Official Title

The Learning Outcome of Resuscitation Teamwork Training on Developing Teamwork Performance in Postgraduate Year Doctors and Nurses - Comparison of Board Game-based Learning, Simulation-based Learning and lecture-based learning

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Objectives:

The aim of this study was to compare the effectiveness of board game-based learning, simulation-based learning, and interactive lecture-based learning in enhancing resuscitation medical knowledge, teamwork knowledge, medical task performance, and teamwork performance among postgraduate-year residents and nurses undergoing resuscitation teamwork training.

Methods:

Utilizing a single-blind, prospective, randomized controlled trial approach, this study enlisted 96 postgraduate-year nurses and physicians through convenience sampling. The participants were divided into three groups: the Board Game-Based Learning Group (Experimental Group I), the Simulation-Based Learning Group (Experimental Group II), and the Interactive Lecture-Based Learning Group (Control Group), with each group comprising 32 individuals. Evaluations of effectiveness were conducted at three points: pretest, posttest, and at a three-month follow-up. The instruments for measurement included assessments of team performance observation tool, knowledge of teamwork assessment, interprofessional collaboration scale, resuscitation knowledge scale, medical task performance, learning cognitive load, and course survey. Two evaluators, unaware of which teaching method the team received, independently used standardized assessment forms to evaluate the medical team's resuscitation actions and teamwork behavior in scenario-based simulations through video observation, ensuring objectivity and reliability.

Statistical:

In this study, the presentation of categorical variables was conducted using frequencies and percentages, while continuous variables were summarized through means and standard deviations. The chi-squared test was applied to examine the demographic characteristics at the outset. Given the data's deviation from a normal distribution, a non-parametric approach was adopted for analysis, with the median and interquartile range (IQR) providing insights into the data's central tendency and dispersion. This method, unaffected by outliers, offers a more accurate depiction of data that does not follow a normal distribution. To identify differences across the three groups, the study utilized the Kruskal-Wallis H-test. The Friedman test was used to evaluate changes within groups, whereas the Wilcoxon test facilitated pairwise comparisons at various assessment points. GEE analysis was employed to compare the effectiveness of the intervention across different time points among the three groups. Text mining techniques were used to analyze feedback from course collections. IBM SPSS version 20 was the tool for all data analyses. The criteria for statistical significance were established using a two-tailed test, setting the P-value threshold at < 0.05.