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Non-Invasive Ventilation in Control of Dyspnea in Patient with Oncological Disease: Among Nursing Intervention

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Abstract

Demographic changes, such as aging and unhealthy lifestyles have contributed to the prevalence of chronic diseases, including cerebrovascular and oncological diseases. Currently, people have one or more diseases simultaneously, which requires new models of care, able to responding at the increased complexity in health. Polpatology has profound implications for self-care, autonomy and the use of health services.

Keywords: Non-invasive ventilation; Dyspnea; Oncological disease; Chronic diseases; Health

Introduction

The person with cancer often experiences symptomatic disruption, in which dyspnea is an inductor symptom of high levels of anxiety and fatigue [1,2], responsible for the demand for health care. Dyspnea is one of the most prevalent symptoms with progression of oncologic disease, especially in advanced stages, with an oscillating incidence between 48 and 70%, reaching 90% in terminal situations. Dyspnea can be interpreted as a subjective sensation of shortness of breath, difficulty in breathing or obstruction of the airway, referred to as a disturbing sensation resulting from increased respiratory work and use of accessory muscles, being a source of great suffering for the person and family members/caregivers [3].

Decreased tolerance to physical effort, results in a sense of loss of autonomy and limitation; on the other hand, it may come from anxiety, anguish and emotional distress, related to the feeling of closeness to the end of life. Shoemaker [4] report that in more than 25% of people who experience dyspnea, there is no association with lung neoplasia or pulmonary involvement. The etiology of dyspnea, in the person with oncological disease, is multifactorial, since it derives from factors of physical, psychic, social and spiritual nature.

The identification of dyspnea is based on the appreciation of the discourse of the patient and his relatives/caregivers, as well as must be supported in the objective examination of the nurse. The different causes of dyspnea can generally be grouped into three groups: direct or indirect consequence of local invasion or metastatic dissemination of neoplasm; consequence of cancer therapy; or other physiological causes. With regard to the first etiology, it may result from airway obstruction, pulmonary parenchyma invasion, carcinomatous lymphoblasts, pleural effusions, superior vein cava syndrome, pericardial effusion, ascites with abdominal distension and elevation of the diaphragm. Regarding the iatrogenic cause, stands out the surgery with amputation of the pulmonary parenchyma, radiotherapy, with secondary pulmonary fibrosing lesions, chemotherapy with cytostatic enhancers of pulmonary fibrosis or myocardial lesion (bleomycin and adriamycin). Other causes include cachexia with respiratory muscle weakness, anemia, heart failure, respiratory failure, pulmonary thromboembolism, metabolic acidosis, acute pulmonary edema, bronchospasm, pneumothorax, thoracalgia and anxiety [3,5].

In the control of dyspnea, temporary use of noninvasive ventilation (NIV) in Continuous positive airway pressure (CPAP) or Bi-level positive pressure (BiPAP) may be indicated to relief some severe reversible conditions [6]. In recent decades, NIV has been the gold standard for the treatment of acute respiratory failure, in which multiple randomized studies have demonstrated its positive results in reducing the need for endotracheal intubation, decreasing mortality rate, morbidity and reducing length of stay at intensive care and hospitalization time [6-8]. The use of NIV decreases the need to use high-speed oxygen therapy and tracheostomy, with evidence of effectiveness in people with chronic obstructive pulmonary disease, asthma, who underwent transplantation, in conditions of neutropenia and with neuromuscular diseases [9]. However, the effectiveness of NIV depends on the severity and type of respiratory pathology, the person's health conditions and the nurses' level of expertise, on the surveillance and prevention of complications [6].

Discussion

NIV is only recommended for mild to moderate respiratory failure and with low pH repercussions (pH=7.30 to 7.35) and is advised against altered state of consciousness, decreased pharyngeal reflex, recent esophagogastric surgery, evidence of myocardial ischemia or in the presence of ventricular arrhythmias [9]. The use of NIV may also lead to possible complications, including loss of skin or nasal integrity, abdominal distension, risk of aspiration of gastric contents, sleep pattern disturbances and conjunctivitis [10].

The nursing intervention in the appropriate choice of interface allows the success of the technique and should be based on the anatomical characteristics of the patient, cutaneous integrity, ventilatory needs, namely, inspiratory/expiratory pressure and times of use. In this sense, the nurse plays a fundamental role in monitoring the effectiveness of

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NIV and preventing adverse effects. Nursing intervention at a person under oncological situation and simultaneously under NIV also includes aspects related to comfort, well-being and quality of life, which include periods of interruption or use of interfaces that allow feeding, hydration and verbal communication [9,11,12].

Conclusion

Thus, it is possible to infer that health care is complex and composed of several aspects, where dyspnea management is affected by numerous variables, such as previous comorbidities (chronic obstructive pulmonary disease, asthma, smoking habits, obstructive sleep apnea, among others), exacerbation (hypoxemia, anemia Hb <10 g/L, etc.), psycho-emotional state (anxiety, depression, suicidal ideation, spiritual preoccupations and personality disorders) and lack of control of other symptoms (pain, constipation, nausea and vomiting). Representing the NIV a safe mode to optimize respiratory changes and improve, in some cases, the survival of the person with cancer and the nursing profession makes a relevant contribution to health gains.

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