



Hubungan Antara Nutritional Risk Screening 2002 dengan Kematian dan Lama Rawat Pasien Luka Bakar di RSUP DR. Sardjito

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INTISARI

Latar Belakang: Luka bakar memicu respon hipermetabolik yang meningkatkan risiko malnutrisi, Berbagai studi menunjukkan bahwa skrining risiko nutrisi seperti NRS-2002 berperan penting dalam mengidentifikasi pasien berisiko tinggi yang berpotensi memiliki luaran klinis lebih buruk.

Tujuan: Penelitian ini bertujuan untuk mengetahui apakah terdapat hubungan antara *Nutritional Risk Screening* 2002 dengan angka kematian dan lama rawat pasien luka bakar di RSUP Dr. Sardjito Yogyakarta.

Metode: Penelitian ini merupakan studi kuantitatif dengan desain kohort retrospektif dan membandingkan mortalitas dan morbiditas pasien luka bakar di RSUP Dr. Sardjito berdasarkan skor *Nutritional Risk Screening* 2002 (NRS 2002). Penelitian ini akan membagi subjek menjadi dua kelompok, yaitu pasien dengan risiko rendah (skor NRS < 3) dan risiko tinggi ≥ 3 , untuk menilai apakah ada perbedaan yang signifikan dalam hasil klinis perawatan pasien. Data diambil pada pasien yang menjalani perawatan di unit Luka Bakar RSUP Dr. Sardjito pada bulan Januari-Desember 2024. Analisis data dilakukan menggunakan program SPSS versi 25.0 kemudian pada analisa bivariat menggunakan Uji Chi-square. Selanjutnya, variabel dengan nilai $p < 0,25$ pada analisis bivariat dimasukkan ke dalam model regresi logistik multivariat untuk mengidentifikasi faktor risiko independen terhadap luaran yang diteliti. Selain itu, dilakukan analisis kesintasan (survival analysis) menggunakan metode Kaplan-Meier untuk menilai survival probability pasien selama masa perawatan. Perbedaan antar kurva survival antar kelompok diuji menggunakan Log Rank (Mantel–Cox) test.

Hasil: Hasil analisis menunjukkan dari total 68 pasien yang memenuhi kriteria inklusi dalam penelitian ini, pada karakteristik data pasien, hasil skor *Nutritional Risk Screening* (NRS) 2002, sebagian besar pasien berada pada kategori *high risk*, yaitu sebanyak 55 orang (81%), sedangkan *low risk* hanya sebanyak 13 orang (19%). Analisis bivariat, NRS–2002 berhubungan secara bermakna dengan kejadian kematian pada pasien luka bakar ($p = 0.024$). Pasien dengan kategori high-risk memiliki risiko kematian 5.44 kali lebih tinggi dan odds kematian 8.63 kali lebih tinggi dibandingkan pasien low-risk. NRS–2002 tidak berhubungan secara bermakna dengan lama rawat ($p = 0.355$). Analisis menunjukkan bahwa risiko lama rawat >16 hari tidak lebih tinggi pada kelompok high-risk. Hasil analisis menunjukkan bahwa rerata waktu ketahanan hidup pada kelompok risiko nutrisi tinggi lebih rendah (1.67 vs. 1.92 hari). (1,67 hari; 95% CI: 1,55–1,80) dibandingkan kelompok risiko rendah (1,92 hari; 95% CI: 1,78–2,07). Pada analisis multivariat, Nutritional Risk Screening (NRS) tidak menunjukkan hubungan yang bermakna dengan kematian ($p = 0,653$; OR = 2,068; 95% CI: 0,087–49,050) dan lama rawat secara statistik ($p = 0,980$; $Exp(B) = 0,981$; 95% CI: 0,220–4,382),

Kesimpulan: NRS–2002 berhubungan secara bermakna dengan kejadian kematian pada pasien luka bakar tetapi tidak berhubungan dengan lama rawat. Hubungan ini dipengaruhi oleh beberapa faktor seperti: jenis kelamin dan luas area luka bakar.

Kata Kunci: Luka bakar, Nutritional Risk Screening 2002, Kematian Pasien Luka Bakar, Lama Rawat Pasien Luka Bakar



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Abstract

Background: Burn injuries trigger a hypermetabolic response that increases the risk of malnutrition. Various studies have shown that nutritional risk screening tools such as NRS-2002 play an important role in identifying high-risk patients who are more likely to experience poorer clinical outcomes.

Objective: This study aims to determine whether there is an association between Nutritional Risk Screening 2002 and mortality as well as length of stay among burn patients at Dr. Sardjito General Hospital, Yogyakarta.

Methods: This study is a quantitative research using a retrospective cohort design, comparing the mortality and morbidity of burn patients at Dr. Sardjito General Hospital based on their Nutritional Risk Screening 2002 (NRS 2002) scores. Subjects were divided into two groups—low risk (NRS < 3) and high risk (NRS ≥ 3)—to assess whether significant differences existed in clinical outcomes. Data were collected from patients treated in the Burn Unit of Dr. Sardjito General Hospital between January and December 2024. Data analysis was performed using SPSS version 25.0. Bivariate analysis was conducted using the Chi-square test, and variables with $p < 0.25$ were included in a multivariate logistic regression model to identify independent risk factors associated with the outcomes. In addition, a survival analysis using the Kaplan–Meier method was performed to evaluate patient survival probability during hospitalization, with differences between survival curves assessed using the Log Rank (Mantel–Cox) test.

Results: The analysis showed that of the 68 patients who met the inclusion criteria, the majority were classified as high nutritional risk based on the Nutritional Risk Screening (NRS) 2002 score, with 55 patients (81%) categorized as high risk and only 13 patients (19%) as low risk. In the bivariate analysis, NRS-2002 was significantly associated with mortality in burn patients ($p = 0.024$). Patients in the high-risk group had a 5.44-fold higher risk of death and an 8.63-fold higher odds of mortality compared with the low-risk group. NRS-2002 was not significantly associated with length of stay ($p = 0.355$), and high-risk patients did not have a greater likelihood of hospitalization beyond 16 days. Survival analysis demonstrated that the high-risk group had a shorter mean survival time (1.67 vs. 1.92 days; 1.67 days, 95% CI: 1.55–1.80 vs. 1.92 days, 95% CI: 1.78–2.07). In the multivariate analysis, NRS-2002 did not show a statistically significant association with mortality ($p = 0.653$; OR = 2.068; 95% CI: 0.087–49.050) nor with length of stay ($p = 0.980$; Exp(B) = 0.981; 95% CI: 0.220–4.382)

Conclusion: NRS-2002 was significantly associated with mortality among burn patients but showed no association with length of stay. This relationship was influenced by several factors, including sex and burn surface area.

Keywords: Burn injury, Nutritional Risk Screening 2002, Burn patient mortality, Length of stay