Effectiveness of Standard Endotracheal Suctioning Technique on Patients with Mechanical Ventilators

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Purpose of the study: Endotracheal suctioning is a procedure that is frequently performed by nurses in critical care setting in order to maintain patients’ airway. It is an imperative requisite of a professional nurse to perform endotracheal suctioning with a standard protocol to prevent complications and to promote recovery. Studies reveal that the most frequent complication of endotracheal suctioning is hypoxia. (Stones 1990). Literature recommends standard endotracheal suctioning prevents hypoxia. (Cevlty Senol Cölk et al., 2000). The purpose of this study was to ascertain the effectiveness of standard endotracheal suctioning technique in order to improve clinical process as evidence based practice.

Theoretical Framework:
Evolution of rocket model is a synthesis of Lydiah Hall’s core care, care philosophy theory was derived. Lydiah Hall insists on professional nursing to be evidence based practice. The study proved that nursing en-gulfs the three circles of core care, care by therapeutic use of self as core, collaborative nursing care in maintaining O2 saturation as core and independent professional nursing action as modified standard endotracheal suctioning representing care circle. Hospital policy and protocol which is the base of the rocket has been tested against the standard protocol in an experimental design. It was found that standard endotracheal suctioning technique is effective in preventing hypoxia which hiked professionalism and excellence. This study lays foundation for quality care as a continuum.

Research Design and Methods:
An experimental study design was adopted (pretest, post test design with control). A directional hypothesis was formulated as there is significant difference in maintenance of physiological parameters in favour of modified standard endotracheal suctioning technique and current technique. A control group was used with hospital protocol as a comparison. Recording of physiological parameters (HR, SpO2, MAP) were carried out in time series manner. An observational checklist was maintained in order to record the steps of the procedure. The difference in effectiveness was demonstrated by student "t" -test and paired "t" -test.

Results:
The study reveals that modified standard endotracheal suctioning technique is effective in maintaining desired level of physiological parameters. It was found that there is increase in Sp O2 after intervention (P < 0.01) at 10 minutes and at 15 minutes the increase in Sp O2 is highly significant (P < 0.001). The difference between experimental and control group Sp O2 at 5 minutes and 10 minutes after intervention is highly significant. (P < 0.001), at 15 minutes after intervention the difference in Sp O2 is found significant (P < 0.01). The results reveal that modified standard endotracheal suctioning technique is effective in improving oxygen saturation and preventing hypoxia. The study also reveals that there is an association between age and HR. As age increases HR increase after intervention (P < 0.01). There is also significant increase in HR after intervention among females (P < 0.01) than males.

Conclusion:
Using an experimental study design the modified standard endotracheal suctioning technique was found effective in improving Sp O2 after intervention. This study recommends modified standard endotracheal suctioning technique as a tool to enhance patient’s safety and to promote recovery. The diffusion of this study results among clinical nurses will enhance quality care as evidence based practice promotes professionalism and excellence.

Learning Objectives:
• To assess the effectiveness of modified standard endotracheal suctioning technique on patients with mechanical ventilator.
• To compare the effectiveness of modified standard endotracheal suctioning technique with the current endotracheal suctioning technique.