

Abstract from Current Literature

Higher rates of behavioural and emotional problems at preschool age in children born moderately preterm

Marieke R Potijk, Andrea F de Winter, Arend F Bos, Jorien M Kerstjens, Sijmen A Reijneveld

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Objective: To compare preschool children born moderately preterm (MP; 32–35 weeks' gestation) and children born at term (38–41 weeks' gestation) regarding the occurrence of behavioural and emotional problems, overall, for separate types of problems and by gender.

Design: Prospective cohort study consisting of a community-based sample of MP and a random sample of term-born children in 13 Preventive Child Healthcare centres throughout the Netherlands.

Patients: 995 MP and 577 term-born children just under age 4 were included.

Main outcome measures: Behavioural and emotional problems were measured using the Child Behavior Checklist 1.5–5 years. Seven syndrome scales, internalising, externalising and total problems were determined. Higher scores indicate worse outcomes.

Results: MP children had higher scores on all syndrome scales, internalising, externalising and total problems than term-born controls. The mean difference on total problems was 4.04 (95% CI 2.08 to 6.00). Prevalence rates of elevated externalising problem scores were highest in boys (10.5%) and internalising problems were highest in girls (9.9%). MP children were at greater risk for somatic complaints (OR 1.92, 95% CI 1.09 to 3.38), internalising (OR 2.40, 95% CI 1.48 to 3.87), externalising (OR 1.69, 95% CI 1.07 to 2.67) and total problems (OR 1.84, 95% CI 1.12 to 3.00).

Conclusions: Moderate preterm birth affects all domains of behavioural and emotional problems, particularly for girls. MP children should be targeted for the prevention of mental health problems as they have a great impact on developmental and social competencies at school and in the community.

Effect of an intranasal corticosteroid on exercise induced bronchoconstriction in asthmatic children

Elin T.G Kersten, Janneke C. van Leeuwen, Paul L.P. Brand, Eric J. Duiverman, Frans H.C. de Jongh, Bernard J. Thio, Jean M.M. Driessen.

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Rationale: Allergic rhinitis and exercise induced bronchoconstriction (EIB) are common in asthmatic children. The aim of this study was to investigate whether treatment of allergic rhinitis with an intranasal corticosteroid protects against EIB in asthmatic children.

Methods: This was a double-blind, randomized, placebo-controlled, parallel group study. Subjects aged 12–17 years, with mild-to-moderate asthma, intermittent allergic rhinitis and $e^{-10\%}$ fall in FEV₁ at a screening exercise challenge were randomized to 22 ± 3 days treatment with intranasal fluticasone furoate or placebo. The primary outcome was change in exercise induced fall in FEV₁. Secondary outcomes were changes in the area under the curve (AUC), asthma control questionnaire (ACQ), pediatric asthma quality of life questionnaire (PAQLQ), and exhaled nitric oxide (FeNO).

Results: Twenty-five children completed the study. Mean exercise induced fall in FEV₁ (±SD) decreased significantly (95% CI: 0.7–18.2%, $P = 0.04$) in the fluticasone furoate group from 28.4 ± 15.8% to 19.0 ± 13.8%, compared to the placebo group (27.4 ± 16.0% to 27.4 ± 19.2%). The change in AUC was not significantly different between treatment groups. However, within the fluticasone furoate group the AUC decreased significantly ($P = 0.01$). Although total PAQLQ score did not improve, the activity limitation domain score improved significantly within the fluticasone furoate group ($P = 0.03$). No significant changes were observed in FeNO and ACQ.

Conclusion: Treatment of allergic rhinitis in asthmatic children with an intranasal corticosteroid reduces EIB and tends to improve quality of life.

Isotonic versus hypotonic fluid supplementation in term neonates with severe hyperbilirubinemia – a double-blind, randomized, controlled trial

Karthik Balasubramanian, Praveen Kumar, Shiv Sajan Saini, Savita Verma Attri, Sourabh Dutta

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Aim: To compare the incidence of hyponatremia in full-term neonates with severe hyperbilirubinemia, receiving intravenous fluid supplementation with 0.2% saline in 5% dextrose versus 0.9% saline in 5% dextrose, to prevent blood exchange transfusion (BET).

Methods: In this double-blind, randomized, controlled trial, full-term newborns (e⁺37 weeks), appropriate for gestational age, with severe non-haemolytic hyperbilirubinemia (serum bilirubin e⁺ 20 mg/dL) were enrolled. Eligible neonates were randomized to receive either 0.2% saline in 5% dextrose (*hypotonic fluid group*) or 0.9% saline in 5% dextrose (*isotonic fluid group*) over 8 hrs, in addition to phototherapy. The primary outcome was proportion of neonates developing hyponatremia (serum Na < 135 mmol/L) after 8 h.

Results: Forty-two neonates were analysed in each group. Proportion of neonates developing hyponatremia after 8 h was higher in hypotonic fluid group as compared to isotonic fluid group (48.8% vs. 10.5%, $p < 0.001$). However, a larger proportion in isotonic fluid group developed hypernatremia (39.5% vs. 12.2%, $p < 0.001$). The rate of BET was similar in both groups.

Conclusion: In full-term neonates with severe hyperbilirubinemia, administration of hypotonic fluid to prevent BET was associated with a higher incidence of hyponatremia while isotonic fluid was associated with an increased incidence of hypernatremia.

Local steroid therapy as the first-line treatment for boys with symptomatic phimosis – a long-term prospective study

Srinath Reddy, Viral Jain, Manish Dubey, Pankaj Deshpande, Arbinder K Singal.

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Aim: Phimosis is a common paediatric urological disorder and often necessitates circumcision. We prospectively evaluated local steroid therapy (LST) as the first choice therapy for such children.

Methods: Two hundred and sixty symptomatic boys up to 15 years of age (mean 34 months) with phimosis were started on betamethasone dipropionate (0.05%) application on gently stretched prepuce twice a day. Follow-up visits were arranged at the end of weeks 1, 2 and 4 and 6 months. Grade of phimosis was objectively graded.

Results: Ninety one percent of the boys showed a successful outcome at the end of 4 weeks; 72% responded in first week, further 16% responded in week 2, and only 2.6% achieved alleviation of phimosis on further application of LST beyond 2 weeks. Fourty two (17.8%) boys had a recurrence of phimosis on a long-term follow-up (mean – 25.4 months, range 6–48 months); thus, the long-term success rate was 77%, while 60 (23%) boys underwent surgery.

Conclusion: Local steroid therapy is safe and successful in alleviating symptomatic tight foreskin in a large majority of children. The response can be seen as early as 1 week; most of the children respond by week 2 and continuing therapy further may not be very effective.