Temperature and COVID- 19: Delhi

The article by Raina *et al.* examined the much-speculated role of temperature on the spread of coronavirus disease 2019 (COVID- 19).[1] Such an effort is timely, so as to make family physicians aware of the role of seasonality on this pandemic. As it is a country-wise analysis, and the temperature is known to vary from one place to another, the trend discussed here may not be accurate. A recent analysis from 166 countries demonstrated a reduction in new daily COVID- 19 cases with an increase in temperature and/or humidity.[2] Another city-wise analysis from the US failed to establish any impact of temperature on the spread of COVID- 19.[3] In addition, there are several other factors like social distancing and lockdown, which could potentially impact the direction and magnitude of the pandemic.

For assessing the role of weather parameters in India more specifically, Delhi was selected. Till 12th May, Delhi has contributed more than 7500 cases. The daily new addition in the caseload was examined with daily temperature and relative humidity (RH), using the correlation coefficient, from 11th April to 12th May, 2020. RH recorded at 7:21 AM and 2:21 PM everyday was considered.[4,5] Since the paper deals with anonymous aggregate data set and no patient details have been handled, ethical clearance was not sought.

It was seen that maximum temperature has a weak negative effect (r = - 0.071) on the number of new cases while the minimum temperature has a weak positive impact (r = 0.153). RH recorded in the afternoon seems to influence the daily new caseload (r = 0.515) moderately while RH recorded in the morning could not disturb the epidemic trend much (r = - 0.032). Even the average temperature could not modify the pattern (r = 0.117).

To sum up, only RH impacts the daily case load of COVID-19. While literature is claiming the role of temperature and humidity on this epidemic,[2,6,7] the present analysis could found only RH that might have some effect in determining the spread of the pandemic, subjected to similar results from other parts of the country. Considering the fact that only one geographical area was accounted for here, there is still scope for examining the pattern closely from multiple sites. For embracing a long term war against COVID-19, weather modeling could prove helpful in the future.

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Conflicts of interest

There are no conflicts of interest.

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