

Method Data on crying symptoms in infancy and Strengths and Difficulties Questionnaire (SDQ) scores at the age of 7 were available for 39,000 singletons from the Danish National Birth Cohort (DNBC). SDQ scores above the 90th percentile of community samples were characterised as abnormal. We compared the odds for abnormal SDQ scores of children with and without infantile colic using logistic regression.

Complete follow-up with hospital admissions and discharge diagnoses from the National Patients' Register were available for 63,773 children from the DNBC with data on crying symptoms. Hazard ratios (HR) for diagnosis of hyperkinetic disorder (HKD, ICD-10 F90.0-F90.9) were estimated using Cox regression.

Results Children with a history of infantile colic had an increased risk of abnormal scores in all SDQ difficulties subscales (OR [95% confidence intervals]: emotional symptoms: 1.6 [1.4–1.8], conduct problems: 1.5 [1.3–1.7], attention deficit/hyperactivity: 1.5 [1.3–1.8], relation with peers: 1.4 [1.2–1.6]), as well as in the Total Difficulties score (1.6 [1.4–1.9]).

We moreover observed an increased risk of HKD diagnosis (HR: 1.4 [1.1–1.9]) among children with a history of infantile colic. Results were similar after adjustment for gestational age, birth weight, several intrauterine exposures, and maternal SDQ symptoms.

Conclusion Children with a history of infantile colic had higher risk of emotional, behavioural, attention deficit/hyperactivity problems, and for being diagnosed with HKD.

PS-253 AUTISTIC FEATURES, PERSONALITY AND RISK TAKING OF A VERY PRETERM AND/OR VERY LOW BIRTH WEIGHT COMMUNITY SAMPLE OF ADULTS

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10.1136/archdischild-2014-307384.552

Background and aims Previously low risk-taking was reported in very preterm (VP: gestational age at-birth <32 weeks) and/or very low birth-weight (VLBW: birth-weight <1500 grams; subsequently VP/VLBW) samples. Unknown is whether there are other specific personality characteristics associated with VP/VLBW adults. The aim of this study was to examine autistic features, personality characteristics and risk-taking attitudes of VP/VLBW in comparison to full-term controls at 26 years of age.

Methods The Bavarian Longitudinal Study is a geographically defined prospective whole population sample of neonatal at-risk children born in Germany. The sample comprised of 200 VP/VLBW adults and 197 controls. The test battery included the Broad Autism Phenotype Questionnaire (autistic features), the Big-5 Inventory (personality), and the Arnett Inventory of Sensation Seeking (risk-taking).

Results Compared to the control sample, VP/VLBW adults scored significantly higher in autism, introversion and neuroticism but not in conscientiousness and openness scales. They also reported decreased risk-taking. Profile analysis showed introversion, decreased risk-taking, autism and neuroticism as unique features of VP/VLBW compared to controls ($F_{\text{within-group}} = 0.70$, ns ; $F_{\text{between-group}} = 49.56$, $p < 0.001$). These characteristics also loaded into a single profile factor ($\chi^2 = 7.99$, $df = 4$, ns ; CFI = 0.984). VP/VLBW birth significantly predicted the profile factor ($\beta = 0.33$, $p < 0.001$) and explained 11% of its variance.

Conclusions VP/VLBW birth poses an important risk for a global withdrawn personality, as indicated by being less socially

engaged (introversion), low in taking risks, poor in communication (autistic features) and easily worried (neuroticism). This profile might help to explain the social difficulties VP/VLBW individuals experience in adult roles, such as in peer/partner relationships and career.

PS-253a EXPRESSION OF CIRCULATING EHSC70 AND EHSP70 IN UMBILICAL ARTERY IS RELATED TO THE DEVELOPMENTAL QUOTIENT IN PRETERM-BORN CHILDREN

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10.1136/archdischild-2014-307384.553

Background and aims Recent studies revealed that intracellular chaperones, heat shock protein 70 kD family (constitutive Hsc70 and inducible Hsp70), may have specific role in brain development when they released into extracellular compartment (eHsc70 and eHsp70) since neurons and glial cells can take them up from blood circulation. The assessment of atypical brain development in high risk children require more precise quantitative developmental quotient (DQ) measures than qualitative categorical outcomes. The aim of this study was to determine the correlation between the expression of circulating eHsc70 and eHsp70 and the DQ in children who were born preterm.

Methods A total of 21 eligible preterm infants were studied prospectively. The expression of eHsc70, eHsp70 and eHsc+p70 (eHsc70+eHsp70) was determined on the basis of blood samples taken from umbilical artery at birth. The DQ was assessed using The Cognitive Adaptive Test/Clinical Linguistic and Auditory Milestone Scale (CAT/CLAMS) at the corrected age of 18 months; it was expressed as CAT-DQ, CLAMS-DQ and Full Scale (FS)-DQ. Statistical analysis using correlation test, with $p < 0.05$ being considered significant.

Results Individual expression of eHsc70 and eHsp70 was not correlates with either CAT-DQ, CLAMS-DQ or FS-DQ. However, simultaneously expression of eHsc+p70 correlates significantly with CAT-DQ ($r = 0.470$; $p = 0.031$), CLAMS-DQ ($r = 0.509$; $p = 0.018$) and FS-DQ ($r = 0.496$; $p = 0.022$).

Conclusions This study supports the concept that circulating eHsc70 and eHsp70 at birth may have specific effects in brain development when they were expressed simultaneously. Possibly these proteins may function as a marker for cellular intervention in preterm-born children who show abnormal DQ.

PS-253b GLUTEN FREE DIET FOR CHILDREN WITH ATTENTION DEFICIT AND HYPERACTIVITY DISORDER

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10.1136/archdischild-2014-307384.554

Background and aims Attention deficit and hyperactivity disorder (ADHD) is a complex neurodevelopmental-neurobiological disorder of behaviour, which is characterised by increased hyperactivity levels. Also, many of the children diagnosed with ADHD have significant nutritional problems. The aim of the study was to investigate the correlation of the hyperactivity status of these children with major nutritional changes using gluten free diet.

Methods A total number of 48 children aged 4.5 to 10 years were enrolled. All of them were diagnosed with attention deficit and hyperactivity disorder. Also, all children were tested for IgA deficiency, EMA and anti-tTg autoantibodies, and 3 children with abnormal tests were excluded. The 45 remaining children group was randomly divided in two subgroups: 22 of the children started gluten free diet (group A) and the rest 23 children continued their previous diet (group B). Hyperactivity status was measured using properly arranged questionnaire model and special scoring system for the therapist and the parents. Statistical analysis was performed using the statistical program SPSS/19 and χ^2 -test.

Results After 6 months of intervention, statistical significant difference ($p < 0.001$) was found in hyperactivity status between groups A and B, which was maintained also after 12 months.

Conclusions Children suffering from attention deficit and hyperactivity disorder have increased hyperactivity status, but it seems that gluten free diet has much to offer in order to lower hyperactivity levels.

Nursing

PS-254 NON- PHARMACOLOGICAL PAIN RELIEF STRATEGY DURING SCREENING FOR RETINOPATHY OF PREMATURITY

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10.1136/archdischild-2014-307384.555

Introduction This study was conducted to determine pain relief using non- pharmacological strategy during routine ROP screening conducted in a clinical setting.

Methodology An observational, exploratory quantitative study of 28 ROP screenings was performed in a NICU level III. Pain assessment tools were Premature Infant Pain Profile (PIPP) and Skin Conductance Algesimeter (SCA). Non- pharmacological strategy included a fed and content infant, swaddled and nested in a physiological position. Facilitated tucking provided of a nurse including use of pacifier and sucrose 24% regularly every third minute.

Results Both PIPP and SCA showed that group 1; the first eye of the first time ROP screening the infant expressed no pain to any fraction of the examination. Group 2; examination of the second eye of the first ROP screening together with all the following examinations both PIPP and SCA detect increased pain.

Conclusion Using non- pharmacological strategy during ROP screening appears to have some pain relief. However, no firm conclusion can be drawn due to the uncertain variables.

PS-255 SOCIAL SUPPORT, PERCEIVED STRESS AND MATERNAL CONFIDENCE IN MOTHERS WITH PRETERM INFANTS AT HOME IN TAIWAN

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10.1136/archdischild-2014-307384.556

Purpose The purpose of study is to explore the relationships between social support, perceived stress and maternal confidence in mothers with preterm infant after discharged at one month in Taiwan.

Methods The study is a cross-sectional designed. Data were collected by purposive sampling. A total of 90 mothers with preterm infants were recruited in a sick baby room (SBR) at a medical centre in the central district of Taiwan. The measurement is self-reported questionnaire including both demographic data, Social Support Scale, Perceived Stress Scale, and Maternal Confidence Scale. Participants filled the questionnaire after infants discharged one month.

Results The study showed that mothers' social support at one month after discharge, average score was 76.47 (total 104), which indicated 70% of social support. The average score of perceived stress was 28, equivalent levels of stress. The average score of maternal confidence was 64.20 (total 90), which showed 70% of confidence. The related factors of mother perceived stress were mothers' perceived health status, daily sleep hour, perceived sleep quality, tangible support and emotional support, positive interaction, affection, and number of baby ($p < 0.05$). The daily sleep hour, perceived sleep quality and affection were the predictors of mothers' perceived stress with 32.5% of prediction explanation.

Conclusion These results suggest that factors related with mother perceived stress and maternal confident. The study suggests that the needs of mother with preterm infants should be included in nursing education and in-service education. The findings of this study will serve as a reference for nursing practice.

PS-256 THE DEVELOPMENT OF A PAEDIATRIC PAIN HISTORY

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10.1136/archdischild-2014-307384.557

Introduction Pain in paediatric inpatients remains an important clinical problem. Pain measurement to diagnose pain is an essential first step, that must be followed by an in depth pain history when pain is diagnosed or expected. Goals of a pain history are the reduction of unnecessary pain and suffering, promoting recovery and improving functionality of the patient. We developed a structured pain history for hospitalised children.

Methods Based on a literature study, key elements to be included in the pain history were identified. This resulted in a preliminary version of the pain history, that was discussed with seven specialists from three academic centres in the Netherlands and Belgium, in two rounds. The pain history was finalised after consensus was reached.

Results The final version consists of twenty-six questions, that highlight the main themes: (a) a detailed investigation of the symptoms, (b) aetiology and (c) relieving interventions. After completion, the pain history gives an overview of symptoms, possible causes and influencing factors and can be used as a base to start and evaluate interventions by the professionals. The pain history contains a part for children and a part for parents and is suitable for children aged 0–18 years.

Conclusion A pain history for hospitalised children is available. This document is a tool, helpful to investigate the pain in children accurately. We strongly advise the pain history to be used to reduce unnecessary pain in paediatric patients.