Sleep duration in infants fed goat milk-based infant formula: Secondary outcomes of a double-blind randomized controlled trial

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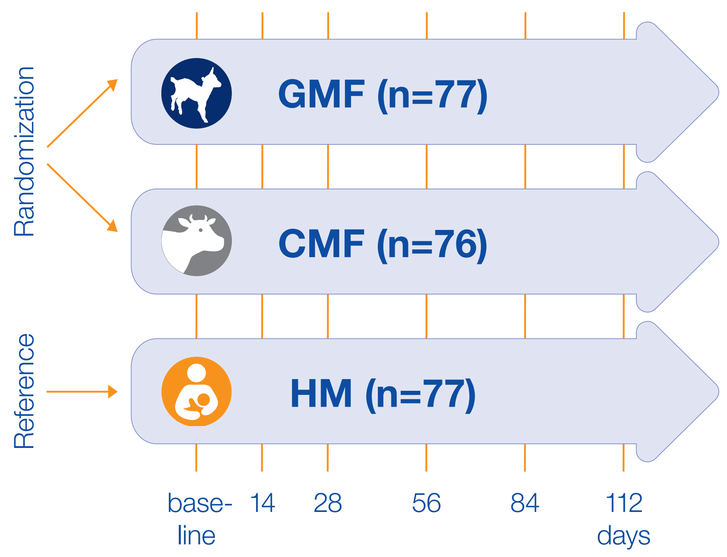
Infant sleep duration has a pivotal impact on their development [1,2], later-life health [3] and parental sleep and well-being [4,5]. Nutrition might improve infant's sleep duration, as it is believed to influence the wake-sleep cycle of infants [5].

Objective: this study compared sleep duration between infants exclusively fed human milk (HM), goat milk-based infant formula (GMF) or cow's milk-based infant formula (CMF).

Methods: this study is a secondary analysis of a randomized double-blind controlled trial focusing on weight gain. Sleep was assessed using parent-reported 24-hour diaries on three days prior to each visit. Out of 304 infants, 230 infants had complete and reliable data on sleep. Average total, day- and night-time sleep duration per visit were calculated and effects of type of feeding were analyzed using linear mixed models.

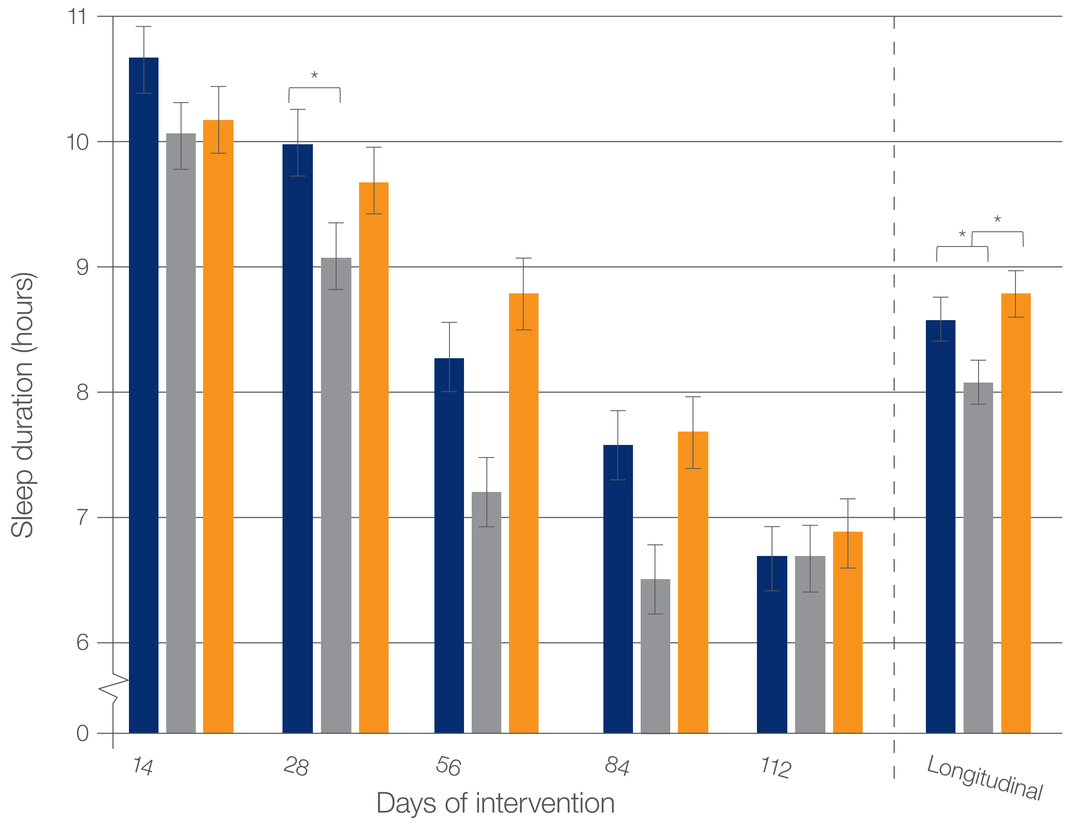
Study design:



See details on poster AS-ESPGHAN-2022-01000 or [6].

Results

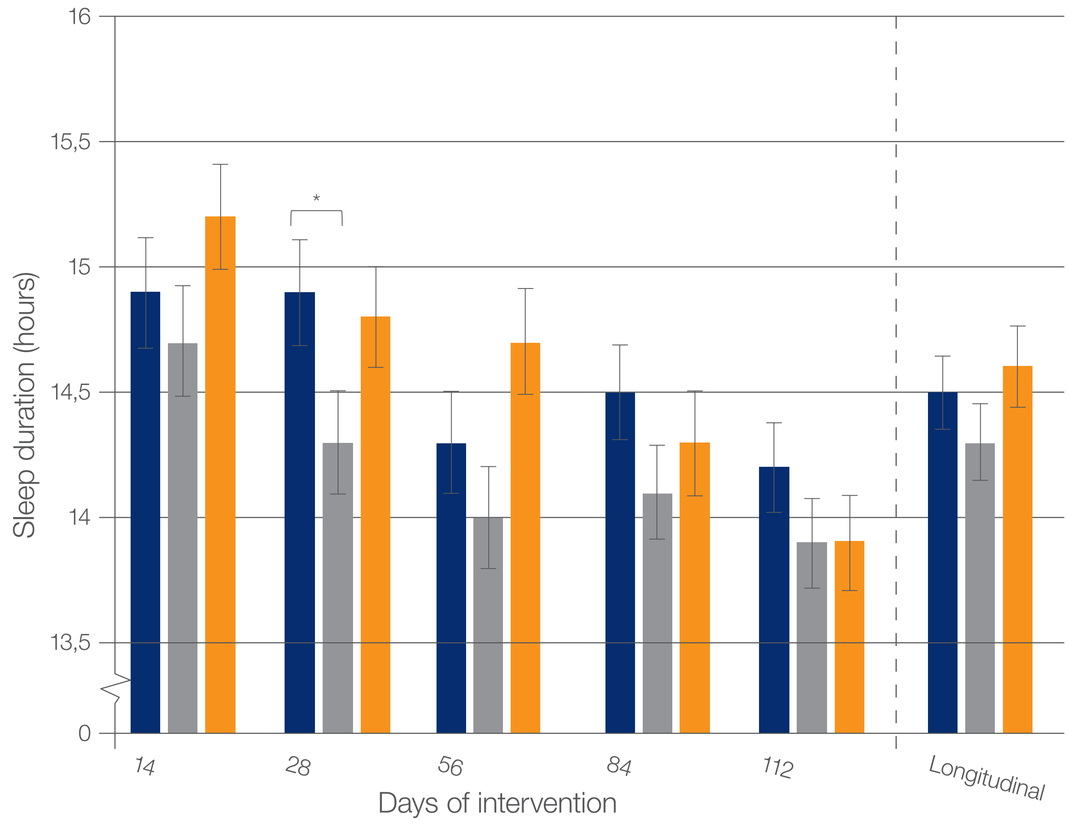
Day-time sleep duration



Goat milk-based infant formula
Cow's milk-based infant formula
Human milk

*p<0.05

Total sleep duration



Goat milk-based infant formula
Cow's milk-based infant formula
Human milk

*p<0.05

- Total and day-time sleep duration slowly decreased over the course of intervention among all groups, as was expected.
- Night-time sleep was ~30 minutes shorter for HM fed infants as compared to their formula-fed counterparts.
- Longitudinally, day-time sleep in infants fed GMF was comparable to infants fed HM, and statistically significant 30 minutes higher than that of infants fed CMF (p=0.03). When analysing the separate visits, a trend was visible towards longer total sleep duration per study visit in infants fed GMF in comparison with infants fed CMF with a significant difference at day 28 (MD 0.60, 95% CI 0.03-1.18) of the intervention.

Conclusion

Goat milk-based infant formula significantly enhanced total sleep duration at day 28 of intervention compared to cow's milk-based infant formula and significantly enhanced day-time sleep throughout the intervention. These results are highly important as sleep impacts health of both parents and infants.

References: *[1] Tikotzky L, et al. (2010) J Sleep Res 19: 103-10. [2] Chaput J-P, et al. (2017) BMC Public Health; 17: 855. [3] Taveras EM, et al. (2008). Arch Pediatr Adolesc Med; 162: 305-11. [4] Doan T, et al. (2007) J Perinat Neonatal Nurs; 21: 200-6. [5] Dashti, H. S., et al. (2015). Adv Nutr 6(6): 648-659. [6] He, T., et al. (2022). JPGN.*

Conflict of Interest: *LL, YMK, and TH are employees of Ausnutria B.V. HJV serves on the scientific advisory board of Ausnutria B.V.*

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Want to know more?

Disclaimer: *Ausnutria acknowledges that breastfeeding is the best food for infants aged 0-6 months and supports prolonging breastfeeding to 24 months (age 2).*