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MEWS score evaluation as severity predictor in admitted patients of internal medicine

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Introduction: The Modified Early Warning Score (MEWS) is an early warning score for inpatients capable of identifying acute clinical deterioration by analysing of physiological parameters. The higher the score, the greater the risk of adverse outcome. Due to the importance and necessity of a tool that stratifies the degree of physiological commitment of the hospitalized patient and which can predict the need for medical intervention early, the present study sought to carry out a pilot project with the MEWS score in the medical clinic ward of a tertiary hospital of Baixada Santista, seeking to assess their predictive capacity for outcomes.

Objective: To estimate the ability of the MEWS score to predict severity and mortality in patients hospitalized in a clinic ward.

Methodology: The present study is a prospective observational study, conducted between June and September of 2018, at a Santos reference hospital.

Results: A total of 1551 measurements were performed in a total of 147 patients. 54% of them were male, with a mean age of 56 years. The mean MEWS was 2.85, and 85% of the patients had at least a 3 to 4 points, and 44% equal to 5 or more. The presence of MEWS between 3 and 4 points showed a statistically significant association with mortality outcome ($p = 0.0386$), and the risk of death in those patients was 6.7 times higher (OR = 6.6667). The presence of MEWS ≥ 5 increased the risk of death ($p = 0.0003$, OR = 4.48) and the risk of ICU admission by 4.4 times ($p = 0.027$, OR = 2, 66). In addition, the higher the pontuation in the MEWS score, the greater the occurrence of adverse events, such as death ($p<0.001$) and ICU admissions ($p = 0.003$). The diagnoses of pulmonary focus sepsis and Febrile Neutropenia were the most frequent among patients admitted to an ICU.

Discussion: Medical literature shows that the baseline characteristics of patients admitted to a clinic ward varies greatly, according to the profile of each hospital where the MEWS was applied. However, the studies are concordant in correlating the pontuation of the score with the presence of adverse events. It is evident that MEWS ≥ 3 significantly increases the risk of death outcome, and that there is a higher incidence of ICU admissions in patients with MEWS ≥ 5, which was also found in the present study. MEWS is an easy-to-use tool that can predict clinical severity and hospital mortality, that can easily help to detect early clinical deterioration and prevent adverse events.

Keywords: Early warning systems; Mortality; Patient acuity.