Air Quality Variation in Six Most Polluted Cities of Northern India during Diwali 2020

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India is witnessing a re-surge in the fresh COVID-19 cases presently, after attaining the peak or the highest daily average reported on September 17th, 2020, India had seen a decline in the active cases, but the situation is worsening again. In India, the spread of the virus may be influenced by ambient air pollution. The impact of COVID-19 may be more severe in cities with high air pollution with compromised immunity of those who are exposed. The re-surge has been witnessed after winters which coincided with Diwali, one of the biggest festivals in India, The traditional firecracker burning during the festival leads to a huge variation in air quality as the perilous aftermath. Last year, Indian government imposed ban on firecracker burning in the wake of the ongoing pandemic. This study was undertaken between 4th-21st November, 2020 to monitor the air quality variation with respect to PM_{10} and $PM_{2.5}$ in six North Indian cities including Delhi, Lucknow, Ghaziabad, Muzaffarnagar, Greater Noida and Bulandshahar, covering the Diwali to know whether there was any impact of the warnings. The hourly variations in the AQI were very poor between 8:00 p.m.-10:00 p.m. on Diwali day. The maximum AQI with respect to $PM_{2.5}$ as reported from Lucknow, Delhi, Ghaziabad, Greater Noida, Muzaffarnagar and Bulandshahar were 709, 530, 552, 520, 824, 999 and 999, 999, 729, 618, 999, 999 for PM_{10} respectively on Diwali day. The highest and lowest $PM_{2.5}$ concentrations (µg/m^3) for these cities were 391, 340, 482, 456, 292, 494 and 54.5, 74, 70.9, 67.1, 24.4 and 55 respectively, whereas the PM_{10} concentrations (µg/m^3) were 594, 565, 532, 586, 587, 548 and 103, 154, 183, 181, 105 and 155 respectively. A weak positive correlation was obtained between the temperature and AQI, whereas a negative relationship was established with humidity. As compared to 2019, AQI, higher values were obtained during Diwali 2020. In future, long-term exposure to air pollution and COVID-19 infection may have an additive adverse effect on health, particularly related to heart and blood vessels, leading to greater vulnerability and less resistance to COVID-19.