

**FAKULTAS KEDOKTERAN
UNIVERSITAS PEMBANGUNAN NASIONAL “VETERAN” JAKARTA**

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**ANALISIS HUBUNGAN ANTARA INDEKS MASSA TUBUH, USIA, DAN
SATUAN KERJA TERHADAP DERAJAT *POST TRAUMATIC OSTEOARTHRITIS*
PADA PRAJURIT TNI DI RSPAD GATOT SOEBROTO**

RINCIAN HALAMAN (95 halaman, 14 tabel, 6 gambar, 5 lampiran)

ABSTRAK

Pendahuluan

Post-traumatic osteoarthritis (PTOA) lutut pada prajurit TNI dapat menurunkan fungsi dan kesiapan tugas akibat trauma dan beban mekanik berulang.

Tujuan

Menganalisis hubungan indeks massa tubuh (IMT), usia, dan satuan kerja dengan derajat PTOA lutut di RSPAD Gatot Soebroto.

Metode

Studi observasional *cross-sectional* menggunakan data rekam medis 41 prajurit TNI aktif dengan PTOA lutut (Januari 2021–November 2025). Derajat PTOA dinilai dengan *Kellgren–Lawrence*. Analisis bivariat memakai chi-square; multivariat regresi logistik berganda ($p \leq 0,05$).

Hasil

Analisis bivariat menunjukkan usia ($p=0,009$) dan satuan kerja ($p=0,028$) berhubungan signifikan dengan derajat PTOA, sedangkan indeks massa tubuh tidak bermakna ($p=0,482$). Analisis multivariat mengidentifikasi usia pra lanjut usia (45–64 tahun) sebagai faktor dominan dengan risiko 5,6 kali lipat dibandingkan usia dewasa (25–44 tahun) (OR=5,608; CI 95%: 1,307-24,074; $p=0,020$), diikuti satuan kerja tempur dengan risiko 4,6 kali lipat dibandingkan satuan non tempur (OR=4,598; CI 95%: 1,066-19,831; $p=0,041$).

Pembahasan

Penuaan dan tuntutan kerja diduga meningkatkan mikrotrauma kumulatif serta menurunkan kapasitas perbaikan jaringan. Ketidakbermaknaan IMT karena variasi IMT yang terbatas dan perancu usia/satuan kerja.

Kesimpulan

Usia dan satuan kerja berasosiasi dengan derajat PTOA lutut, dengan usia sebagai prediktor terkuat.

Daftar Pustaka: 36 (2015-2025)

Kata Kunci : indeks massa tubuh; *post traumatic osteoarthritis*; prajurit TNI; satuan kerja; usia

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***ANALYSIS OF THE ASSOCIATION BETWEEN BODY MASS INDEX, AGE, AND
MILITARY UNIT ASSIGNMENT AND THE SEVERITY OF POST-TRAUMATIC
OSTEOARTHRITIS AMONG INDONESIAN ARMED FORCES PERSONNEL AT
RSPAD GATOT SOEBROTO HOSPITAL***

PAGE DETAIL (95 pages, 14 tables, 6 figures, 5 appendices)

ABSTRACT

Introduction

Knee post-traumatic osteoarthritis (PTOA) may reduce function and operational readiness in Indonesian military personnel due to trauma and repeated work load.

Objective

To examine associations of body mass index (BMI), age, and work unit with knee PTOA degree at RSPAD Gatot Soebroto.

Method

A cross-sectional study used medical-record data from 41 active personnel with knee PTOA (January 2021–November 2025). Severity was graded by the Kellgren–Lawrence classification. Chi-square and multiple logistic regression were applied ($p \leq 0.05$).

Result

Bivariate analysis showed that age ($p=0.009$) and work unit ($p=0.028$) were significantly associated with PTOA degree, whereas BMI was not significant ($p=0.482$). Multivariate analysis identified the pre-elderly (45–64 years) group as the dominant factor, with 5.6-fold higher odds of more severe PTOA compared with the adult age (25–44 years) group (OR=5.608; 95% CI: 1.307–24.074; $p=0.020$), followed by combat work units, which had 4.6-fold higher odds compared with non-combat work units (OR=4.598; 95% CI: 1.066–19.831; $p=0.041$).

Discussion

Aging and occupational demands may increase cumulative microtrauma and reduce reparative capacity; the null BMI finding may reflect limited BMI variability and confounding.

Conclusion

Age and work unit are associated with knee PTOA severity, with age as the dominant predictor.

References : 36 (2015-2025)

Keywords : age; body mass index; military personnel; work unit; post traumatic osteoarthritis