Perbandingan Efektivitas Early Warning Scores (EWS) untuk Deteksi Dini Deteriorasi Klinis pada Pasien Covid-19 dengan Access Block di Instalasi Gawat Darurat = Comparison of the Effectiveness of Early Warning Score (EWS) for Early Detection of Clinical Deterioration in Covid-19 Patient with Access Block in the Emergency Unit

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Abstrak

Pemantauan dan deteksi dini perburukan klinis pada pasien covid-19 merupakan tindakan krusial yang perlu dilakukan pada unit gawat darurat. Early Warning Scores (EWS), termasuk di dalamnya National Early Warning Scores 2 (NEWS2) dan modified NEWS2 (NEWS-C) merupakan parameter yang dapat digunakan untuk deteksi perburukan pada pasien Covid-19, namun terdapat perbedaan rekomendasi dari berbagai peneliti terkait efektivitas keduanya. Penelitian ini bertujuan untuk melihat perbandingan efektivitas instrumen NEWS2 dan NEWS-C dalam deteksi dini perburukan klinis, kebutuhan oksigenasi aliran tinggi, dan mortalitas pada pasien Covid-19. Desain penelitian ini merupakan cohort retrospektif dengan metode consecutive sampling. Subjek penelitian terdiri 30 pasien terkonfirmasi covid-19 yang mengalami access block di IGD pada tanggal 20 Juli hingga 10 Agustus 2021. Perbandingan efektivitas EWS didasarkan pada nilai Area Under the Receiver Operating Curve (AUROC). Hasil penelitian menunjukkan, sebanyak 24 pasien (80%) mengalami perburukan klinis, 20 pasien membutuhkan oksigenasi aliran tinggi (66.7%), dan 16 pasien (53.3%) pasien meninggal dunia di IGD. Berdasarkan uji statistik dengan CI 95% terhadap skor NEWS2 dan NEWS-C diketahui bahwa NEWS-2 lebih efektif dalam mengidentifikasi perburukan klinis dan kebutuhan oksigenasi aliran tinggi pada pasien covid-19 (AUROC 0.778 dan 0.788). Skor NEWS2 >7 memiliki sensitivitas yang lebih baik dalam memprediksi perburukan klinis dan kebutuhan oksigenasi. Sementara itu, NEWS-C diketahui lebih efektif dalam mendeteksi tingkat mortalitas pada pasien Covid-19 dengan nilai AUROC 0.946 dan sensitivitas 93.8%. Hasil penelitian ini menyimpulkan bahwa NEWS-2 lebih efektif dalam deteksi dini perburukan dan kebutuhan oksigenasi pada pasien Covid-19, sementara NEWS-C dinilai lebih efektif dalam deteksi dini mortalitas pada pasien Covid-19.
.....Monitoring and early detection of clinical deterioration in COVID-19 patients is a crucial action that needs to be carried out in the emergency unit. Early Warning Scores (EWS), including National Early Warning Scores 2 (NEWS2) and modified NEWS2 (NEWS-C), are parameters that can be used for the detection of worsening in Covid-19 patients. However, there are different recommendations from various researchers regarding the effectiveness of the two. This study aims to compare the effectiveness of the NEWS2 and NEWS-C instruments in the early detection of clinical deterioration, high flow oxygenation requirements, and mortality in Covid-19 patients. The design of this study was a retrospective cohort with a consecutive sampling method. The research subjects consisted of 30 confirmed COVID-19 patients who experienced access blocks in the ER from 20 July to 10 August 2021. The comparison of the effectiveness of the EWS was based on the Area Under the Receiver Operating Curve (AUROC) value. The results showed that 24 patients (80%) had clinical deterioration, 20 patients required high-flow oxygenation (66.7%), and 16 patients (53.3%) died in the ED. Based on statistical tests with 95% CI for NEWS2 and NEWS-C scores, it was found that NEWS-2 was more effective in identifying clinical deterioration and

high-flow oxygenation requirements in COVID-19 patients (AUROC 0.778 and 0.788). A NEWS2 score >7 has better sensitivity in predicting clinical deterioration and oxygenation requirements. Meanwhile, NEWS-C is more effective in detecting mortality rates in Covid-19 patients with an AUROC value of 0.946 and a sensitivity of 93.8%. This study concludes that NEWS-2 is more effective in the early detection of worsening and oxygenation requirements in Covid-19 patients. At the same time, NEWS-C is considered more effective in the early detection of mortality in Covid-19 patients.