عنوان مقاله:

Impact of the COVID-۱۹ Outbreak on Air Pollutants, in ۲۰۲۰ Compared to the Same Period in ۲۰۱۹ in Qom, Iran

محل انتشار:

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خلاصه مقاله:

Introduction: The present study aimed to investigate the change of air pollutants in ۲۰۲۰ in Qom compared to the same period in ۲۰۱۹ in five scenarios. Materials and Methods: The hourly air quality data was obtained from air quality monitoring stations of Qom Environmental Protection Organization (EPO). The meteorological parameters were obtained from Iranian Meteorological Organization website. The data were analyzed using Excel, SPSS, and WRPLOT view. Results: In the first month of the COVID-۱۹ crisis, NO۲, SO۲, and CO decreased by ۲۶.۴, ۳۹, and ۰.۲ µg/m۳ compared to same period in ۲۰۱۹, respectively; however, PM۲.۵ and O۳ increased by ۷.۱ and ۲.۳ µg/m۳, respectively. In Iranian Nowruz holidays, an increase of ۲.۹ µg/m۳ in O۳ mean concentration and a decrease of ۸.۱, ۲۳.۸, ۲۲.۸, and ۰.۲ µg/m۳ in mean concentration of PM۱۰, NO۲, SO۲, and CO were experienced. The prevailing wind direction during the ۲۰۲۰ in each scenario was from the west of Qom city. Conclusion: Gaseous pollutants decreased during the crisis, but particulate pollutants increased slightly compared to the same period in ۲۰۱۹. The lockdown may have had the most impact in decreasing pollutants. A slight increase in wind speed from the west could be a factor in increasing particles. This crisis provided an opportunity to assess the role of policies, such as traffic reduction plans or discarding worn-out cars or urban management to improve air quality.

کلمات کلیدی: