Comment on the selection of the fixed or random effect model in a study

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We read the recent published paper by Zhang and colleagues entitled “Clinical efficacy of probiotics on feeding intolerance in preterm infants: a systematic review and meta-analysis” (1). They found that the probiotics could promote the early growth of preterm infants and effectively improve the occurrence of feeding intolerance (FI) in preterm infants. We appreciate Zhang and colleagues for the important study, however, after careful learning of the paper, we would like to pay attention to some important missing issues in the study.

In the section of the weight gain in this meta-analysis, the authors depicted that the significant heterogeneity was found among the included studies ($I^2=96\%, P<0.00001$), and no cause of heterogeneity was detected, so a random effect model was adopted. However, the authors actually used a fixed effect model for the analysis showed in Fig. 4. Furthermore, the same issues occurred in the analyses of maximum enteral feeding and time of hospital stay. Then the paper should be further revised to validate the conclusions because of the concerns above.

In short, Zhang et al. revealed a significant issue with regard to the clinical efficacy of probiotics on FI in preterm infants.

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