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A Study to Assess the Effectiveness of Hypertonic Saline Nebulized Suctioning on Airway Clearance Among Patients Connected to Mechanical Ventilator in Apollo Loga Hospital, Karur

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Abstract: *Care of the airway is an essential part of the management of patients receiving mechanical ventilation. If the airway is not properly managed, an endotracheal airway can result in retained secretions, airway obstructions, and infections. These complications may prolong mechanical ventilation duration and length of hospital stay and may increase the cost of affordability. Hypertonic saline nebulized suctioning is a technique used to lessen the duration of mechanical air flow and enhance airway clearance, which helps patients on mechanical ventilation breathe easier.* ***Objectives*** *of the study were, To assess the airway clearance among patients connected with Mechanical ventilator. To assess the effectiveness of 3%Hypertonic Saline Nebulization Suctioning on airway clearance among patients connected with Mechanical ventilator. To find out the association between post test score on 3% Hypertonic Saline Nebulization Suctioning on airway clearance among patients connected with mechanical ventilator with their selected demographic variables and clinical variables. The research approach adopted for this study was Quantitative Evaluative approach. The research design selected for the study was pre experimental one group pre and post-test design. The study was conducted in Apollo Loga Hospital, Karur. Non-probability convenient sampling technique was used to select the sample. The samples consisted of 30 mechanical ventilator patients. The tool used for data collection was semi structured interview schedule. It consists of three sections.*

Section A: Consists of interview schedule for collecting socio-Demographic Variables.

Section B: Consist interview schedule for collecting Clinical variables.

Section C: Consist of by using the modified bio- physiological parameters with arterial blood gas analysis scale. The purpose of the study was to evaluate the effectiveness of 3% hypertonic saline nebulized suctioning among patient connected to mechanical ventilator the study purpose was explained to participants and get obtained consent. The baseline characteristics like demographic variables were collected from the participants. The Modified bio physiological parameters with arterial blood gas analysis scale used to assess the level of airway clearance in pre-test and after administration of 3% hypertonic saline nebulized suctioning that is post-test. The study shows that over all Pre and post-test level of airway clearance among patients connected to mechanical ventilator. during the pre-test mean value was 7.96 and standard deviation was 3.34, In post-test mean value was 2.74 and standard deviation was 2.93. The calculated value of paired t test was 8.46 which greater than table value, the study identified that there was a highly significant between pre and post test score, which indicating the impact on effectiveness of 3% hypertonic saline nebulisation on airway clearance among the patients connected with mechanical ventilator before and after administration. The study shows that presents

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substantive summary of chi-square analysis which was used to bring out the relationship between the post-test level of airway clearance with selected demographic and clinical variables.

Keywords*:* Mechanical Ventilation, Airway Clearance, Hypertonic Saline Nebulization, Endotracheal Suctioning, Arterial Blood Gas Analysis, Pre-experimental Study