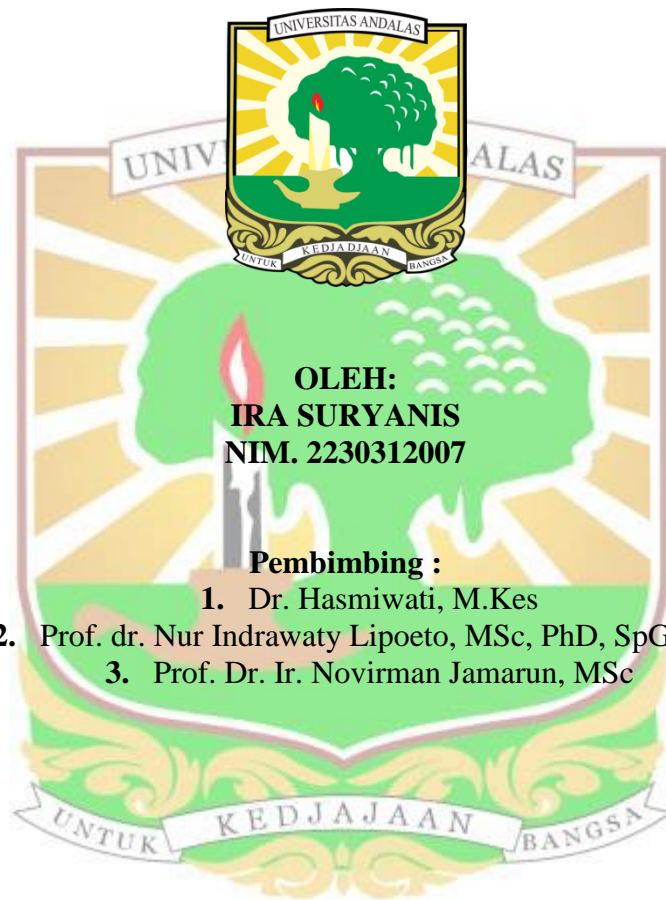


**PENGARUH PEMBERIAN SUSU KAMBING FERMENTASI
PERANAKAN ETAWA (PE) TERHADAP PERUBAHAN
JUMLAH DAN PROFIL MIKROBIOTA PADA IBU
HAMIL TRIMESTER TIGA**



**PROGRAM STUDI ILMU BIOMEDIK PROGRAM DOKTOR
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ABSTRACT

FERMENTED PE GOAT MILK'S IMPACT ON MIKROBIOTA QUALITY AND PROFILE CHANGES IN PREGNANT WOMEN IN THE THIRD TRIMESTER

By
IRA SURYANIS

The balance of gut mikrobiota during pregnancy plays a crucial role in maternal health and fetal growth. Fermented goat milk contains natural probiotics capable of maintaining microbial homeostasis and supporting maternal nutrition. This study aimed to analyze the effect of fermented goat milk consumption on the changes in the number and profile of gut mikrobiota in third-trimester pregnant women. This study employed a one-group pretest–posttest design involving 15 third-trimester pregnant women who met the inclusion criteria. Participants consumed 75 mL of fermented goat milk daily for 9–12 weeks. Gut mikrobiota composition was analyzed using OTU-based metagenomic sequencing. Statistical analysis included paired-sample tests and microbial diversity indices (α and β -diversity). The results revealed a relative increase in certain phyla and genera, including Fusobacteria, Proteobacteria, Succinivibrio, and Dialister, accompanied by a decrease in Megamonas and Akkermansia. Alpha diversity indices (Shannon and Chao1) showed a slight increase, while beta diversity ($p = 0.81$) indicated no significant compositional difference, suggesting community stability. Conclusion of this research are Fermented goat milk consumption positively influences maternal gut mikrobiota balance without causing dysbiosis. Further studies with control groups and longer intervention periods are recommended.

Keywords: *fermented goat milk, gut mikrobiota, pregnancy, metagenomics*

ABSTRAK

PENGARUH PEMBERIAN SUSU KAMBING FERMENTASI PERANAKAN ETAWA (PE) TERHADAP PERUBAHAN JUMLAH DAN PROFIL MIKROBIOTA PADA IBU HAMIL TRIMESTER III

Oleh
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Keseimbangan mikrobiota usus selama kehamilan berperan penting dalam kesehatan ibu dan pertumbuhan janin. Susu kambing fermentasi diketahui mengandung probiotik alami yang mampu mempertahankan homeostasis mikrobiota dan mendukung status gizi. Penelitian ini bertujuan untuk menganalisis pengaruh pemberian susu kambing fermentasi terhadap perubahan jumlah dan profil mikrobiota usus ibu hamil trimester III. Penelitian menggunakan desain One-Group Pre-test-Post-test dengan jumlah sampel 15 ibu hamil trimester III yang memenuhi kriteria inklusi. Subjek mengonsumsi 75 ml susu kambing fermentasi per hari selama 9–12 minggu. Data mikrobiota dianalisis menggunakan metode metagenomik berbasis OTU. Analisis dilakukan menggunakan uji statistik paired sample test dan analisis diversitas mikrobiota (α dan β -diversity). Hasil menunjukkan peningkatan relatif pada beberapa filum dan genus seperti Fusobacteria, Proteobacteria, Succinivibrio, dan Dialister, disertai penurunan Megamonas dan Akkermansia. Nilai alpha diversity (Shannon, Chao1) meningkat ringan, sedangkan beta diversity menunjukkan $p = 0,81$ yang berarti tidak ada perbedaan signifikan (komunitas stabil). Kesimpulan dari penelitian ini adalah susu kambing fermentasi berpotensi meningkatkan kesehatan mikrobiota usus ibu hamil tanpa menimbulkan disbiosis. Disarankan penelitian lanjutan dengan kelompok kontrol dan durasi lebih panjang.

Kata kunci: susu kambing fermentasi, mikrobiota usus, ibu hamil, metagenomik,

