

# **NURSING WORKLOAD EVALUATION IN THE EMERGENCY DEPARTMENTS: a tale for the Occam's Razor.**

Ganty Thomas<sup>a,b,\*</sup>, Paquay Meryl<sup>a,c</sup>, Ghuysen Alexandre<sup>a,c</sup>

**INTRODUCTION** – Between 2010 and 2019, Belgian Emergency Departments (EDs) admissions increased by almost 23%. Yet, nurse staffing didn't follow this trend (1–3). To determine staffing standards a reliable measure of the workload is key. The WANE scale is a precise measure of the nursing workload but is time consuming and demanding (4). The present study aimed to find a simple method to measure this workload and test if the Occam's Razor, statement “the simplest solution is almost always the best” might apply.

**METHODS** – A cross-sectional study was performed in 4 EDs to measure the exact nursing workload. Data were collected using the WANE scale (4) during 4-hour time periods, through different shifts. The WANE scale provides a reliable measure of the Total Nursing Care Time (TNCT) which includes direct care times (collected for every patient) and indirect care times (gathered at the end of each serie). Correlations were made between the TNCT and those variables, such as: subjective workload assessment (rated between 0 and 10), number of contacts in the ED (total contacts and new contacts), triage level (based on a commonly used five levels classification) and Jones Dependency Tool score (JDT).

**RESULTS** – Preliminary results based on the first 24 series, including 308 patients and 99 caregivers in three secondary hospitals, show a significant association ( $p < 0.0001$ ) between the number of new registered patients and the TNCT given by the WANE scale with a coefficient of determination at 0.79. This TNCT is also highly correlated ( $p < 0.0001$ ) to nurses' subjective workload evaluation ( $R^2 = 73\%$ ). However, no significant association was found between the TNCT and the JDT.

**DISCUSSION** – Our results show unprecedented findings: the association of new registrations number and nurses' subjective workload evaluation is robust enough to assess the total nursing workload. Those results bring new perspectives in using simple but reliable indicators. Further research is needed to elaborate new safe staffing standards for Belgian ED's based on workload measurements.

<sup>a</sup> Department of Public Health Sciences, University of Liège, Liège, Belgium

<sup>b</sup> Department of Emergency Medicine, Iris Hospitals South (Etterbeek-Ixelles Site), Brussels, Belgium

<sup>c</sup> Department of Emergency Medicine, University Hospital of Liège, University of Liège, Liège, Belgium

\* Corresponding author: [thomas.ganty@outlook.com](mailto:thomas.ganty@outlook.com)

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