HUBUNGAN RASIO *FIRMICUTES/BACTEROIDETES* ORAL DENGAN STATUS GIZI MAHASISWA FAKULTAS KEDOKTERAN, KESEHATAN MASYARAKAT, DAN KEPERAWATAN UNIVERSITAS GADJAH MADA

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ABSTRAK

Latar belakang: Dua filum utama bakteri yang dapat mempengaruhi gizi dan metabolisme tubuh adalah *Firmicutes* dan *Bacteroidetes*. Disbiosis mikrobiota saliva, ditandai dengan peningkatan rasio *Firmicutes/Bacteroidetes*, dapat menjadi faktor risiko peningkatan status gizi. Peran mikrobiota saliva dalam terjadinya peningkatan status gizi adalah melalui pengaruhnya terhadap persepsi rasa yang berdampak pada asupan makan.

Tujuan: Mengetahui hubungan antara rasio *Firmicutes/Bacteroidetes* oral dengan status gizi pada mahasiswa FK-KMK UGM

Metode: Rancangan penelitian ini adalah *cross sectional*. Subjek penelitian ini adalah mahasiswa FK-KMK yang memenuhi kriteria inklusi dan eksklusi yang dipilih menggunakan Teknik *stratified random sampling* sejumlah 42 responden. Penelitian dilakukan pada Agustus-Oktober 2024. *Firmicutes* dan *Bacteroidetes* oral diuji dari sampel saliva menggunakan metode PCR kuantitatif (qPCR), sedangkan status gizi diukur menggunakan penilaian antropometeri. Analisis statistik yang digunakan adalah uji korelasi *Pearson*.

Hasil Penelitian: Mayoritas mahasiswa memiliki asupan makan defisit (66,7%) dan status gizi normal (52,4%). Rata-rata rasio F/B adalah 0,704±1,93. Rasio F/B terendah ditemukan pada status gizi kurang dan meingkat seiring peningkatan status gizi. Berdasarkan uji statistik, tidak terdapat hubungan yang signifikan antara rasio F/B dengan asupan makan ($p>0,05$). Namun, terdapat hubungan yang signifikan antara asupan makan dengan status gizi ($p<0,05$) dan rasio F/B dengan status gizi ($p<0,05$) pada mahasiswa FK-KMK UGM.

Kesimpulan: Terdapat hubungan antara rasio *Firmicutes/Bacteroidetes* oral dengan status gizi pada mahasiswa FK-KMK UGM.

Kata kunci: status gizi, rasio *Firmicutes/Bacteroidetes*, mikrobiota saliva

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THE CORRELATION BETWEEN ORAL FIRMICUTES/BACTEROIDETES RATIO AND NUTRITIONAL STATUS AMONG COLLEGE STUDENTS IN FACULTY OF MEDICINE, PUBLIC HEALTH, AND NURSING UNIVERSITAS GADJAH MADA

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ABSTRACT

Background: *The two main phyla of bacteria that can affect nutrition and metabolism are Firmicutes and Bacteroidetes. Dysbiosis of the salivary microbiota, characterized by an increased Firmicutes/Bacteroidetes ratio, might represent a risk factor for increasing nutritional status. The role of salivary microbiota in occurrence of improved nutritional status is through its influence on taste perception which impacts on food intake.*

Objective: *To determine the correlation between oral Firmicutes/Bacteroidetes ratio and nutritional status among college students in FK-KMK UGM.*

Methods: *The design of this study was cross sectional. The subjects of this study were FK-KMK UGM students who have met the inclusion and exclusion criteria, selected by stratified random sampling technique totaling 42 respondents. The research was conducted in August-October 2024. Oral Firmicutes and Bacteroidetes were tested from saliva samples using quantitative PCR (qPCR) method, while nutritional status was measured using anthropometric assessment. The statistical analysis used was the Pearson correlation test.*

Results: *The majority of students had a deficit food intake (66.7%) and normal nutritional status (52.4%). The mean of the F/B ratio was 0.704±1.93. The lowest F/B ratio was found in undernourished status and increased as nutritional status increased. Based on statistical analysis, there was no significant correlation between rasio F/B and food intake ($p>0.05$). However, there is a significant correlation between food intake with nutritional status ($p<0.05$), and F/B ratio with nutritional status ($p<0.05$) in FK-KMK UGM students.*

Conclusions: *There was a correlation between oral Firmicutes/Bacteroidetes ratio and nutritional status among students in FK-KMK UGM.*

Keywords: nutritional status, Firmicutes/Bacteroidetes ratio, salivary microbiota

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