Background: Higher and unstable glucose concentrations in the first 48 hours in neonates at risk of hypoglycaemia have been associated with neurosensory impairment. It is unclear what defines and contributes to instability.

Methods: Prospective study of term and late preterm babies (N = 139) born at risk of neonatal hypoglycaemia with interstitial glucose (IG) monitoring and > =1 hypoglycaemic episode <48 hours after birth. Masked IG parameters were analyzed for 6-hour epochs after each episode (blood glucose concentration <2.6 mmol/l) and related to treatment and neurodevelopmental outcome at 2 and 4.5y.

Results: Glycaemic instability in the first 48 hours was related to instability after hypoglycaemia. IG parameters were not related to risk factors for hypoglycaemia. Treatment with intravenous dextrose was associated with higher IG maximum and range, and lower minimum compared to treatment with dextrose gel plus breast milk, breast milk alone or formula alone. The risk of neurosensory impairment was increased with both long and short time to reach IG maximum (middle vs upper tertile OR = 3.33, 95%CI 1.44-7.70 and lower tertile OR = 2.94, 95%CI 1.31-6.59).

Conclusion: Glycaemic response to hypoglycaemia contributes to overall glycaemic instability in newborns and is influenced by treatment. Slow or rapid recovery from hypoglycaemia is associated with neurosensory impairment.

THE TEAM MEMBERS’ PERSPECTIVE ON TEAMWORK DURING NEONATAL RESUSCITATION

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Background: The importance of effective teamwork during neonatal resuscitation is increasingly emphasised in national and international guidelines. There is evidence that team performance can be improved with cognitive aids. We hypothesise that there are task-specific demands that may not be addressed adequately by current team models. Our aim is to go beyond usual models of teamwork and draw from the direct experience of neonatal resuscitation teams to guide the design of cognitive aids.

Method: We conducted one-on-one semi-structured interviews at the Mater Mothers’ Hospital in Brisbane, Australia with highly experienced neonatologists and code nurses (N = 7). We adapted the Critical Incident Technique; participants were asked to recall a memorable resuscitation event, and describe the team dynamics.

Results: In line with established teamwork models, role allocation, leadership, and communication were perceived as key factors that influenced team co-ordination. Unexpectedly, all interviewees mentioned scene organisation—such as equipment and room layout—as a key factor affecting team co-ordination. Confidence in other team members’ experience was frequently mentioned as affecting communication. Finally, the emotional tone of the team (especially of the leader) was often a cue to the progress of the baby, and the effectiveness of the team.

Conclusion: Experts’ reflections on specific experiences revealed consistent teamwork-enabling factors beyond the established teamwork models. These findings suggest that there are task-specific demands that may not be addressed adequately by current team training models. We will factor these challenges to team co-ordination into the design of cognitive aids to provide support for neonatal resuscitation teams.

REVIEW AND APPRAISAL OF GUIDELINES FOR THE MANAGEMENT OF ASTHMA DURING PREGNANCY

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Background: Asthma affects 12.7% of pregnancies in Australia, with exacerbations associated with poor perinatal outcomes. Optimal management is crucial for improved outcomes for mother and baby. A range of guideline documents are available relating to the management of asthma during pregnancy, however, it is not known whether these are consistent in their content, based on high quality evidence, or suitable for use in current clinical practice.

Methods: Four commonly cited guidelines relating to asthma care in pregnancy were purposively selected (National Asthma Council Australia, Global Initiative for Asthma, British Thoracic Society and National Heart Lung and Blood Institute) and appraised using the AGREE II tool. The six domains assessed were scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability and editorial independence. Guideline content was also reviewed.

Results: Guideline content was generally consistent, with 3/4 recommending monthly monitoring of asthma during pregnancy, 3/4 recommending a partnership between respiratory physicians and obstetricians, 3/4 specifically discussing trigger avoidance (particularly smoking), and all recommending self-management. Guidelines differed in regard to specific recommendations around a stepwise approach to pharmacotherapy. Many recommendations were supported by expert opinion rather than high quality evidence. Guidelines scored highly in terms of scope and purpose and rigor of development. However, scores for some were poor for stakeholder involvement and applicability.

Conclusion: There is a lack of high quality evidence underpinning asthma in pregnancy guidelines. Updated guidelines in this area may also benefit from greater involvement of stakeholders.

FLOOD-RELATED PRENATAL MATERNAL STRESS EFFECTS CHILDHOOD ANXIETY SYMPTOMATOLOGY; THE QF2011 QUEENSLAND FLOOD STUDY

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