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**Probiotics use in c section versus normal delivery newborn babies****Said El-deib***Consultant Neonatologist NMC Royal Hospital, AD, UAE*

The gut microbiota plays a pivotal role in the maintenance of human health. Numerous factors, including the mode of delivery, impact early gut colonization in newborns. Recent research focuses on the use of probiotics in the prevention of gut dysbiosis in newborns delivered by cesarean section (CS) Infants born by caesarean section or receiving antibiotics are at increased risk of developing metabolic, inflammatory and immunological diseases, potentially due to disruption of normal gut microbiota at a critical developmental time window. We are focusing on whether probiotic supplementation could ameliorate the effects of antibiotic use or caesarean birth on infant The probiotic supplement had a strong overall impact on the microbiota composition, but the effect depended on the infant's diet. Only breastfed infants showed the expected increase in bifidobacteria and reduction in Proteobacteria and Clostridia.

The  $\alpha$ -diversity of the intestinal microbiota of cesarean delivery neonates was significantly lower than that of the naturally delivered neonates. The delivery mode is considered to be a significant influencing factor in the early gut microbiota composition, which is associated with the long-term health of the host. In this study, we tried to explore the effects of probiotics on the intestinal microbiota of C-section neonates.

Conclusions: The results indicate that it is possible to correct undesired changes in microbiota composition and function caused by antibiotic treatments or caesarean birth by supplementing infants with a probiotic mixture together with at least partial breastfeeding.

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