

Statistical methods of the study

The distribution of each dataset will be tested for normality before analysis using the Kolmogorov-Smirnov goodness-of-fit test. Normal distribution data will be presented as (mean \pm standard deviation), and skewed distribution data will be presented as median (25th and 75th percentiles). Natural log transformation will be used to equalize the data when necessary. Significance tests are two-tailed, and $p < 0.05$ is considered statistically significant. Paired Student t test will be used to compare the normal distribution and homogeneous variance of paired data before and after intervention in each group. Paired Wilcoxon signed rank test will be used for comparison between groups of skewed distribution data,² χ^2 test will be used for comparison between groups of categorical variables, and Bonferroni correction will be used for multiple comparisons between multiple groups. To compare different effects across age groups, multiple comparisons of parameter changes after the end of the intervention will be performed with the use of the Student-Newman-Keuls test (for normally distributed and homogeneous data) or the Student-Newman-Keuls rank test (for skewed distribution data). Multiple linear regression models will also be used to estimate the intervention effect of the probiotic intervention on the continuous outcome variable reflecting the health status of infants and young children. In these models, common confounders will be included as explanatory variables. Negative binomial regression will be used to evaluate the effects of probiotic intervention on the risk of growth and development, immune function, allergic diseases, gastrointestinal and respiratory infections/nonsusceptibility diseases, various functional gastrointestinal diseases, and feeding disorders. IBM SPSS Statistics (29.0.2 for Mac) will be used to analyze the data.