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Oropharyngeal colostrum for preterm infants-a systematic review and meta-analysis

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Administration of oropharyngeal colostrum (OPC) is safe, feasible and potentially beneficial in preterm infants. We aimed to assess the effects of OPC in preterm infants. A systematic review of randomized controlled trials (RCTs) and non-RCTs of OPC administration in preterm infants was conducted. We searched MEDLINE via PubMed and Ovid, EMBASE, Cochrane Central Register of Controlled Trials, Emcare databases, proceedings of Pediatric Academic Society meetings and grey literature in April 2018. Six RCTs (N=269) and four non-RCTs (N=737) were included. One RCT (n=40) focused on enteral bovine colostrum and hence was excluded from our review. Five of the six RCTs had unclear risk of bias in many domains of assessment. Meta-analysis (random effects model) of RCT data showed no significant difference in \geq stage 2 necrotizing enterocolitis [Relative Risk (RR): 0.83; 95% CI 0.39, 1.75; P=0.62], late onset sepsis [RR: 0.78 (95%CI 0.50, 1.22) P=0.28], all-cause mortality [RR: 0.74 (95% CI 0.27, 2.06); P=0.56]; duration of hospital stay [Mean Difference (MD): -1.65 days (95% CI: -10.09, 6.80); P=0.70] and time to full feeds [MD: -2.86 days (95% CI -6.49, 0.77); P=0.12]. Meta-analysis of data from non-RCTs also showed no benefit for any of these outcomes. OPC increased secretory IgA and lactoferrin levels (four RCTs), but did not alter oral microbiome (one RCT). There were no adverse effects (e.g. aspiration) of OPC. The overall quality of evidence (GRADE analysis) was very low. Adequately powered RCTs are needed to confirm the nutritional and immunomodulatory benefits of OPC in preterm infants.

Biography

Gayatri Jape (MD, FRACP) is a consultant neonatologist at King Edward Memorial Hospital (KEMH) in Perth, Western Australia. She is a Clinical Senior Lecturer at the University of Western Australia. She has worked in Pediatrics and Neonatology since last 15 years in Australia and overseas. Dr Jape is involved in follow up of high risk preterm infants till five years of age as a part of the Neonatal Follow Up Program at KEMH. She is pursuing a PhD focussed on probiotics, nutrition and long term neurodevelopment in preterm infants. She led a randomized controlled trial on effect of single or three strain probiotic on enteral nutrition in extremely preterm infants (SiMPro, ACTRN12615000940572) which is currently in the long term follow up phase. Dr Jape has also completed her Graduate Certificate in Autism Diagnosis from UWA. She has published articles and is an international reviewer for good impact peer-reviewed journals.

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