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COMPETENCY OF ICU HEALTHCARE PROFESSIONALS IN IDENTIFYING VENTILATOR GRAPHICS

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Abstract:

Background: Mechanical Ventilation is a life-supporting system that provides mechanical breaths for patients who are critically ill. Patient-ventilator interaction plays an important role in successful mechanical ventilation. Ventilators provide highly advanced monitoring with graphical representation which in turn allows the clinicians to analyse the patient-ventilator interaction in real time. Ventilator graphics when identified accurately by the health care professionals can reduce the complications related to patient-ventilator interaction. Therefore, bedside detection of ventilator graphics abnormalities is considered crucial.

Objective: This study aims to determine the competency of ICU healthcare professionals in identifying ventilator graphics and to determine the influence of profession, experience in managing ventilators and prior training on health care professional's competency in identifying ventilator graphics.

Methods: This is a cross-sectional study which was conducted at Kasturba Hospital Manipal, from October 2021 – March 2022. All HCPs such as doctors, respiratory therapists and nurse practitioners with the experience of managing ventilators in ICUs were included in the study. The expert validated questionnaire regarding ventilator graphics was circulated to the HCPs and the ventilator graphics was shown to them on a laptop. The knowledge level was assessed with multiple choice questions and the scores were graded accordingly.

Results: A total of 96 healthcare professionals took part in the study. Out of 96 participants, 24 (25%) were doctors, 10 (10.4%) were nurse practitioners and 62 (64.5%) were respiratory therapists involved in this study. In this study, we found that out of 96 healthcare professions who participated in this study only 18 of them could identify all the ventilator graphics correctly. Knowledge was highest in doctors followed by Respiratory Therapists and then the Nurse Practitioners. There was significance seen between the score percentages of HCPs who had worked for 1 year (experienced) and HCPs who had worked for less than 1 year (limited experience) with p value <0.003.

Conclusion: Among the healthcare professionals we assessed in our study, we found out that profession and experience had an influence in healthcare professional's ability to identify ventilator graphics