

# THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION AND STRETCHING TECHNIQUES BY PERIOPERATIVE NURSES ON PHYSICAL FATIGUE AND INJURY RISK IN MALANG RAYA HOSPITALS

Nadhifah Eka Cahyani<sup>1</sup>, Tri Johan Agus Yuswanto<sup>2</sup>  
Program Studi Sarjana Terapan Keperawatan Malang, Jurusan Keperawatan  
Politeknik Kesehatan Kemenkes Malang  
Email: [nadhifaeka19@gmail.com](mailto:nadhifaeka19@gmail.com)

## ABSTRACT

**Background:** Physical fatigue is one of the main issues frequently experienced by perioperative nurses. This is due to the high workload, emotional pressure, and demanding work environment that requires high levels of concentration and physical endurance. If not properly addressed, physical fatigue can lead to serious consequences such as increased risk of work-related injuries, decreased productivity, and reduced quality of nursing care. Therefore, effective and easily applicable interventions are needed to reduce physical strain. Previous studies have shown that progressive muscle relaxation and stretching techniques are non-pharmacological methods proven to effectively reduce fatigue levels and prevent work-related injuries, especially among healthcare workers. **Objective:** To analyze the effectiveness of these two techniques in reducing physical fatigue and injury risk among perioperative nurses in hospitals across Malang Raya. **Methods:** This study used a quasi-experimental design with a two-group pretest-posttest with control group approach. The sample consisted of 120 perioperative nurses divided into three groups of 40 respondents each: a progressive muscle relaxation group, a stretching group, and a control group. The research instruments included the IFRC questionnaire to measure physical fatigue and an injury risk questionnaire developed by the researcher. Data were analyzed using the Mann-Whitney test with a significance level of  $\alpha = 0.05$ . **Results:** Progressive muscle relaxation was found to be more effective than stretching in reducing levels of physical fatigue and injury risk. **Conclusion:** These findings are expected to serve as a basis for developing strategies to improve occupational health and safety for perioperative nurses in hospitals.

**Keywords:** Physical fatigue, injury risk, progressive muscle relaxation, stretching, perioperative nurses.