

## HUBUNGAN ASUPAN FOLAT DENGAN KEJADIAN OLIGOMENOREA PADA ATLET REMAJA PUTRI DI PUSAT PEMBINAAN OLAHRAGA TINGKAT SEKOLAH: ANALISIS DATA SEKUNDER

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### INTISARI

**Latar Belakang:** Oligomenorea umum terjadi pada atlet remaja putri dan berisiko mengganggu kesehatan reproduksi. Asupan folat berpotensi memengaruhi kondisi ini melalui metabolisme hormon, namun bukti ilmiah yang ada masih inkonsisten.

**Tujuan:** Mengetahui hubungan antara asupan folat dengan kejadian oligomenorea pada atlet remaja putri, serta menganalisisnya setelah dikontrol oleh variabel perancu potensial (usia, IMT, asupan energi, dan asupan zat besi).

**Metode:** Studi analitik observasional *cross-sectional* menggunakan data sekunder penelitian *Female Athlete Triad* 2021-2022 dari 131 atlet remaja putri berbagai cabang olahraga di PPLP, SKO, dan SMANOR. Variabel yang dianalisis meliputi usia, IMT, asupan energi, zat besi, folat, dan kejadian oligomenorea. Data usia dan kejadian oligomenorea diperoleh dari karakteristik subjek, IMT dihitung berdasarkan antropometri, sedangkan asupan gizi diperoleh melalui metode *24-hour food recall*. Analisis dilakukan menggunakan uji *Rank Spearman*, *Fisher's exact test*, dan regresi logistik multivariat.

**Hasil:** Sebagian besar subjek berusia rata-rata 15,9 tahun dengan IMT normal (21,18 kg/m<sup>2</sup>). Rata-rata asupan energi dan zat besi di bawah AKG (1.905,89 ± 686,33 kkal/hari dan 9,47 ± 6,80 mg/hari). Sebanyak 90,1% memiliki asupan folat ≤ 70% AKG (149,15 ± 116,79 mcg/hari), dan prevalensi oligomenorea sebesar 21,4%. Proporsi asupan folat rendah lebih tinggi pada kelompok oligomenorea (96,4%) dibandingkan kelompok siklus normal (88,3%). Tidak terdapat hubungan yang signifikan antara asupan folat dan kejadian oligomenorea pada hasil uji *Rank Spearman* ( $p = 0,563$ ), *Fisher's exact test* ( $p = 0,734$ ) maupun regresi logistik multivariat ( $OR_{adj} = 0,998$ ; 95%  $CI = 0,993 - 1,003$ ;  $p = 0,360$ ).

**Kesimpulan:** Tidak terdapat hubungan yang signifikan secara statistik antara asupan folat dengan kejadian oligomenorea pada atlet remaja putri, baik sebelum maupun setelah dikontrol oleh variabel perancu potensial (usia, IMT, asupan energi, dan asupan zat besi). Namun, tingginya prevalensi asupan folat rendah menjadi isu gizi penting yang perlu diperhatikan. Penelitian selanjutnya disarankan menggunakan desain longitudinal dengan penilaian biokimia yang lebih komprehensif.

Kata kunci: Asupan Folat; Atlet Remaja Putri; Oligomenorea

## THE RELATIONSHIP BETWEEN FOLATE INTAKE AND THE INCIDENCE OF OLIGOMENORRHEA AMONG FEMALE ADOLESCENT ATHLETES IN SCHOOL-BASED SPORTS TRAINING CENTERS: A SECONDARY DATA ANALYSIS

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### ABSTRACT

**Background:** Oligomenorrhea is common among adolescent female athletes and poses a risk to reproductive health. Folate intake potentially influences this condition through hormone metabolism, yet existing scientific evidence remains inconsistent.

**Objective:** To determine the association between folate intake and oligomenorrhea incidence in female adolescent athletes, and to analyze it after controlling for potential confounding variables (age, BMI, energy, and iron intake).

**Methods:** This cross-sectional observational analytical study used secondary data from the Female Athlete Triad 2021-2022 study, involving 131 athletes from various sports at Indonesian sports centers (PPLP, SKO, SMANOR). Variables analyzed included age, BMI, energy, iron, folate intake, and oligomenorrhea incidence. Age and oligomenorrhea incidence were from subject characteristics data, BMI was calculated from height and weight anthropometric data, nutritional intake from 24-hour food recall data. Analysis used Spearman's Rank, Fisher's exact test, and multivariate logistic regression.

**Results:** Subjects had a mean age was 15.9 years and normal BMI (21.18 kg/m<sup>2</sup>). Mean energy and iron intakes were below the RDA (1,905.89 kcal/day and 9.47 mg/day). A total of 90.1% of subjects had a folate intake of  $\leq$  70% RDA (149.15 mcg/day), and the prevalence of oligomenorrhea was 21.4%. The proportion of low folate intake was higher in the oligomenorrhea group (96.4%) than the normal cycle group (88.3%). No significant association between folate intake and oligomenorrhea was found via Spearman's Rank ( $p = 0.563$ ), Fisher's exact test ( $p = 0.734$ ), and multivariate logistic regression ( $OR_{adj} = 0.998$ ; 95% CI = 0.993-1.002;  $p = 0.334$ ).

**Conclusion:** There was no statistically significant association between folate intake and oligomenorrhea incidence in female adolescent athletes, both before and after controlling for potential confounding variables (age, BMI, energy, and iron intake). However, the high prevalence of low folate intake remains a critical nutritional issue that requires attention. Future longitudinal research with biochemical indicators is recommended.

Keywords: Female Adolescent Athletes; Folate Intake; Oligomenorrhea