

Mechanical Ventilation: Relationship between Body Mass Index and Selected Patients' Outcomes at a University Hospital in Cairo

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Abstract : Background: The mechanically ventilated patients need a special nursing care with continuous closed observation. The patients' body mass index may affect their prognosis or outcomes. Aim of the study: to investigate the relationship between BMI and selected outcomes of critically ill mechanically ventilated patients. Research Design: A descriptive correlational research design was utilized Research questions: a) what is the BMI profile of mechanically ventilated patients admitted to critical care units over a period of six months? b) What is the relationship between body mass index and frequency of organ dysfunction, length of ICU stay, weaning from mechanical ventilation, and the mortality rate among adult critically ill mechanically ventilated patients? Setting: different intensive care units of Cairo University Hospitals. Sample: A convenience sample of 30 mechanically ventilated patients for at least 72 hours. Tools of data collection: Three tools were utilized to collect data pertinent to the current study: tool 1: patients' sociodemographic and medical data sheet, tool 2: BURNS Wean Assessment Program (BWAP) checklist, tool 3: Sequential organ failure assessment (SOFA score) sheet. Results: The majority of the studied sample (77%) was males, and (26.7 %) of the studied sample were in the age group of 18-28 years old, and (26.7 %) were in the age group of 40-50 years old. Moreover, two thirds (66.7%) of the studied sample were within normal BMI. No significant statistical relationship between BMI category and ICU length of stay or the mortality rate among the studied sample, ($X^2 = 11.31$, P value = 0.79), ($X^2 = 0.15$, P value = 0.928) respectively. No significant statistical relationship between BMI category and the weaning trials from mechanical ventilation among the studied sample, ($X^2 = 0.15$, P value = 0.928). No significant statistical relationship was found between BMI category and the occurrence of organ dysfunction among the studied sample, ($X^2 = 2.54$, P value = 0.637). Conclusion: No relationship between the BMI categories and the selected patients' outcomes (weaning from MV, length of ICU stay, occurrence of organ dysfunction, mortality rate). Recommendations: Replication of this study on a larger sample from different geographical locations in Arab Republic of Egypt, conducting farther studies to assess the effect of the quality of nursing care on the mechanically ventilated patients' outcomes.

Keywords : mechanical ventilation, body mass index, outcomes of mechanically ventilated patient, organ failure

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