

***Comparison the effect of open and close endotracheal suctioning on hemodynamic status of patient with head trauma hospitalized in intensive care unit***

***Abstract***

***Background and object:*** Unfortunately, the most injuries caused by traumatic events are brain damage. Intubation is considered as the first step in dealing with head trauma patients with a level of consciousness between 4 to 8, which is an endotracheal suction as one of the nursing measures to open the trachea that can lead to secondary complications. Some studies suggested that type of suctioning can affect the patient's hemodynamic status; so, this study was done with the aim of comparison the effect of open and closed suction on hemodynamic status of head trauma patients

***Methods:*** Single blind cross over and clinical trial study was done between 44 head trauma patients who underwent mechanical ventilation hospitalized in surgical intensive care unit patients of Shahid Beheshti Hospital of Babol University of Medical Sciences in 2015-16 . Open and closed suction with random allocation for each of patients in both groups done, and changes on hemodynamic status at intervals before, during, immediately after, five, ten and fifteen minutes were measured. Data analyzed with Paired T-test, repeated measure ANOVA and Exact Fisher, s by using of Spss-22

***Results:*** Forty four head trauma patients (M=60) (68%) with mean age of  $29 \pm 9$  years with intraventricular hemorrhage (22%) due to accident with motor vehicle (75%) were participated. The mean differences between the time intervals before and immediately at open suctioning on hemodynamic parameters was greater that statistically significant with  $p\text{-value} < 0/05$ . The incidence of cardiac dysrhythmia in open suction was more than in closed suction

***Conclusion:*** Changes on hemodynamic statu in opening suction were more than closed. Therefore, the use of closed suction due to more confident is recommended.

***Keywords:*** open suction, closed suction, hemodynamic status, head trauma patients, intensive care unit.