

## Abstract

**Background:** Studies show that one of the most necessary things to modify the consumption pattern in the country is the drug consumption pattern. This issue has become doubly important in the case of the Covid-19 disease due to the rapid emergence and spread of the disease and the direct and indirect costs of the health system of the countries. Remdesivir leads to inhibition of pre-maturation virus by interfering with the synthesis of replicating viral RNA chains. The present study was conducted with the aim of investigating and matching the qualitative pattern of remdesivir consumption with treatment guidelines in terms of the rational use of this drug in patients with covid-19 in a period of 6 months in Imam Khomeini Hospital of Ardabil province.

**Materials and methods:** In order to conduct this study, 150 patients who were admitted to Imam Khomeini Hospital in Ardabil and received Remdesivir in the second half of 2011 were included in the study. Demographic information of patients including age and gender, as well as clinical information including drug history and necessary information regarding the prescription of Remdesivir, including dose, frequency, duration of use, and cost of Remdesivir and other drugs used by patients were also recorded. Also, the obtained information was compared and checked with valid guidelines. History and paraclinical information such as the level of liver and kidney parameters and the results of the PCR tests were extracted and recorded.

**Results:** The mean age of the examined patients in study was 56.14 ( $\pm$  19.17) years, and 86 of them (57.3%) were women. The mean length of hospitalization in the studied patients was 5.58 ( $\pm$  3.26) days. Among the studied patients, 105 patients (70 %) were diagnosed according to help of clinical signs and symptoms, and among the studied patients, 45 patients (30 %) were also diagnosed with a positive PCR result. In 32 patients (21.3 %), remdesivir medication was started and continued despite adequate oxygen saturation level or negative PCR, which was against the instructions. In 80 patients (53.3%), 6 vials of 100 mg of remdesivir were used during 5 days, which is in accordance with the instructions. In 26 cases (17.3%) drug side effects were reported for remdesivir drug. The mean total cost of Remdesivir in the studied patients was 14,497,910 ( $\pm$  4,962,300) and the mean of the total costs of the prescribed medicinal items in the studied patients was 28 300,410 ( $\pm$  14,699,010) rials were obtained. The ratio of remdesivir drug to total drug items was 9.4 ( $\pm$  3.6) % on average, and the ratio of remdesivir drug cost to total drug cost was 53.88 ( $\pm$  19.72) % on average. Also, 9 patients (6%) died during hospitalization.

**Conclusion:** According to the findings of the present study, it is necessary to retrain doctors regarding the instructions for the rational use of remdesivir, equip and complete the

pharmaceutical care department, and further train and monitor the process of prescribing drugs for covid-19 patients in this hospital to reduce the cost of the health system.

**Keywords:** Remdesivir, Covid-19, Consumption pattern, Side effects.