

# HUBUNGAN ASUPAN ASAM LEMAK OMEGA-3 DENGAN KUALITAS TIDUR LANSIA

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## ABSTRAK

**Latar Belakang :** Gangguan tidur sering terjadi pada lansia dan dapat menurunkan fungsi fisiologis serta kualitas hidup. Asam lemak omega-3, khususnya *alpha-linolenic acid* (ALA), *eicosapentaenoic acid* (EPA), dan *docosahexaenoic acid* (DHA) berperan dalam modulasi neurotransmitter, sintesis melatonin, dan proses antiinflamasi yang memengaruhi regulasi tidur. Namun, bukti ilmiah mengenai hubungan asupan asam lemak omega-3 dengan kualitas tidur lansia masih bervariasi.

**Tujuan :** Menganalisis hubungan antara asupan asam lemak omega-3 dengan kualitas tidur pada lansia.

**Metode :** Penelitian ini adalah penelitian *cross sectional* yang dilaksanakan di Posyandu Bulusan, Semarang, pada Mei 2025. Sampel adalah 47 responden lansia berusia  $\geq 60$  tahun yang diambil menggunakan metode *consecutive sampling*. Asupan asam lemak omega-3 diambil dengan *Semi Quantitative Food Frequency Questionnaire* (SQ-FFQ), sedangkan kualitas tidur diambil dengan *Pittsburgh Sleep Quality Index* (PSQI). Variabel perancu dalam penelitian ini meliputi aktivitas fisik dan tingkat depresi, yang diukur dengan *International Physical Activity Questionnaire Short Form* (IPAQ-SF) dan *Geriatric Depression Scale 15* (GDS-15). Analisis bivariat dilakukan menggunakan uji korelasi *Spearman*.

**Hasil :** Sebanyak 20 responden (42,6%) memiliki asupan asam lemak omega-3 dalam kategori kurang, 14 responden (29,8%) dalam kategori lebih, dan 13 responden (27,7%) dalam kategori baik. Sebanyak 26 responden (55,3%) memiliki kualitas tidur baik, sedangkan 21 responden (44,7%) memiliki kualitas tidur buruk. Hasil analisis bivariat menunjukkan adanya hubungan yang bermakna antara asupan asam lemak omega-3 total dan kualitas tidur ( $p = 0,022$ ). Hubungan serupa juga ditemukan pada asupan ALA ( $p = 0,032$ ) dan EPA ( $p = 0,043$ ). Namun, asupan DHA ( $p = 0,313$ ), aktivitas fisik ( $p = 0,476$ ), dan tingkat depresi ( $p = 0,314$ ) tidak menunjukkan hubungan yang signifikan dengan kualitas tidur.

**Kesimpulan :** Asupan asam lemak omega-3 total, ALA, dan EPA menunjukkan hubungan yang signifikan serta berkorelasi positif dengan kualitas tidur, sedangkan asupan DHA, aktivitas fisik, dan tingkat depresi tidak menunjukkan hubungan yang signifikan secara statistik terhadap kualitas tidur.

**Kata kunci :** Asam lemak omega-3, *Alpha-Linolenic Acid* (ALA), *Eicosapentaenoic Acid* (EPA), *Docosahexaenoic Acid* (DHA), Kualitas Tidur, Lansia.

## **THE CORRELATION BETWEEN OMEGA-3 FATTY ACID INTAKE AND SLEEP QUALITY AMONG THE ELDERLY**

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### **ABSTRACT**

**Background:** Sleep disturbances are common among the elderly and can impair physiological functions and quality of life. Omega-3 fatty acids, particularly alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA), play roles in neurotransmitter modulation, melatonin synthesis, and anti-inflammatory processes that influence sleep regulation. However, scientific evidence regarding the association between omega-3 fatty acid intake and sleep quality in elderly remains inconsistent.

**Objective:** To analyze the relationship between omega-3 fatty acid intake and sleep quality among the elderly.

**Methods:** This cross sectional study was conducted at Posyandu Bulusan, Semarang, in May 2025. A total of 47 elderly respondents aged  $\geq 60$  years were selected using consecutive sampling. Omega-3 fatty acid intake was assessed using a Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ), while sleep quality was evaluated using the Pittsburgh Sleep Quality Index (PSQI). Confounding variables included physical activity and depression level, which were measured using the International Physical Activity Questionnaire–Short Form (IPAQ-SF) and the Geriatric Depression Scale–15 (GDS-15), respectively. Bivariate analysis was performed using the Spearman correlation test.

**Results:** The analysis showed that 42.6% of respondents had a low omega-3 fatty acid intake, 29.8% had a high intake, and 27.7% had an adequate intake. A total of 55.3% of participants demonstrated good sleep quality, while 44.7% exhibited poor sleep quality. Bivariate analysis revealed a statistically significant association between total omega-3 fatty acid intake and sleep quality ( $p = 0.022$ ). Significant correlations were also found for ALA ( $p = 0.032$ ) and EPA ( $p = 0.043$ ). In contrast, DHA intake ( $p = 0.313$ ), physical activity ( $p = 0.476$ ), and depression level ( $p = 0.314$ ) were not significantly associated with sleep quality.

**Conclusion:** Total omega-3 fatty acid, ALA, and EPA intake were significantly associated with improved sleep quality among the elderly. However, DHA intake, physical activity, and depression level were not significantly associated with sleep quality.

**Keywords:** Omega-3 fatty acids, Alpha-Linolenic Acid (ALA), Eicosapentaenoic Acid (EPA), Docosahexaenoic Acid (DHA), Sleep quality, Elderly