

INTISARI

PENGARUH KONSUMSI SUSU FORMULA YANG DISUPLEMENTASI GABUNGAN STRAIN BIFIDOBACTERIA (B. LONGUM BB536, B. BREVE M-16V, DAN B. LONGUM SUBSP. INFANTIS M-63) TERHADAP KUALITAS TIDUR ANAK SEHAT USIA 1 – 3 TAHUN DIUKUR DENGAN KUESIONER KEBIASAAN TIDUR ANAK

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Latar belakang: *Bifidobacterium* menjadi penghuni dominan pada saluran cerna anak yang memiliki banyak manfaat kesehatan. Sayangnya, dominasi *Bifidobacterium* akan menurun pada anak usia 1 – 3 tahun, di mana anak memasuki masa penyapihan. Ketidakseimbangan mikrobiota usus pada anak dapat mengganggu komunikasi *microbiota-gut-brain axis*, sehingga menimbulkan berbagai gangguan, seperti gangguan perkembangan, kognitif, suasana hati, dan gangguan kualitas tidur anak. Berbagai penelitian membuktikan bahwa pemberian probiotik 3 strain *Bifidobacteria* (*B. longum* BB536, *B. breve* M-16V, dan *B. longum subsp. Infantis* M-63) aman dan memberikan manfaat kesehatan. Pada penelitian ini, pemberian susu formula yang disuplementasi 3 strain *Bifidobacteria* diharapkan berpengaruh terhadap kualitas tidur anak.

Tujuan: Mengetahui pengaruh suplementasi gabungan *Bifidobacteria* (*B. longum* BB536, *B. breve* M-16V, dan *B. longum subsp. Infantis* M-63) terhadap kualitas tidur anak sehat usia 1 – 3 tahun yang diukur dengan kuesioner kebiasaan tidur anak.

Metodologi: Penelitian ini menggunakan metode uji acak terkendali dengan metode buta berganda yang dikontrol plasebo. Uji klinis dilakukan kepada 91 anak sehat berusia 1 – 3 tahun selama 104 hari. Data kebiasaan tidur anak diperoleh dari kuesioner kebiasaan tidur anak (*Children's Sleep Habits Questionnaire-Abbreviated*) pada awal penelitian setelah periode *baseline* dan di hari terakhir pengumpulan data. Data yang diperoleh akan disajikan dalam bentuk kontinu (numerik).

Kesimpulan: Dibandingkan susu formula tanpa suplementasi gabungan strain *Bifidobacteria*, konsumsi susu formula yang disuplementasi gabungan strain *Bifidobacteria* (*B. longum* BB536, *B. breve* M-16V, dan *B. longum subsp. infantis* M-63) tidak memberikan perbedaan yang bermakna terhadap kualitas tidur anak sehat usia 1 – 3 tahun.

Kata kunci: susu formula, suplementasi, *Bifidobacteria*, kualitas tidur, anak

ABSTRACT

THE EFFECT OF FORMULA MILK SUPPLEMENTED WITH A COMBINATION OF BIFIDOBACTERIA (*B. LONGUM* BB536, *B. BREVE* M-16V, AND *B. LONGUM* SUBSP. INFANTIS M-63) ON SLEEP QUALITY IN HEALTHY CHILDREN AGED 1 – 3 YEARS AS MEASURED BY A CHILD SLEEP BEHAVIOR QUESTIONNAIRE

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Background: Bifidobacterium is a dominant inhabitant in the digestive tract of children and offers many health benefits. Unfortunately, the dominance of Bifidobacterium decreases in children aged 1-3 years, during the weaning period. An imbalance in gut microbiota in children can disrupt the microbiota-gut-brain axis communication, potentially leading to various issues such as developmental delays, cognitive issues, mood disorders, and impaired sleep quality in children. Various studies have shown that the administration of probiotics containing three strains of Bifidobacteria (*B. longum* BB536, *B. breve* M-16V, and *B. longum* subsp. infantis M-63) has been proven to be safe and provides health benefits. In this study, the administration of formula milk supplemented with these three strains of Bifidobacteria is expected to have a positive effect on children's sleep quality.

Objective: To investigate the effect of formula milk supplemented with a combination of Bifidobacteria (*B. longum* BB536, *B. breve* M-16V, and *B. longum* subsp. infantis M-63) on the sleep quality in healthy children aged 1 – 3 years as measured by a child sleep behavior questionnaire.

Method: This study used a double-blind, placebo-controlled, randomized controlled trial design. The clinical trial was conducted on 91 healthy children aged 1-3 years over a period of 104 days. Data on the sleep quality of children were assessed using the Children Sleep Habits Questionnaire-Abbreviated that will be given at the beginning and at the end of study for comparison between placebo and probiotic group. The data obtained were presented in a continuous (numerical) form.

Conclusion: Compared to formula milk without supplementation of a combination of Bifidobacteria strains, the consumption of formula milk supplemented with a combination of Bifidobacteria strains (*B. longum* BB536, *B. breve* M-16V, and *B. longum* subsp. infantis M-63) did not show a significant difference in the sleep quality of healthy children aged 1 – 3 years.

Key words: formula milk, supplementation, Bifidobacteria, sleep quality, child