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Research

The Effect of Virtual Reality Airway Management as a Learning Strategy on Performance, Self-Efficacy, and Emotional Intelligence Among Nursing Students in the West Bank/Palestine

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ABSTRACT

Background: Management of the airway is a fundamental competency that nursing students should have. There is a lack of studies examining the effect of virtual reality airway management in Arab countries including Palestine. Thus, this study aimed to evaluate the effect of virtual reality airway management as a learning strategy on emotional intelligence, self-efficacy, and performance among nursing students in the West Bank/Palestine.

Methods: A pre–post-test control group design was used and 190 participants were randomly selected from (Arab American University) and categorized into experimental group (n = 95) and control group (n = 95). The experimental group received virtual reality airway management and the control group received traditional learning. The study was achieved during the time from October 2023 to December 2023.

Results: There were differences between the 2 groups after intervention in performance, self-efficacy, and emotional intelligence ($p < 0.01$), indicating the experimental group had higher mean scores in the aforementioned variables compared to the control group.

Conclusions: Virtual reality experiences could be a supplement to traditional learning and integrated as a teaching strategy in nursing curricula.

Introduction

Airway management is a critical aspect of patient care and an essential skill that nursing students must learn (Miranda et al., 2021). The prevalence of airway disorders like asthma and chronic obstructive pulmonary disease (COPD) varies by country and region (Adeloye et al., 2022). World Health Organization (WHO) estimated that asthma affected 262 million people globally and resulted in 455,000 deaths and COPD affected an estimated 65 million people globally and resulted in 3.23 million deaths in 2019 (WHO, 2020). The prevalence of these conditions is higher in low- and middle-income countries (WHO, 2020). Other airway disorders such as bronchiectasis, cystic fibrosis, and interstitial lung disease also have varying prevalence rates. The prevalence rates of airway disorders are constantly changing due to factors such as environmental pollution and lifestyle changes (Chatkin et al., 2022).

Nursing schools provide students with the necessary knowledge, skills, and comprehensive clinical training in airway management and airway emergencies, including intubation, suctioning, and oxygen administration (Miranda et al., 2021; Rushton et al., 2020). These schools prepare students to work under the supervision of experienced nurses and physicians to manage airway emergencies in real-life situations (Salameh et al., 2021) and provide safe and effective care to patients who require airway management (Miranda et al., 2021).

Nursing students need to have skills that enhance their performance and competencies including self-efficacy and emotional intelligence. The performance can be measured by the accuracy and speed of the participant's actions (Lochmannová et al., 2022). Also, self-efficacy has been described as the motivational effect that enables a person to set goals and create a plan of action (Hsiao, 2021). Self-efficacy can influence the participant's willingness to engage in

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