ID: 445

TITLE: SELF-ESTEEM AND WELL-BEING IN PRETERM BORN ADOLESCENTS: AN INDIVIDUAL PARTICIPANT DATA META-ANALYSIS

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CONTENT:

Although several studies investigated the longitudinal association between preterm birth and mental health problems, few studies have focused on the association between preterm birth and subjective well-being and global self-esteem in adolescence. Furthermore, existing studies revealed mixed findings regarding the influence of preterm birth on adolescents’ well-being and self-esteem. The main objective of the current study is to investigate whether self-esteem and well-being of adolescents born preterm are different than those born full-term in an individual participant data (IPD) meta-analysis.

We obtained individual participant data from four population-based cohorts of individuals born preterm: The Avon Longitudinal Study of Parents and Children (ALSPAC; United Kingdom); the Millennium Cohort Study (MCS; United Kingdom); the Basel Study of Preterm Children (BSPC; Switzerland); and the Bavarian Longitudinal Study (BLS; Germany). Well-being was self-reported in all cohorts, and global self-esteem was self-reported in three cohorts (ALSPAC, MCS, BSPC) between 13 and 18 years of age. Well-being measure included 5 sub-scales: family relations, peer relations, school environment, physical appearance and general well-being. Preterm and full-term adolescents were compared using two-stage random effects individual participant data (IPD) meta-analysis.

Adolescents who were born preterm and full-term did not significantly differ from each other in terms of well-being (z = -.01; -.02 to .01, p = .45) and global self-esteem (z = -.02; -.02 to .02, p = .98). In addition to the overall well-being score, there were no significant differences between preterm and full-term born adolescents in any of the sub-scales of well-being. Furthermore, the findings remained non-significant for moderate to late and very preterm subgroups. There was no significant heterogeneity between studies for both well-being (Q = 1.47, I^2 = .000, p = .69) and self-esteem (Q = 2.20, I^2 = 8.99, p = .33).

Adolescents born preterm and full-term reported similar levels of well-being and self-esteem. Our findings support the view that preterm birth adolescents without long-standing health conditions perceive their well-being and self-esteem to be as good as that of their term born peers.

COI: None declared.
ID: 702
TITLE: MAKING THE MIRACLES HAPPEN: EXPERIENCES OF PARENTS OF EXTREMELY PRETERM BORN YOUNG ADOLESCENTS
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CONTENT:

Parenting has become a widely discussed concept, saturated with expert knowledge. Extremely preterm (EP) birth has a significant initial impact on parenting experiences. No previous studies have explored parents’ experiences and parenting stress at the time their EP born child transitions to secondary school.

Parents of EP (≤26 weeks of gestation) born young adolescents (YAs) with or without severe/moderate (S/M) morbidities (defined impairments in vision, hearing, mobility and/or cognition), and parents of term-born YA, who participated in a study of long-term outcomes of EP birth, were interviewed about their parenting experiences. These participants were selected purposefully to gain a maximum variation sample of parents from varying socio-economic and ethnic backgrounds. The interviewees also completed the Parenting Stress Index-Short Form (PSI-SF). Interview transcripts were analysed using narrative and thematic methods. The mean Total Stress scores were explored among both groups of parents. Scores ≥85th percentile were considered of high stress.

Twenty-two parents of EP YAs and 14 parents of control YAs were interviewed. Ten (45%) EP YAs had S/M morbidities, with none in controls. The mean Total Stress score for the EP and control parents was 91.1 and 57.9 respectively; 5 EP and none of the control parents reported high stress. Parents of 3 YAs with morbidities had high stress. Interviewees constructed their identities as parents in relation to how their children were to parent, and what they perceived to be socially expected of them as parents. They sought to present coherent accounts of themselves as parents, where the end goal of parenting was to raise a ‘functioning, independent and happy’ adult. As EP YAs less often met the expected ‘steps’ of transition to adolescence, such as forming new friendships and gaining independence, parents of EP YAs had to more often account for challenges in fulfilling the ‘goal of parenting’.

All interviewees constructed their identities as parents against a shared social understanding of parenting. Parents of EP born YAs found it more challenging to experience fulfilment in their parenting roles. Support services for these families should consider parents’ personal experiences.

COI: None declared
ID: 18
TITLE: NECROTIZING ENTEROCOLITIS, THE BRAIN-GUT AXIS AND PAIN IN ADOLESCENCE
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CONTENT:

Necrotizing enterocolitis (NEC) is a severe gastro-intestinal condition associated with prolonged, extreme visceral pain and recurrent procedural pain. Pain management in infants with NEC remains challenging. Pain symptoms range from being absent to not responding to analgesics. In NEC survivors, neurodevelopment is often impaired[1]. Cumulative neonatal pain is also associated with long term adverse effects beyond school age. A growing body of evidence suggests a complex interplay between gut innervation, gut microbiota and neurodevelopment through the Brain-Gut Axis. Our objective was to develop a hypothesis linking disruption of gut microbiota in early life to long term effects of neonatal pain in NEC survivors.

We analyzed data from own research and recent literature. Own data included analysis from The Project on Preterm and Small for Gestational Age Infants in the Netherlands (POPS). POPS is a large population based cohort of newborns with a gestational age of less than 32 weeks and/or birth weight below 1500 g. At the age of 19 years, survivors participated in an extensive follow-up program, comprising a Cold Pressor Task and a validated Pain Coping Questionnaire that assessed pain coping styles. Furthermore, participants completed a standardized intelligence quotient (IQ) test (MCT-IL). Recent reviews on associations between changes in gut microbiota, the Brain-Gut Axis and NEC were studied.

Our data showed that NEC was significantly associated with lower pain threshold and pain tolerance in adolescence[2]. In contrast, NEC was not associated with altered pain coping styles[3]. Changes in microbiota are associated with the onset of NEC[4], and antibiotics during the disease may further disrupt normal gut microbiota. Microbiota composition is thought to affect neurodevelopment by immunomodulation, and by production of neurotransmitters and short chain fatty acids (SCFA)[1]. In an animal model, associations between microbiota producing SCFA, inflammation and pain have been found[5]. Although we did not find studies on the innervation of the gut in conditions of NEC and preterm birth, evidence suggests that gut microbiota modulates visceral sensory pathways in early life[6].

NEC, a condition accompanied by severe and prolonged visceral pain, was associated with lower pain tolerance and pain threshold. The association may indicate clinically relevant long term effects of severe neonatal pain in ex preterm infants, up to the age of 19 years. We hypothesize that changes in gut microbiota, influencing the bioactivity of SCFA may contribute to this effect through the Brain-Gut Axis.

COI: None declared
ID: 319
TITLE: SCHOOL-AGE OUTCOMES OF PRETERM INFANTS WHO RECEIVED ANTENATAL MAGNESIUM SULPHATE THERAPY: A SYSTEMATIC REVIEW AND META-ANALYSIS
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CONTENT:
Cochrane library showed that antenatal magnesium sulphate therapy given to women at risk of preterm birth reduced the risk of cerebral palsy in early childhood. However, the effect of antenatal magnesium sulphate therapy on school-age outcomes is still unknown.

Objective: To evaluate the effects of antenatal magnesium sulphate therapy on school-age outcomes of preterm infants as primary outcome, and short-term outcomes of mothers and preterm infants as secondary outcome.

Search methods: We conducted a systematic review and meta-analysis according to the “Preferred Reporting Items for Systematic Reviews and Meta-Analyses” statement. We searched MEDLINE, EMBASE, CENTRAL, CINAHL, and any other accessible relevant databases.

Selection criteria: We included randomized controlled trials of antenatal magnesium sulphate therapy in women at risk of preterm birth.

Data collection and analysis: Two reviewers independently assessed the eligibility for inclusion and extracted data.

Two studies (on 1100 babies) were included in primary outcome. Antenatal magnesium sulphate therapy had no relation to death, cerebral palsy, hearing impairment, and neurosensory disability at school-age. However, we were not able to conduct a meta-analysis of mental retardation and visual impairment because the evaluation methods of them were different in the two studies. Seven studies (on 4475 babies) were included in secondary outcome. Antenatal magnesium sulphate therapy increased maternal side effects (relative risk (RR) 18.63; 95% confidence interval 15.48 to 22.42; three trials, 3295 mothers), but it had no relation to neonatal symptom (neonatal asphyxia, use of ventilator or vasopressor, patent ductus arteriosus, intraventricular hemorrhage, periventricular leukomalacia, seizure, and small for gestational age etc).

Antenatal magnesium sulphate therapy had no influence on school-age outcomes of preterm infants. However, further accumulation of data is needed. Regarding short-term outcomes, antenatal magnesium sulphate therapy was associated with maternal side effects but not with neonatal symptom.

COI: None declared