**The importance of safe oxygen therapy by nurses in intensive care units**

**Samaneh Mirzaei1,2, Mohsen Gholinataj jelodar1,3\***

1. **Clinical Research Development Center, Shahid Rahnemoun Hospital, School of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.**
2. **Department of Health in Emergencies and Disasters, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran**
3. **Department of Internal Medicine, School of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.**

\***Corresponding author:** Mohsen Gholinataj jelodar, **Email**: dr.natajm@gmail.com

**Introduction:** Oxygen is one of the drugs prescribed for patients with various health conditions. Improper prescribing of Oxygen can increase hospitalization length, ICU admission rates, and mortality risk. Therefore, patients should receive this treatment safely and conveniently. To achieve this goal, the treatment personnel must acquire the necessary knowledge to provide oxygen according to the patient's needs and the therapeutic dose. Supplemental oxygen must be gradually reduced while continuously monitoring to avoid risks. During oxygen therapy, medical personnel, including nurses, must regularly monitor patients. Nurses need to know the basic principles, indications, methods, and complications of oxygen therapy as well as the causes of hypoxemia. Patients receiving oxygen therapy must be provided with proper nursing care and all steps should be documented.

**Methods**: This study is a literature review of the use of oxygen therapy in nursing for ICU patients, conducted with permission from the Ethics Committee at Shahid Rahnemoon Hospital in Yazd(ID: IR.SSU.SRH.REC.1400.010). The study used the keywords O2, Oxygen therapy, nursing, safety, Intensive care unit, and ICU. The findings obtained from 11 articles were extracted from the total review of reports.

**Results:** According to the literature, like any other drug treatment, nurses should administer oxygen therapy with a doctor's order. The treatment process includes determining the type of oxygen therapy device, the required dose, and the target oxygen saturation level for the patient. Lack of knowledge of nurses and health care professionals regarding oxygen therapy, lack of oxygen therapy protocol, and lack of oxygen therapy equipment have been stated as the main challenges in safe oxygen therapy. Solutions such as continuous training in shorter time intervals for the treatment team to create awareness and change the attitude towards the principles of oxygen therapy, adequate monitoring of the oxygen therapy process by various monitoring units, fixing the quantitative and qualitative defects of oxygen therapy equipment and creating motivation and encouragement within the organization to improve the performance of nurses, were suggested. Oxygen therapy training programs should be considered one of the subjects of continuous nurse training. In this regard, educational programs should be repeated to maintain their effectiveness based on the latest changes in the clinical of oxygen therapy. Also, the clinical of oxygen therapy should be taught to undergraduate nursing students and special nursing master's degrees according to the clinical guide for oxygen therapy. nursing managers should also monitor the quality of nursing services to ensure the safe and effective administration of oxygen therapy.

**Conclusion:** The components of lack of knowledge and awareness in the field of oxygen therapy; lack of sufficient monitoring of the oxygen therapy process; inappropriate performance in the field of oxygen therapy; Quantitative and qualitative defects of oxygen therapy devices exist as obstacles to safe oxygen therapy. Awareness of these components and efforts to eliminate obstacles can promote safe oxygen therapy for patients. On the other hand, continuous training with shorter time intervals is recommended to maintain the status of nurses in this field.

**Keywords**: oxygen therapy, nurses, safety, ICU, O2 therapy