

measured the body water content, pulse, core body temperature, blood pressure, creatinine, and urinary analysis before and after the work shift. We obtained the amount of water intake, environmental and personal measurements of temperature, humidity, and heat stress index during the work shift. Physicians interviewed the study subjects to confirm their medical history. Paired sample t-tests were used to test the pre and post-measurements.

Results and Conclusions: After excluding 18 subjects who did not wear PPE in the pilot study, 34 HCWs were used in the analyses (male: 11.8%; female: 88.2 %). Most of them were nurses, with a mean age of 30.53 years old (SD 6.82). After a work shift, 14.7% of the subjects had incident AKI (1.5 times reference value or increase ≥ 0.3 mg/dl). Core body temperature increased 0.27 degree (95% confidence interval [CI]: 0.16 to 0.38), creatinine level increased 0.161 mg/dl (95% CI: 0.11 to 0.22, $p < 0.001$). The estimated glomerular filtration rate (eGFR) showed a significant decline in renal function (-16.82 ml/min/1.73m², 95% CI: -22.47 to -11.17, $p < 0.001$). There was a protective effect of hydration ($p = 0.09$). In conclusion, wearing enhanced PPE can cause kidney injuries. There is an urgent need to develop regulations to prevent AKI among HCWs.

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Enhance the resilience of health care workers through the clear procedures for adverse events management, and psychological support: Croatian experience

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Introduction. Occupational stress is an important factor affecting health. Difficult working conditions, unexpected situations, and emotional engagement are psychological strains of healthcare workers. Adverse event (AV) is unintended harm to the patient caused by medical management rather than by the underlying disease or condition of the patient. Resilience after AVs is one's capacity to cope with those stressors. We present a Croatia case study in this paper.

Material and Methods. This study will cover the regulations and quality standards related to adverse events, register of adverse events in University Hospital Centre Zagreb (UHC Zagreb) and survey for healthcare workers.

Results. In Croatia, the law on quality of healthcare requires management of adverse events. Within the documentation of the quality management system in hospital, there is a procedure on the adverse events management (AEs), which clearly defines how to report AEs. Department for quality created a register for AEs and collect the data. Commission on quality of UHC Zagreb discusses AVs and preventive measures. Every year Department for quality research stress at work in a hospital. Employees give high marks to their clear role at work. During the COVID 19 pandemic, significantly more employees stated that they needed psychological support due to emotionally demanding work. A te for psychological support starts to work for all employees at the beginning of the pandemic. At the international level, UHC Zagreb is part of the European researchers' network working on second victims (ERNST), which is important for future activities to increase employee.

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A multilevel approach to individual and organizational predictors of stress and fatigue among healthcare workers of Paris university hospitals: A longitudinal analysis from the STRIPPS survey

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Background: Healthcare workers are at high risk of experiencing stress and fatigue due to the demands of their work within hospitals. Improving their physical and mental health, thus the quality and safety of care, requires considering factors at both individual and organizational levels. Our objective was to identify the predictors of stress and fatigue in healthcare workers in several wards from Paris university hospitals using a 1-year follow-up.

Material and Methods: Multicenter prospective cohort study. Participants were drawn at random from 32 hospital wards in Paris. Perceived stress and fatigue levels were assessed with the PSS-10 and the Pichot scale respectively, every 4 months at T0, T1, T2 and T3. A 3-level longitudinal analysis was performed accounting for repeated measures (level 1) across participants (level 2) nested within wards (level 3).

Results: 730 healthcare workers were included (nurses=52.6%; auxiliary nurses=41.1%; physicians=4.8%; midwives=1.5%). Across time, stress remained stable whereas fatigue showed an increasing trend ($p = 0.02$). Best individual-level predictors to explain perceived stress and fatigue were work overinvestment, presenteeism, lack of hierarchical support, low perception of safety culture, professional status and the best ward-level predictors were medical specialty and lower number of beds of the ward.

Conclusions: Our results may help identify at-risk healthcare workers and wards, where interventions to reduce stress and fatigue could be focused. These interventions could include manager training to favor better staff support and overall safety culture in healthcare.

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The need for strengthening occupational safety and health management approach for healthcare workers in Indonesia primary healthcare centers: Lesson from COVID-19

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Introduction: The COVID-19 pandemic has an impact on all people in the world, but burdens more on health workers as frontliners