**Investigating the mortality rate and related factors in intubated patients with covid-19 in Shahid Sadoughi Hospital in Yazd in 2019**

**Introduction:** Covid-19 presents with a wide range of manifestations from asymptomatic patients to septic shock and multiple organ dysfunction. The overall mortality rate of this disease has been mentioned as 2-3% (4, 5). the most severe complication in patients with COVID-19 is acute hypoxia or acute respiratory syndrome (ARDS), which requires oxygen therapy and ventilation. Among patients with COVID-19 who require hospitalization, acute respiratory distress syndrome (ARDS) occurs in 30% of cases. Approximately 3.2% of patients with COVID-19 require intubation and invasive ventilation during the course of the illness. Reports from hospitals admitting patients during the initial outbreak in China indicate that at least 80% of patients with COVID-19 who required mechanical ventilation have died. Several factors before intubation can affect the treatment outcome of patients. The underlying disease or the accompanying conditions of the patients during hospitalization in the intensive care unit can affect the treatment outcome of the patients. Patients with multiple comorbidities had the highest mortality at 14 days. Therefore, in a situation where no definitive drug treatment has been introduced for the treatment of critically ill patients with Covid-19, knowing the prognosis and the mortality rate of the patients, as well as knowing the factors affecting it, in order to control the condition and try to prevent the occurrence of a dangerous situation, especially in susceptible patients, is very important. So in the present study, we aimed to investigate the mortality rate and factors affecting it in patients with covid-19 who were intubated and hospitalized in the ICU at Shahid Sadoughi Hospital, Yazd.

**Method:** This study was a retrospective analysis. The studied population consisted of 290 covid-19 patients (whose covid19 disease was determined by RT-PCR test) admitted to Shahid Sadoughi Hospital in Yazd from the beginning of March 2018 to the beginning of March 2019 which underwent intubation during the course of treatment with the inclusion criteria of over 18 years of age, were selected and enrolled in the study by a simple census method. The patients' information was extracted from their hospital records and this information was entered into the researcher's checklist. Finally, the data were analyzed using SPSS 23 software.

**Results:** A total of 290 patients were included in this study, consisting of 167 (57.6%) male and 123 (42.4%) females. 239 (82.4%) patients had been reported dead due to COVID-19. Range of ages between 23 and 96 years with average 68.6 years. The most comorbidities were hypertension (53.1%), diabetes (49.7%) and cardiovascular disease (25.9%). Finding shows that the lung involvement in patients in 67.9% of cases was grade IV and severe lung involvement had a significant relationship with mortality (p-value=0.001) in univariate analysis. smoking (aOR, 7.73; 95% CI, 1.9-31.3), ESR (aOR, 0.243; 95% CI, 0.07-0.83) and D-Dimer (aOR,6.61; 95% CI, 2.4-18.2) were identified as the risk factors of mortality among COVID-19 patients. Heart Failure, Hypertension, Malignancy, chronic kidney disease, and cardiovascular diseases, other laboratory factors were insignificant factors in the multivariable analysis.

**Conclusion**: The ten-day mortality rate of patients with covid-19, hospitalized in ICU and intubated was found to be 82.4%.The severity of lung involvement had a significant relationship with mortality as well as smoking, ESR, and D-Dimer were The the risk factors of mortality among COVID-19 patients.

**Keywords**: intensive care unit, COVID-19, intubation, mortality rate, related factors

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