Comparison the effect of conservative therapy and blow bottle among open heart surgery patients for the prevention of postoperative pulmonary complications

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Abstract:

A decrease in pulmonary function is well known after open heart surgery. Roentgenological signs of atelectasis are common, reduced lung volumes and oxygenation in the post-operative period. Post-operative treatment includes early mobilization, change of position, breathing exercises and coughing techniques. Various mechanical devices have been used in order to improve post-operative pulmonary function, for example incentive spirometry, continuous positive airway pressure and intermittent positive pressure breathing and blow bottle device. The blow bottle is another technique to produce expiratory resistance and the initial rationale for the technique was to expand the lungs. Design A quasi –experimental design. Setting, The study was conducted in postoperative intensive care unit of Assiut university hospitals. Subject,a convenience sample of 50 adult open heart patients of both sexes. Group1 (conservative therapy), and group2 (blow bottle)] 25 patients for each. Tools, Two tools were developed in this study, tool one (Patient's socio demographic characteristics and health status tool among open heart patients),tool two (Observation checklist for post-operative pulmonary complications among open heart surgical patients). Result of this study revealed that a statistical significant difference was found between the two groups regarding to atelectasis p (0.044). As regard pulmonary secretion it was noticed that percent 72% of patients in group 1(incentive spirometer), while 60% of patients having pulmonary secretion in group 2(blow bottle). Conclusion of this study illustrated that a positive effects of PEP (blow bottle)than conservative therapy on occurrence of pulmonary complications among open heart patients postoperatively. Patients who performed deep breathing exercises with a blow bottle device postoperatively showed a significantly smaller amount of secretions and atelectasis, improved oxygenation and had less reduction in FVC and FEV1 on the fourth postoperative day compared to conservative therapy. Recommendations, Explain to the nurse the deference between deep breathing exercise alone and deep breathing exercise with anther maneuver such as blow bottle device, and the effectiveness on respiratory system for preventing respiratory complications.

Keywords:

open heart surgery. Blow bottle, conservative therapy, and postoperative pulmonary complications.

Published In:

IOSR Journal of Nursing and Health Science (IOSR-JNHS) , Volume 4, Issue 4 Ver. IV , 42-55