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Interventions and Management

1. Hand use development in children with unilateral cerebral palsy

No authors listed

Dev Med Child Neurol. 2023 Jun 12. doi: 10.1111/dmcn.15666. Online ahead of print.

No abstract available

PMID: 37306436

2. Detecting Asymmetry of Upper Limb Activity with Accelerometry in Infants at Risk for Unilateral Spastic Cerebral Palsy

Cornelia H Verhage, Jan Willem Gorter, Tim Takken, Manon J N L Benders, Linda S de Vries, Niek E van der Aa, Nienke Wagenaar

Phys Occup Ther Pediatr. 2023 Jun 15;1-15. doi: 10.1080/01942638.2023.2218478. Online ahead of print.

Aims: To examine whether accelerometry can quantitate asymmetry of upper limb activity in infants aged 3-12 months at risk for developing unilateral spastic cerebral palsy (USCP). Method: A prospective study was performed in 50 infants with unilateral perinatal brain injury at high risk of developing USCP. Triaxial accelerometers were worn on the ipsilateral and contralesional upper limb during the Hand Assessment for Infants (HAI). Infants were grouped in three age intervals (3-5 months, 5-7.5 months and 7.5 until 12 months). Each age interval group was divided in a group with and without asymmetrical hand function based on HAI cutoff values suggestive of USCP. Results: In a total of 82 assessments, the asymmetry index for mean upper limb activity was higher in infants with asymmetrical hand function compared to infants with symmetrical hand function in all three age groups (ranging from 41 to 51% versus - 2-6%, $p < 0.01$), while the total activity of both upper limbs did not differ.Conclusions: Upper limb accelerometry can identify asymmetrical hand function in the upper limbs in infants with unilateral perinatal brain injury from 3 months onwards and is complementary to the Hand Assessment for Infants.

PMID: 37318108

3. Following 4 months of social distancing during COVID-19 Pandemic in Brazil did not change aspects of functioning in children and adolescents with developmental disabilities: A longitudinal study

Beatriz Helena Brugnaro, Gesica Fernandes, Fabiana Nascimento Vieira, Silvia Letícia Pavão, Nelci Adriana Cicuto Ferreira Rocha

J Intellect Disabil. 2023 Jun 16;17446295231184117. doi: 10.1177/17446295231184117. Online ahead of print.

The COVID-19 pandemic and its demands of social distancing have created challenges in the lives of children/adolescents with developmental disabilities and their families, which would change aspects of children's functioning. The objetive of this study was to evaluate changes in some components of functioning of children/adolescents with disabilities following 4 months of social distancing during a period of high contamination rate in the year 2020 in Brazil. Participated 81 mothers of children/ adolescents with disabilities, 3-17 years, most of them (80%) diagnosed with Down syndrome, cerebral palsy and autism spectrum disorder. Remote assessments of functioning' aspects including IPAQ, YC-PEM/ PEM-C, Social Support Scale and PedsQL V.4.0. Wilcoxon tests compared the measures, with significance level <0.05. No significant changes in participant's functioning were identified. Social adjustments required to facing the pandemic during two points in time in the midst of the pandemic did not change the evaluated aspects of functioning in our sample of Brazilian.

PMID: 37328257

4. Review of effects of spinal manipulative therapy on neurological symptoms

A Kushnir, B Fedchyshyn, O Kachmar

Review J Bodyw Mov Ther. 2023 Apr;34:66-73. doi: 10.1016/j.jbmt.2023.04.009. Epub 2023 Apr 12.

Background: Neurological disorders are the leading cause of disability in the world. Neurological symptoms significantly affect the well-being of the individual. Spinal manipulative therapy (SMT) is a complementary method often used for people with neurological disorders. Objective: This study aimed to review the existing literature on the effects of SMT on common clinical symptoms of neurologic disorders and the quality of life. Methods: Narrative review was conducted through the literature published between January 2000 and April 2020 in English. The search was performed across four databases: PubMed, Google Scholar, PEDro, and Index to Chiropractic Literature. We used combinations of keywords related to SMT, neurological symptoms, and quality of life. Studies on both symptomatic and asymptomatic populations of different ages were included. Results: 35 articles were selected. Evidence for the administration of SMT for neurological symptoms is insufficient and sparse. Most studies focused on the effects of SMT on pain, revealing its benefits for spinal pain. SMT may increase strength in asymptomatic people and populations with spinal pain and stroke. SMT was reported to affect spasticity, muscle stiffness, motor function, autonomic function, and balance problems, but these studies were limited in number to make conclusions. An important finding was the positive influence of SMT on the quality of life in people with spinal pain, balance impairments, and cerebral palsy. Conclusion: SMT may be beneficial for the symptomatic treatment of neurological disorders. SMT can positively affect the quality of life. However, limited evidence is available, and further high-quality research is required.

PMID: 37301560

5. Lower extremity robotic exoskeleton devices for overground ambulation recovery in acquired brain injury-A review

Kiran K Karunakaran, Sai D Pamula, Caitlyn P Bach, Eliana Legelen, Soha Saleh, Karen J Nolan

Review Front Neurorobot. 2023 May 25;17:1014616. doi: 10.3389/fnbot.2023.1014616. eCollection 2023.

Acquired brain injury (ABI) is a leading cause of ambulation deficits in the United States every year. ABI (stroke, traumatic brain injury and cerebral palsy) results in ambulation deficits with residual gait and balance deviations persisting even after 1 year. Current research is focused on evaluating the effect of robotic exoskeleton devices (RD) for overground gait and balance training. In order to understand the device effectiveness on neuroplasticity, it is important to understand RD effectiveness in the context of both downstream (functional, biomechanical and physiological) and upstream (cortical) metrics. The review identifies gaps in research areas and suggests recommendations for future research. We carefully delineate between the preliminary studies and randomized clinical trials in the interpretation of existing evidence. We present a comprehensive review of the clinical and pre-clinical research that evaluated therapeutic effects of RDs using various domains, diagnosis and stage of recovery.

PMID: 37304666

6. Evidence-based management and motor rehabilitation of cerebral palsy children and adolescents: a systematic review

Silvia Faccioli, Emanuela Pagliano, Adriano Ferrari, Cristina Maghini, Maria F Siani, Giada Sgherri, Gina Cappetta, Giulia Borelli, Giuseppina M Farella, Maria Foscan, Marta Viganò, Silvia Sghedoni, Silvia Perazza, Silvia Sassi

Front Neurol. 2023 May 25;14:1171224. doi: 10.3389/fneur.2023.1171224. eCollection 2023.

Background: Evidence regarding the management of several aspects of cerebral palsy improved in recent years. Still, discrepancies are reported in clinical practice. Italian professionals and stakeholders expressed the need of setting up updated, evidenced-based, shared statements, to address clinical practice in cerebral palsy rehabilitation. The objective of the present study was to provide an updated overview of the state of knowledge, regarding the management and motor rehabilitation of children and young people with cerebral palsy, as the framework to develop evidence-based recommendations on this topic. Methods: Guidelines and systematic reviews were searched, relative to evidence-based management and motor treatment, aimed at improving gross motor and manual function and activities, in subjects with cerebral palsy, aged 2-18 years. A systematic search according to the Patients Intervention Control Outcome framework was executed on multiple sites. Independent evaluators provided selection and quality assessment of the studies and extraction of data. Results: Four guidelines, 43 systematic reviews, and three primary studies were included. Agreement among guidelines was reported relative to the general requirements of management and motor treatment. Considering the subject's multidimensional profile, age and developmentally appropriate activities were recommended to set individual goals and interventions. Only a few approaches were supported by high-level evidence (i.e., bimanual therapy and constraint-induced movement therapy to enhance manual performance). Several task-specific active approaches, to improve gross motor function and gait, were reported (mobility and gait training, cycling, backward gait, and treadmill), based on low-level evidence. Increasing daily physical activity and countering sedentary behavior were advised. Based on the available evidence, non-invasive brain stimulation, virtual reality, action-observation therapy, hydrotherapy, and hippotherapy might be complementary to task or goal-oriented physical therapy programs. Conclusion: A multiple-disciplinary family-centered evidence-based management is recommended. All motor rehabilitation approaches to minors affected by cerebral palsy must share the following fundamental characteristics: engaging active involvement of the subject, individualized, age and developmentally appropriate, goal-directed, skill-based, and preferably intensive and time-limited, but suitable for the needs and preferences of the child or young person and their family, and feasible considering the implications for themselves and possible contextual limitations.

PMID: 37305763

7. HIPPOTHERAPY IN CEREBRAL PALSY - SURVEY RESEARCH

Włodzisław Kuliński, Emilia Gryl

Wiad Lek. 2023;76(5 pt 1):897-906. doi: 10.36740/WLek202305102.

Objective: The aim: To assess the effects of a one-year hippotherapy programme on the physical and mental functioning of children with cerebral palsy. Patients and methods: Materials and methods: The study included 15 children with cerebral palsy whose mean age was 9 years. The children participated in hippotherapy ses¬sions at the Rehabilitation Centre in Rusinowice (one-year observation). The clinical presentation was dominated by manifestations of motor and postural abnormalities caused by central nervous system damage. A survey questionnaire was used in the study to collect information about problems associated with everyday life and functioning. Results: Results: The results obtained in this study showed that spastic CP was the most common form of the disorder, affecting 8 out of 15 children (53%). It was followed by mixed CP (40%, 6 children). Among the respondents, 67% (10 people) were already familiar with hippotherapy whereas 33% did not know this method. Conclusion: Conclusions: There was a strong correlation between being familiar with effects of hippotherapy and the level of education of the parent/guardian. This result had a moderate influence on the frequency of hippotherapy sessions. Systematic hippotherapy sessions helped improve physical fitness and everyday functioning in children with cerebral palsy.

PMID: 37326068

8. Implementation of the C-BiLLT, an accessible instrument to assess language comprehension in children with limited motor and speech function: an international clinician survey

Jael N Bootsma, Kristine Stadskleiv, Michelle Phoenix, Johanna J M Geytenbeek, Jan Willem Gorter, Dayle McCauley, Sara Fiske, Fiona Campbell, Natasha Crews, Barbara Jane Cunningham

Augment Altern Commun. 2023 Jun 13;1-11. doi: 10.1080/07434618.2023.2197060. Online ahead of print.

This study assessed implementation of the Computer-based Instrument for Low-motor Language Testing (C-BiLLT). The C-BiLLT is an accessible language comprehension assessment tool originally developed for children with cerebral palsy and complex communication needs. The purpose of the current study was to understand the clinical contexts in which the C-BiLLT is used in the Netherlands, Belgium, and Norway and assess barriers and facilitators to implementation. An online survey was distributed to rehabilitation clinicians working in the Netherlands, Dutch-speaking parts of Belgium, and Norway. A total of 90 clinicians reported their training in and use of the C-BiLLT; assessed its acceptability, appropriateness, and feasibility; and commented on perceived barriers as well as advantages of the tool. Acceptability, appropriateness, and feasibility were all rated highly. The C-BiLLT was used with various populations and age groups but most often with children who were younger than 12 years of age, and those with cerebral palsy. The main implementation facilitator was clinicians' motivation; the main barriers were related to resources and complexity of cases. Findings suggest implementation of new assessment tools is an ongoing process that should be monitored following initial training, in order to understand clinical contexts in which the tools are being used.

PMID: 37310116

9. The effect of intensive rehabilitation treatment on sleep disorder in children with motor delays

Sung Hyun Kim, Jin Hee Jung, Min Cheol Chang, Donghwi Park

BMC Pediatr. 2023 Jun 15;23(1):291. doi: 10.1186/s12887-023-04067-1.

Background: Although the importance of sleep problems has been increasingly emphasized due to the effects on children's development and children's and families' daytime behaviors, physical health, and quality of life, they have been overlooked in clinical practice. However, there have been few studies on the effects of rehabilitation on sleep problems. Therefore, in this study, we investigated the effects of an intensive rehabilitation program on sleep problems in children with developmental delays (DD). Methods: We included 36 children with DD (30 outpatients, 6 inpatients) and their caregivers who completed all items on the Sleep Disturbance Scale for Children. Of the children with DD, 19 (59.3%) had cerebral palsy (CP) and 13 (40.7%) had DD of non-CP origins, of which 6 (18.8%) had prematurity, 4 (12.5%) had genetic causes, and 3 (9.4%) had an unknown origin. Changes in sleep problems after the intensive rehabilitation program were evaluated using a paired or unpaired t-test, depending on the distribution of the continuous variables. Results: After the intensive rehabilitation program, in 36 children with DD, there was a significant improvement in the difficulty in initiating and maintaining sleep (DIMS) sub-score ($p < 0.05$). However, there was no significant improvement in the total score or other sub-scores, such as those for sleep breathing disorders (SBD), disorders of arousal (DA), sleep-wake transition disorders (SWTD), disorders of excessive somnolence (DOES), and sleep hyperhidrosis (SH). In the subgroup analysis according to the cause of DD, children with CP had a significant improvement in DIMS and DOES sub-scores ($p < 0.05$). Conclusion: The intensive rehabilitation program, consisting of more than two sessions per day, effectively alleviated sleep problems in children with DD, especially in those with CP. Among the sleep problems, the intensive rehabilitative program was most effective at improving the DIMS. However, further prospective studies with a larger number of patients with DD and a more standardized protocol are necessary to generalize this effect.

PMID: 37322423

10. Mental health services and resources for children with developmental disabilities and their families: scan of local practices, gaps, and opportunities created

Jessica Hanson, Kayla Heslon, Tatiana Ogourtsova

Front Rehabil Sci. 2023 May 30;4:1118769. doi: 10.3389/fresc.2023.1118769. eCollection 2023.

Background: Mental health concerns in children with disabilities are common and have a significant and negative impact. Clinicians have reported high demand for this population to receive early, targeted, and family-centred mental health interventions. Objective: We sought to map out and describe existing pediatric mental health services/resources for children with disabilities and their families across clinical sites and local and online communities. Methods: Using a mixed-method triangulation study design, we outreached to clinical managers at the participating clinical sites and conducted a rapid online search of local in-person, telehealth, and web-based information. The nature, access method, admission criteria, target, focus, and other pertinent information were recorded and analyzed using descriptive statistics and a narrative synthesis approach. Results: Eighty-one (n = 81) services/resources (in-person, n = 48; telehealth, n = 10; web-based information, n = 33) were identified. Few (n = 6, 13%) in-person services had a method of care access through an online booking portal. Nearly half of in-person resources (n = 23, 47%) had admission criteria specific for children with disabilities (e.g., diagnosis, age limit), and many (n = 32, 67%) required a formal referral. A small number of in-person and telehealth services targeted the mental health concerns of the entire family (n = 23, 47%; n = 2, 20%). Very few (n = 13, 16%) services incorporated follow-up support. Important gaps emerged for certain populations (e.g., children with cerebral palsy). Practitioners' inadequate training when intervening with co-existing mental health demands of children with disabilities was noted by clinical managers. Conclusion: Findings could be used to create a user-friendly database to easily identify suitable services and to advocate for services/resources that are lacking.

PMID: 37325126

11. The relationship of spiritual orientation and caregiver burden of caregiver mothers with a child with cerebral palsy in Turkey

Suat Tuncay, Abdullah Sarman

Child Care Health Dev. 2023 Jun 12. doi: 10.1111/cch.13141. Online ahead of print.

Introduction: This study aims to examine the association between spiritual orientation and the caregiving burden experienced by mothers of children with cerebral palsy. Methods: Parents of 181 children with cerebral palsy, aged 0-18, participated in this cross-sectional-descriptive study. "Sociodemographic Form," "Spiritual Orientation Scale," "Zarit Caregiver Burden Scale," and "Gross Motor Function Classification System" were used to collect data. Results: The mothers who participated in the study had a mean age of 35.74 ± 5.94 years. The study showed that 17.1% of children with cerebral palsy did not receive special education, and 92.8% of them were born with a disability. Additionally, 62.4% of the children were found to be undernourished, 48.6% had irregular oral care, 43.1% had semi-active activity, 65.7% had irregular sleeping patterns, and 50.8% only partially understood what was stated. The study discovered that as mothers' ages increased, their spiritual orientation decreased, and their burden of caring increased. Furthermore, the mothers of children with severe disabilities had an increasing burden of care, as indicated by the gross motor classification. Conclusions: The study found that mothers with higher spiritual orientation scores perceived less care burden. These findings suggest the need for implementing activities to provide moral support to mothers.

PMID: 37309022

12. Nutritional status and growth of children and adolescents with and without cerebral palsy in eastern Uganda: A longitudinal comparative analysis

Lukia Hamid Namaganda, Carin Andrews, Fred Wabwire-Mangen, Stefan Peterson, Hans Forssberg, Angelina Kakooza-Mwesige

PLOS Glob Public Health. 2023 Jun 13;3(6):e0001241. doi: 10.1371/journal.pgph.0001241. eCollection 2023.

There is a need to understand the growth and burden of malnutrition in children with cerebral palsy (CP) in order to design appropriate inclusive nutrition strategies. We compared the nutritional status and four-year longitudinal growth of a population-based cohort of children and adolescents (C&A) with CP (n = 97; 2-17 years; 55/42 M/F), and an age and sex matched group without CP (n = 91; 2-17y; 50/41 M/F) in rural Uganda. The cohorts were assessed in 2015 and 2019 for weight, height, social demographic characteristics, and feeding related factors. Nutritional status was determined using the World Health Organization (WHO) Z-scores. Wilcoxon sign rank and Mann-Whitney tests were used to test within and between group differences. Multivariable linear regression was used to determine predictors of the change in growth. Approximately two thirds (62/97 (64%)) of C&A with CP were malnourished (with <-2SD in any of the WHO Z-scores), especially those with feeding difficulties (OR = 2.65; P = 0.032), and those who needed to be fed (OR = 3.8; P = 0.019). Both the CP and non-CP groups deviated negatively from the WHO reference growth curve for height, with a significantly slower growth in the CP group (median change score of height-for-age Z score (HAZ) between assessments = -0.80(-1.56, 0.31), p<0.01), than the non-CP group (median HAZ change score = -0.27(-0.92,0.34, p = 0.034). There was a statistically significant group difference in the median HAZ change score between the CP and non-CP groups (z = -2.21, p = 0.026). Severity of motor impairment measured by the Gross Motor Function Classification System (GMFCS-level) correlated negatively (r = -1.37,95%CI -2.67, -0.08) with the change in HAZ scores among the CP group. Children and adolescents with severe motor impairments exhibit an increased risk of malnutrition and growth retardation compared to their age matched peers without CP, which underscores the need to develop inclusive community-based nutrition strategies for children with cerebral palsy.

PMID: 37310914

13. Following 4 months of social distancing during COVID-19 Pandemic in Brazil did not change aspects of functioning in children and adolescents with developmental disabilities: A longitudinal study

Beatriz Helena Brugnaro, Gesica Fernandes, Fabiana Nascimento Vieira, Silvia Letícia Pavão, Nelci Adriana Cicuto Ferreira Rocha

J Intellect Disabil. 2023 Jun 16;17446295231184117. doi: 10.1177/17446295231184117. Online ahead of print.

The COVID-19 pandemic and its demands of social distancing have created challenges in the lives of children/adolescents with developmental disabilities and their families, which would change aspects of children's functioning. The objetive of this study was to evaluate changes in some components of functioning of children/adolescents with disabilities following 4 months of social distancing during a period of high contamination rate in the year 2020 in Brazil. Participated 81 mothers of children/ adolescents with disabilities, 3-17 years, most of them (80%) diagnosed with Down syndrome, cerebral palsy and autism spectrum disorder. Remote assessments of functioning' aspects including IPAQ, YC-PEM/ PEM-C, Social Support Scale and PedsQL V.4.0. Wilcoxon tests compared the measures, with significance level <0.05. No significant changes in participant's functioning were identified. Social adjustments required to facing the pandemic during two points in time in the midst of the pandemic did not change the evaluated aspects of functioning in our sample of Brazilian.

PMID: 37328257

14. Boy with cerebral palsy awarded £21m settlement from NHS for birth injuries

Clare Dyer

BMJ. 2023 Jun 16;381:p1383. doi: 10.1136/bmj.p1383.

No abstract available

PMID: 37328168

15. [Methods and results of neurosurgical treatment of cerebral palsy] [Article in Russian]

A V Dekopov, A A Tomsky, E D Isagulyan

Zh Vopr Neirokhir Im N N Burdenko. 2023;87(3):106-112. doi: 10.17116/neiro202387031106.

Treatment of spastic syndrome and muscular dystonia in patients with cerebral palsy is a complex clinical problem. Effectiveness of conservative treatment is not high enough. Modern neurosurgical techniques for spastic syndrome and dystonia are divided into destructive interventions and surgical neuromodulation. Their effectiveness is different and depends on the form of disease, severity of motor disorders and age of patients. Objective: To evaluate the effectiveness of various methods of neurosurgical treatment of spasticity and muscular dystonia in patients with cerebral palsy. Material and methods: We To evaluate the effectiveness of various methods of neurosurgical treatment of spasticity and muscular dystonia in patients with cerebral palsy. analyzed literature data in the PubMed database using the keywords «cerebral palsy», «spasticity», «dystonia», «selective dorsal rhizotomy», «selective neurotomy», «intrathecal baclofen therapy», «spinal cord stimulation», «deep brain stimulation». Results: Effectiveness of neurosurgery was higher for spastic forms of cerebral palsy compared to secondary muscular dystonia. Destructive procedures were the most effective among neurosurgical operations for spastic forms. Effectiveness of chronic intrathecal baclofen therapy decreases in follow-up due to secondary drug resistance. Destructive stereotaxic interventions and deep brain stimulation are used for secondary muscular dystonia. Effectiveness of these procedures is low. Conclusion: Neurosurgical methods can partially reduce severity of motor disorders and expand the possibilities of rehabilitation in patients with cerebral palsy.

PMID: 37325833

16. The effect of motor learning-based telerehabilitation on quality of life of children with cerebral palsy during the COVID-19 pandemic

Rabia Celikel, Engin Ramazanoglu, Burcu Talu

Arch Pediatr. 2023 May 29;S0929-693X(23)00086-6. doi: 10.1016/j.arcped.2023.04.004. Online ahead of print.

Background: During the pandemic, the access of children with cerebral palsy (CP) to rehabilitation services was adversely affected due to the significant risk of infection. Aims: We assessed whether the effect of a motor learning-based treatment provided via a telerehabilitation method on the quality of life of children with cerebral palsy during the COVID-19 period was equivalent to face-to-face treatment. Methods: Distance exercises were explained by a physiotherapist to the patients in the telerehabilitation group, and motor learning-based treatment was applied by their families; the physiotherapist followed the sessions with video conferencing. Motor learning-based treatment was offered to the face-to-face group by a physiotherapist in the clinic. Results: In the comparison between the groups, there was a significant difference in the parameters of play activities, pain-hurt, fatigue, eating activities, and speech communication activities after treatment ($p<0.05$). However, in the test performed by considering the nonhomogeneous parameters before the treatment, no time-dependent difference was found in the repeated measurements before and after the treatment in all parameters ($p>0.05$). Conclusion: Motor learning-based treatment provided using the telerehabilitation method has a positive effect on the quality of life of children with CP, but the results are similar to face-to-face treatment.

PMID: 37321948

17. Are doctors allowed to cry at work?

Thirunavukkarasu Arun Babu

Indian J Med Ethics. 2023 Jun 2. doi: 10.20529/IJME.2023.036. Online ahead of print.

This article recounts a poignant interaction between the author and a mother of a child with cerebral palsy. The mother's remarkable strength and optimism in the face of adversity deeply moved the author, leading to a tearful moment which prompted a comforting response from the mother. The ongoing debate regarding whether doctors are allowed to display emotions in their professional lives centers around the challenge of balancing professionalism with the emotional impact of providing healthcare to patients. While doctors are expected to uphold professionalism and make sound decisions in their work environment, simultaneous expression of emotions, empathy, and vulnerabilities becomes inevitable.

PMID: 37310007

18. The experiences and coping mechanisms of mothers caring for a child with cerebral palsy

Raheleh Sabetsarvestani, Semra Köse, Abdullah Canbal, Emine Geçkil

Women Health. 2023 Jun 12;1-11. doi: 10.1080/03630242.2023.2223682. Online ahead of print.

Mothers caring for a child with cerebral palsy suffer from many physical and psychosocial problems. Their quality of life is significantly lower than mothers with healthy children. The first step in improving these women's quality of life is to improve the understanding of their experiences and coping mechanisms in specific cultural contexts. Therefore, this study aimed to explore the experiences and coping mechanisms of mothers caring for a child with cerebral palsy through a qualitative study conducted in Turkey. The study took place in 2021. Ten mothers were selected to participate through purposeful sampling. Inclusion criteria were mothers who had cared for a child with cerebral palsy for over three years, had no chronic diseases, could speak Turkish fluently, and wanted to participate in the study. The data were collected through semi-structured interviews. Qualitative content analysis was used to analyze the data. Two main themes and three categories emerged from the data analysis. The themes were "dedication" and "seeking." The analysis showed that mothers were dedicated as they engaged in all aspects of care. Their coping mechanisms involved self-focused and problem-focused seeking. These mothers must be acknowledged and supported while considering cultural and religious beliefs.

PMID: 37309185

19. An overview of interventions used across the life span to support transitions of those with a neurological condition: A systematic review of reviews

Jenny Preston, Jane Green, Divya Jindal-Snape

Clin Rehabil. 2023 Jun 12;2692155231168719. doi: 10.1177/02692155231168719. Online ahead of print.

Objectives: To systematically appraise published reviews on interventions used to support transitions for individuals with neurological conditions. Data sources: MEDLINE, CINAHL, The Allied and Complementary Medicine, AMED, PsycINFO, Cochrane database of systematic reviews and Web of Science were searched between 31st December 2010 and 15th September 2022. Method: The systematic review followed PRISMA guidelines. The quality and risk of bias were measured using A MeaSurement Tool to Assess systematic Reviews 2 and the Risk Of Bias In Systematic reviews' tool. All types of reviews which involved participants with neurological conditions were included. Results: Seven reviews met the inclusion criteria. A total of 172 studies were included in the reviews. Effectiveness of transition interventions could not be calculated due to the lack of data. The findings suggested that the use of health applications may be beneficial by increasing self-management capabilities and disease knowledge. Education and clear communication between healthcare providers and recipients may also have positive impacts on quality of life. Risk of bias was found to be high in four of the reviews. Four reviews had low or critically low levels of evidence. Conclusions: There is a paucity of published evidence on interventions used to support the transitions of individuals with neurological conditions and the effect that these have on quality of life.

PMID: 37309138

20. Mortality and neurodevelopmental outcome after invasive group B streptococcal infection in infants

Maren Mynarek, Torstein Vik, Guro L Andersen, Anne K Brigtsen, Sandra Julsen Hollung, Tricia L Larose, Stian Lydersen, Lene C Olsen, Marianne S Strøm, Jan E Afset

Dev Med Child Neurol. 2023 Jun 12. doi: 10.1111/dmcn.15643. Online ahead of print.

Aim: To assess case fatality rate (CFR), infant mortality, and long-term neurodevelopmental disorders (NDDs) after invasive group B streptococcal (GBS; Streptococcus agalactiae) infection in infants. Method: Children born in Norway between 1996 and 2019 were included. Data on pregnancies/deliveries, GBS infection, NDDs, and causes of death were retrieved from five national registries. The exposure was culture-confirmed invasive GBS infection during infancy. Outcomes were mortality and NDDs, the latter at a mean age of 12 years 10 months. Results: Among 1 415 625 live-born children, 866 (87%) of 1007 infants diagnosed with GBS infection (prevalence 0.71 per 1000) were included. The CFR was 5.0% (n = 43). GBS infection was associated with higher infant mortality (relative risk 19.41; 95% confidence interval [CI] 14.79-25.36) than the general population. Among survivors, 169 (20.7%) children were diagnosed with any NDD (relative risk 3.49; 95% CI 3.05-3.98). In particular, GBS meningitis was associated with high risks of attention-deficit/hyperactivity disorder, cerebral palsy, epilepsy, hearing impairment, and pervasive and specific developmental disorder. Interpretation: The burden of invasive GBS infection during infancy is considerable and continues to affect children beyond infancy. These findings emphasize the need for new preventive strategies for disease reduction, and the need for survivors to be directly included into early detection pathways to access early intervention if required.

PMID: 37306102

21. Neuroimaging findings in children with cerebral palsy with autism and/or attention-deficit/hyperactivity disorder: a population-based study

No authors listed

Dev Med Child Neurol. 2023 Jun 11. doi: 10.1111/dmcn.15667. Online ahead of print.

No abstract available

PMID: 37302008

22. Motor deficits are associated with increased glial cell activation in the hypothalamus and cerebellum of young rats subjected to cerebral palsy

Bárbara Juacy Rodrigues Costa-de-Santana, Raul Manhães-de-Castro, Henrique José Cavalcanti Bezerra Gouveia, Eliesly Roberto Silva, Marcos Antônio da Silva Araújo, Diego Cabral Lacerda, Omar Guzmán-Quevedo, Luz Torner, Ana Elisa Toscano

Brain Res. 2023 Jun 8;148447. doi: 10.1016/j.brainres.2023.148447. Online ahead of print.

Cerebral palsy (CP) is a syndrome characterized by a wide range of sensory and motor damage, associated with behavioral and cognitive deficits. The aim of the present study was to investigate the potential of a model of CP using a combination of perinatal anoxia and sensorimotor restriction of hind paws to replicate motor, behavioral and neural deficits. A total of 30 of male Wistar rats were divided into Control (C, n = 15), and CP (CP, n = 15) groups. The potential of the CP model was assessed by evaluating food intake, the behavioral satiety sequence, performance on the CatWalk and parallel bars, muscle strength, and locomotor activity. The weight of the encephalon, soleus, and extensor digitorum longus (EDL) muscles, and the activation of glial cells (microglia and astrocytes) were also measured. The CP animals showed delayed satiety, impaired locomotion on the CatWalk and open field test, reduced muscle strength, and reduced motor coordination. CP also reduced the weight of the soleus and muscles, brain weight, liver weight, and quantity of fat in various parts of the body. There was also found to be an increase in astrocyte and microglia activation in the cerebellum and hypothalamus (arcuate nucleus, ARC) of animals subjected to CP.

PMID: 37301423