Validation of PRISM and PIM2 scores of mortality in a pediatric intensive care unit in Cordoba [Validación de los puntajes de mortalidad PRISM y PIM2 en una unidad de cuidados intensivos pediátricos de Córdoba]

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Resumen

Introduction. Pediatric Index of Mortality 2 (PIM2) and Pediatric Risk of Mortality (PRISM) are scoring systems to predict mortality likehood; thus, it is necessary to validate such predictors in Pediatric Intensive Care Units' population. Objective. To assess the validity of PRISM and PIM2 models of Mortality in Pediatrics Intensive Care Units at Hospital Infantil de Córdoba (PICUHI). Population, material and methods. 435 critically ill admitted patients were retrospectively analized in PICUHI from January 1st 2008 to January 31st 2008; 416 were included in the study, ruling out elective admitted patients with less than 12 hour at PICU length stay. There were no deaths in this Group. Original equations for each models, were used. Calibration was performed (p> 0.05) using Hosmer-Lemeshow (HL) goodness-of-fit tests. Scores were assessed through Standardized Mortality Ratio (SMR) and discrimination between patients alived and dead, was estimated calculating the area under ROC curve. Results. 416 admitted patients were included, (55.04%) were male 55.04%, median age was 3 years (1 month-17 years), with a median of 2 (1-76) admitted days in PICU. Mortality was 6.66%. PIM2 had an area under ROC curve of 0.88 (CI 95% 0.82-0.95) and PRIMS: 0.85 (CI 95% 0.78-0.92), with p 0.3570 value. HL calibration for PRISM was: x2 5.93 (p 0.54), and PIM2 was: x2 14.19 (p 0.07). PRISM, Standardized Mortality Ratio (SMR) was: 1.00 (CI 95% 0.50-1.50) and PIM2 was 1.00 (CI 95% 0.55-1.55). Conclusions. Both scores discriminated and calibrated well as the p-value of the HL test, althougt the analysis of the HL table appears inadequate to PIM2 calibration, in terms of severity-adjusted mortality.

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