

## **Hubungan Asupan Protein Hewani dan Protein Nabati, Aktivitas Fisik, dan Status Gizi dengan Kekuatan Genggam Tangan pada Lansia**

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### **ABSTRAK**

**Latar Belakang:** Penuaan yang terjadi pada lansia berkaitan dengan respon anabolik yang kurang terhadap asupan makanan sehingga menyebabkan hilangnya massa dan fungsi otot. Kurangnya konsumsi protein, keterbatasan aktivitas fisik, dan status gizi mengarah pada hilangnya kekuatan genggam tangan pada lansia. Penelitian ini bertujuan mengetahui hubungan asupan protein hewani dan protein nabati, aktivitas fisik, dan status gizi dengan kekuatan genggam tangan pada lansia.

**Metode:** Penelitian ini menggunakan metode *cross-sectional*. Jumlah subjek 61 lansia (60-69 tahun). Data yang dikumpulkan meliputi identitas subjek, asupan protein menggunakan *Recall 24h* sebanyak 2x pada *weekday* dan *weekend*, aktivitas fisik menggunakan *International Physical Activity Questionnaire Short Form* (IPAQ-SF), status gizi menggunakan perhitungan IMT dengan pengukuran berat badan dan tinggi badan, dan massa otot menggunakan BIA. Data dianalisis dengan uji *pearson* dan uji regresi logistik.

**Hasil:** Terdapat 79% subjek memiliki asupan protein kurang, 65% subjek memiliki aktivitas fisik yang rendah, dan 59% subjek memiliki status gizi normal, serta rerata kekuatan genggam tangan 20,6 kg. Penelitian ini menunjukkan adanya hubungan asupan protein total ( $p = 0,043$ ,  $r = 0,260$ ), asupan protein nabati ( $p = 0,002$ ,  $r = 0,388$ ), massa otot ( $p = 0,000$ ,  $r = 0,554$ ), dan jenis kelamin ( $p = 0,000$ ,  $r = -0,674$ ) dengan kekuatan genggam tangan. Uji multivariat menunjukkan bahwa jenis kelamin paling berpengaruh terhadap kekuatan genggam tangan ( $p = <0,001$ )

**Simpulan:** Asupan protein total, asupan protein nabati, dan massa otot berhubungan dengan kekuatan genggam tangan pada lansia. Jenis kelamin merupakan penentu kekuatan genggam tangan.

**Kata Kunci :** Asupan protein nabati, asupan protein hewani, aktivitas fisik, status gizi, kekuatan genggam tangan

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## **Correlation of Animal Protein Intake, Vegetable Protein Intake, Physical Activity, and Nutritional Status with Handgrip Strength in Elderly.**

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### **ABSTRACT**

**Background:** Aging is related to a lack anabolic response to food intake causing loss of muscle mass and function. Low of protein intake, limited physical activity, and nutritional status lead into loss of handgrip strength. This research aimed to know the correlation of animal protein intake, vegetable protein intake, physical activity, and nutritional status with handgrip strength in elderly.

**Methods:** This study used a cross-sectional method. Subjects selected used consecutive sampling involving 61 elderly (60-69 years). Data included identity samples, protein intake was assessed by Recall 24-hour twice in weekday and weekend, physical activity was measured by International Physical Activity Questionnaire Short Form (IPAQ-SF), nutritional status assessed by body mass index calculation weight in kilograms and height in meters, and muscle mass measured by BIA. Data were analyzed by pearson and multiple logistic regression tests.

**Results:** There were 79% subjects had low protein intake, 65% subjects had low physical activity, and 59% subjects had normal/ideal body. This study showed correlation of total protein ( $p = 0,043$ ,  $r = 0,260$ ), and vegetable protein ( $p = 0,002$ ,  $r = 0,388$ ), muscle mass ( $p = 0,000$ ,  $r = 0,554$ ), and gender ( $p = 0,000$ ,  $r = -0,674$ ) with handgrip strength. Multivariate analysis showed that only gender affecting handgrip strength ( $p = <0,05$ ).

**Conclusion:** Total protein, vegetable protein, and muscle mass were correlated with handgrip strength in elderly. Gender is a predictor for handgrip strength.

**Keywords:** Vegetable protein intake, animal protein intake, physical activity, nutritional status, handgrip strength

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