THE ADDITIONAL VALUE OF THE NURSE INTUITION PATIENT DETERIORATION SCALE TO THE NATIONAL EARLY WARNING SCORE TO PREDICT SERIOUS ADVERSE EVENTS IN THE HOSPITAL: A PROSPECTIVE COHORT STUDY.

Background

In previous research, we developed and validated a new scale to aid nurses in measuring patient deterioration through nurse intuition in medical and surgical patients admitted to the general ward. However, it is unclear what the additional value is of this scale when used together with the National Early Warning Score.

Aim(s)

This study aimed to prospectively investigate the predictive value of the Nurse Intuition Patient Deterioration Scale (NIPDS) in addition to the National Early Warning Score (NEWS).

Methods

A prospective cohort study in a Belgian hospital in two medical, two surgical, and one geriatric ward from December 2020 until February 2021. COVID-wards were excluded from participation because of the specific pathology. Convenience sampling was used to include adult patients admitted to participating wards. Minors and patients who refused participation were excluded. After a short information session on how to use the NIPDS, nurses were asked to fill in the scale during patient admission. The NEWS and administrative data were recorded in standard practice during admission. Patients were followed up during the 24 hours after scale registration. Primary outcomes were death, cardiopulmonary resuscitation, and unanticipated transfer to the ICU. Secondary outcomes were medical emergency team activation and upscaling of a Do-Not-Resuscitation-code.

Results

321 patients were recorded having a valid NIPDS registration during admission and 8 were excluded resulting in 313 patients for analysis. Of all registered NIPDS, 31 patients had a positive score (≥ 5). The primary outcome was reached in 9 and one patients in the positive and negative NIPDS groups respectively. The secondary outcome was reached in 21 and 12 patients in the positive and negative NIPDS groups respectively. NIPDS predicted the primary and secondary outcome (primary OR 1.79 [95%CI 1.43-2.23], secondary OR 1.94 [95%CI 1.56-2.41]) controlled for NEWS in multiple regression analysis. Receiver operator analysis for the primary outcome showed superior performance of NIPDS compared with NEWS (AUROC 0.970 vs. 0.833 respectively). Decision curve analyses confirmed the net benefit of using NIPDS combined with NEWS to predict serious adverse events.

Discussion

The use of the Nurse Intuition Patient Deterioration Scale adds to the prediction of death, cardiopulmonary resuscitation, and unanticipated transfer to the ICU. Nurse intuition could be used in addition to early warning scores in clinical practice.

Implications and future perspectives

In future research, the NIPDS should be tested in a different setting using a multicenter prospective study design to confirm or contradict our results. In practice, the NIPDS could be used as a standardized method to aid nurses to translate their clinical feeling of worry to concrete scores.