

## INTISARI

### PROGNOSTIC NUTRITIONAL INDEX (PNI) SEBAGAI PREDIKTOR TERJADINYA PNEUMONIA PADA PASIEN DENGAN DIABETES MELITUS TIPE 2 DENGAN KOMPLIKASI ULKUS KAKI DIABETES DI RUMAH SAKIT DR. SARDJITO, YOGYAKARTA

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**Latar Belakang:** *Prognostic Nutritional Index* (PNI) merupakan indikator nutrisi, telah dikonfirmasi dapat berpengaruh terhadap pneumonia. Orang dengan PNI rendah lebih rentan terinfeksi pneumonia. Pasien Diabetes Melitus tipe 2 (DMT2) dengan komplikasi ulkus kaki diabetes (DFU) berisiko memiliki PNI rendah sehingga rentan terinfeksi pneumonia.

**Tujuan:** Mengevaluasi PNI sebagai Prediktor Terjadinya Pneumonia pada Pasien dengan DMT2 dengan DFU di RS. Sardjito, Yogyakarta.

**Metode:** Penelitian menggunakan metode Potong Lintang, data didapat dari Rekam medis (Januari 2018 s.d. Desember 2023) Diabetes Departemen Penyakit Dalam RSUP dr. Sardjito, Yogyakarta. Populasi pasien merupakan pasien DMT2 dengan DFU. Analisis univariat dilakukan untuk mendeskripsikan karakteristik subjek. Uji *Chi-Square* digunakan pada analisis bivariat, sedangkan regresi logistik multivariat digunakan untuk mengontrol variabel perancu seperti usia, jenis kelamin, dan kormorbiditas (hipertensi, CHF dan COPD). Nilai  $p < 0,05$  dianggap bermakna.

**Hasil:** Sebanyak 793 pasien DMT2 dengan DFU dianalisis, terdapat 267 pasien dengan pneumonia, didapat pasien PNI tinggi 16 subjek (6,0%) dan pasien PNI rendah 251 subjek (94,0%). Hasil analisis bivariat menunjukkan variabel yang berhubungan signifikan dengan pneumonia adalah PNI rendah ( $p=0,005$ ), usia, jenis kelamin, stroke dan CHF. Variabel lain seperti hipertensi, *malignancy*, *COPD*, dan obesitas tidak menunjukkan hubungan bermakna ( $p > 0,05$ ). Pada analisis multivariat, variabel PNI rendah ( $\leq 36,1$ ) berhubungan secara independen dengan pneumonia Dengan demikian, pasien dengan PNI rendah merupakan faktor risiko bermakna terjadinya pneumonia (OR=2,203; 95% CI: 1,199-4,049;  $p=0,11$ ).

**Kesimpulan:** *Prognostic Nutritional Index* (PNI) terbukti secara signifikan menjadi prediktor pneumonia pada pasien diabetes melitus tipe 2 dengan ulkus kaki diabetes (95% CI: 1,199 – 4,049;  $p = 0,011$ ).

**Kata kunci:** *Prognostic Nutritional Index* (PNI), Diabetes Mellitus type 2 (DMT2), Pneumonia, Ulkus Kaki Diabetes (DFU).

## ABSTRACT

### PROGNOSTIC NUTRITIONAL INDEX (PNI) AS A PREDICTOR OF PNEUMONIA IN PATIENTS WITH TYPE 2 DIABETES MELLITUS WITH COMPLICATIONS OF DIABETIC FOOT ULCERS AT DR. SARDJITO HOSPITAL, YOGYAKARTA

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**Background:** The Prognostic Nutritional Index (PNI) is a nutritional indicator that has been confirmed to influence the occurrence of pneumonia. Individuals with a low PNI are more susceptible to pneumonia. Patients with type 2 diabetes mellitus (T2DM) complicated by diabetic foot ulcers (DFU) are at risk of having a low PNI, thereby increasing their susceptibility to pneumonia.

**Objective:** To evaluate PNI as a predictor of pneumonia in patients with T2DM and DFU at Dr. Sardjito Hospital, Yogyakarta.

**Method:** This study employed a cross-sectional design using data obtained from the Diabetes Registry of the Department of Internal Medicine, Dr. Sardjito General Hospital, Yogyakarta, from January 2018 to December 2023. The study population consisted of patients with T2DM and DFU. Univariate analysis was performed to describe subject characteristics. Chi-square tests were used for bivariate analysis, while multivariate logistic regression was conducted to control for confounding variables such as age, sex, and comorbidities (hypertension, CHF, and COPD). A p-value < 0.05 was considered statistically significant.

**Result:** A total of 793 patients with T2DM and DFU were analyzed, of whom 267 had pneumonia. Among patients with pneumonia, 16 subjects (6.0%) had a high PNI and 251 subjects (94.0%) had a low PNI. Bivariate analysis showed that variables significantly associated with pneumonia were low PNI (p = 0.005), age, sex, stroke, and CHF. Other variables such as hypertension, malignancy, COPD, and obesity were not significantly associated (p > 0.05). In multivariate analysis, low PNI ( $\leq 36.1$ ) was independently associated with pneumonia. Thus, low PNI was a significant risk factor for pneumonia (OR = 2.203; 95% CI: 1.199–4.049; p = 0.011).

**Conclusion:** The Prognostic Nutritional Index (PNI) was proven to be a significant predictor of pneumonia in patients with type 2 diabetes mellitus and diabetic foot ulcers (95% CI: 1.199–4.049; p = 0.011).

**Kata kunci:** *Prognostic Nutritional Index (PNI)*, *Diabetes Mellitus type 2 (DMT2)*, *Pneumonia*, *Diabetic Foot Ulcer (DFU)*