# Evaluation of the relationship between triage of Emergency Severity Index (ESI) and the outcome of hospitalized patients with Covid-19 in Shahid Rahimi educational-medical center in Khorramabad 2020-2021

**Introduction and Aim:** Since hospital emergency departments are the referral centers for patients with suspected, probable and confirmed infectious diseases, especially the Covid-19, and the triage unit is one of the first places of referral for these patients, the research was carried out. More studies on the outcomes of triage in patients with covid-19 seem necessary. Therefore, the present study was conducted with the aim of determining the relationship between ESI triage and the outcomes of patients with covid-19 .

**Method:** In this cross-sectional-analytical descriptive study, the files of all patients admitted to the emergency department of the Shahid Rahimi Medical Education Center for Covid-19 from March 2018 to 2019 were assesed, and 1046 files that met the inclusion criteria were analyzed. The information collection form included the level of triage, length of hospitalization, patient status in terms of death, discharge and recovery, hospitalization in the intensive care unit, intubation and SPO2 level, as well as the age, gender, work history and education level of the triage nurse .

**Findings:** The average age of the samples was 58.18 years. 50.2% of the samples were women, the majority of people were illiterate (41.6%), married (73.7%), and 0.2% were infected with Covid-19 for the second time. The most underlying disease of hypertension (22.7%), the highest level of triage was level 3, the longest duration of hospitalization in the intensive care unit was for level 2 patients, and in other departments for level 1, and a total of 11.9% in the the intensive care unit were hospitalized. The level of SPO2 in 56.6% of patients was less than 93%, 95.4% of patients did not need intubation and 97.4% were discharged from the hospital. There was a significant relationship between triage level and SPO2 level (P<0.001), so that triage level 1 people were significantly more at risk of Spo2 <93% (OR=5.72 95%CI: 2.13-40.60). Also, level 1 patients were significantly more at risk of intubation (OR=7.16 95% CI: 16.34-3.14) and hospitalization in the intensive care unit (OR=6.51 95% CI: 12.02-3.53) than level 3. Death was more in level 1 (OR=259.72 95%CI:75.80-889.83). However, in terms of the risk of intubation and death, no difference was observed between levels 2 and 3; but level 2 was significantly more at risk of Spo2<93% (OR=10.81 95%CI:4.25-56.61) and hospitalization in the intensive care unit (OR=2.32 95%CI:1.52-3.55) compared to level 3.

**Conclusion:** Considering the relationship between ESI triage with outcomes such as SPO2 and intubation, hospitalization in in the intensive care unit and the risk of death, it can be said that this triage has a good predictive ability for short-term complications, so that the allocation of patients in level 1 and acute has been done well, but more care should be taken in the allocation of patients to level 2 and 3. Will happen. This research can be a basis for further research in the field of creating an accurate and efficient triage system in epidemics similar to Covid-19 .

**Keywords:** Triage, Severity of Emergency (ESI), Patient outcomes, Covid-19