflexes and support early motor development (Lovell, 2021). ...

Prefrontal Functional Connectivities in Autism Spectrum Disorders: A Connectopathic Disorder Affecting Movement,

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Gerry Leisman · Robert Melillo · Ty Melillo

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... Gradually, as primitive reflex response is superseded by postural reflexes and increased voluntary control of posture, balance and coordination, psycho-social, motoric, educational skills and aspects of emotional development, which depend on postural control to provide a secure physical reference point in space, should be observed. The research on primitive reflexes shows that, in preschool or school-age children, they may still persist, especially in children in whom some spheres of development are disturbed [6][7][8][9][10][11]. Children with persistent PR are seen to have lower motor, cognitive, visual and learning achievements [12] [13][14]. Some of the research shows specific difficulties in reading [15][16][17][18] or language disorder [8] in relation to PR activity. ...

The Correlation between Residual Primitive Reflexes and Clock Reading Difficulties in School-Aged Children-A Pilot Study

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Agata Kalemba · Maria Lorent · Sally goddard blythe · Ewa Gieysztor

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Prefrontal Functional Connectivities in Autism Spectrum Disorders: A Connectopathic Disorder Affecting Movement and

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The Correlation between Residual Primitive Reflexes and Clock Reading Difficulties in School-Aged Children—A Pilot Study

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Jan 2023 · Int J Environ Res Publ Health

Sally goddard blythe

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... In some cases, when the natural process of development is incorrect, PRs can manifest later in life. PR activeness is increasingly observed, even in groups of neurologically healthy children [1] [2] [3][4]. In subjects with CNS injuries, such as cerebral palsy (CP), the full range of PR reactions is visible. ...

Primitive Reflex Factors Influence Walking Gait in Young Children: An Observational Study

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Mar 2022 · Int J Environ Res Publ Health

Ewa Gieysztor · Mateusz Kowal · Małgorzata Paprocka-Borowicz

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... However, it could be assumed that slightly expressed reflexes in preschool children may integrate completely by the school age. However, Grzywniak [31] reports that in children with learning difficulties, reflex activity increases with age (and there is no spontaneous integration). In response to the above question posed by the researchers, it is necessary to state that special attention should be paid to children with increased activity of primary reflexes and specific sensorimotor, emotional, or educational difficulties. ...

Primitive Reflex Activity in Relation to Motor Skills in Healthy Preschool Children

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Jul 2021 · BSRCCS

Anna Pecuch · Ewa Gieysztor · Ewelina Wolańska · Małgorzata Paprocka-Borowicz

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... Residual reflexes can affect the child's educational outcomes. In this case children can learn, but it takes more effort (Montgomery et al., 2015; Grzywniak, 2016) . For example, both reading (McPhillips & Jordan-Black, 2007) as well as writting, paying attention, and movement coordination, may be difficult for these children (Blythe, 2009(Blythe, , 2011Vaculíková, Skotáková, & Sebera, 2017). ...

CASE STUDY OF PRIMITIVE REFLEXES IMPACT ON SWIMMING SKILL ACQUISITION BY HEALTHY CHILDREN

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