

A descriptive study was conducted on purposive sample of 50 patients (32 males and 18 females) were between 21 - 70 years of age from October 2011 to April 2012 in the respiratory care unit at Al - Kadhimia Teaching Hospitals and Al- Shaheed Ghazi Teaching Hospital in Baghdad city to identify the cardiovascular changes during open suctioning technique for patients under intermittent positive pressure ventilation. Check-list type was developed and the data were collected by interview method, review of patients' records and observation the patients monitors. The criteria for diagnosis of cases depended on the medical decision by the physician.

The results showed that during endotracheal suctioning (ETS) the mean values of heart rate (HR) and blood pressure (BP) were increased from the baseline while the oxygen saturation (SPO<sub>2</sub>) as indicated by pulse oximeter was decreased. The changes in the variables of the study in regard to the males were 26%, 12%, and -18 changes from baseline respectively while in females the changes from baseline were 21%, 2% , and -18%. The males were more affected than females in regard to HR and BP while in SPO<sub>2</sub>, the results stayed the same in both sex. After 2-3 minutes of ending the suctioning procedure all the values gradually returned to baseline over the next 7 minutes.

During ETS the mean value of HR increased from a baseline in relation to duration (1- 10, 11-15 and >15 seconds) of ETS .17%, 20% and 33% changes from baseline respectively. Also, in BP the changes from baseline were 3%, 11% and 9% while the mean value of the SPO<sub>2</sub> as indicated by pulse oximeter was decreased from a baseline. -10%, -17%, and -20% changes from baseline respectively. The total mean value was increased in HR (24%) and BP (8%) while decreased in SPO<sub>2</sub> (18%). ETS resulted in an increase in HR and BP while the SPO<sub>2</sub> decreased when there an increase in the duration of suctioning. The results also, showed that 68% of the patients were on appropriate size of the ETT in relation to outer diameter (OD) of the suction catheter while, 32% weren't. 35% (12 out of 34 ) of the patients who were on appropriate size lasted more than 15 second of suctioning duration while there was 81% (13 out of 16) in the same duration were on inappropriate size. The present study recommended that duration of 10-15 seconds is advocated as the longer the duration of each suctioning event the greater the risk of increasing HR and BP, and decreasing of SPO<sub>2</sub>. Selection of appropriately sized suction catheter for a given tube inner lumen diameter is also important to avoid complications during the suctioning procedure. Further studies are recommended to perform on comparison of closed endotracheal suction versus open endotracheal suction on mechanically ventilated patients.