

# Investigating the Impact of High Temperatures on the Spread of Viruses: A Case Study of the Coronavirus in India's Hot Summers

Yerra Praneeth

Talla Padmavathi Pharmacy College

**Abstract:** *Virus is an obligate intracellular parasite by definition that has killed millions of people across the world. it is impossible to see the virus with our naked eye, but we can feel the pain in our nose, sometimes whole body. I was confused, shocked to see virus prevailing in Indian hot summer conditions, not only prevailing but also infecting millions of people and also making them sick. it was very shocking to me that virus for example corona virus was easily infecting the people, spreading easily across the communities during the hot summers in India. I have been told that virus gets killed easily by subjecting it to high temperatures. But it seemed to be very in effective because virus has got easily transmitted from one host to another even in hot conditions like the temperatures ranging from 38 degrees to even 45 degrees in Celsius. Then I have decided to know does virus gets effected by the temperature, if yes how much temperature and how much time is required? To know that I have done a small experiment by collecting the sample and keeping it to high temperature and got a conclusion how did virus especially corona virus infected millions of people in India during the hot summer.*

**Keywords:** corona virus, contagious sample, sneezing, human, temperature, summer, experiment, parasite, Environment

## 1. Requirements

- 1) Sample can be taken from the person infected with the cold and has a running nose.
- 2) floor is needed for observation.
- 3) Temperature (Here in the above experiment sunlight was used).
- 4) clock is required to note the exact time period.

## 2. Procedure

- 1) Here in the above experiment I have taken a sample of a human who had been severely infected with cold, has running nose, body pains. The person has been asked to sneeze on the floor to get the sample, expecting the presence of virus because he has severe running nose, body pains cough almost every symptom related to the presence of corona virus.
- 2) The person is made to sneeze on the floor for the clear observation. I had observed few characters of the sample like it was very contagious more of a liquid, aqueous in nature, I can see so many small bubbles in that sample.



**Figure 1:** Showing the physical features of the virus sample which was sneezed from the nose of a person suffering from severe cold. The sample was so alive, aqueous in nature. I can see live bubbles in the sample.

- 3) I can see that sample was so alive.
- 4) I was observing the sample closely for about 5 minutes, slowly the sample started losing its physical characteristic's like losing its aqueous nature



**Figure 2:** Showing clearly that virus present in the sample losing its live nature and becoming dry because of hot sun

- 5) When it reached to absolutely 16 - 18 minutes the sample dried, completely lost its physical identity, I can see no live nature of the sample, the sample lost its identity, it was almost 18 minutes and temperature was noted to be 38 degrees in centigrade.



**Figure 3**

We can see the sample was completely dry, live aqueous nature was completely lost, the temperature was noted as 38 degrees centigrade and time taken was exactly 18 minutes.

- 6) By the above experiment I have predicted that it takes 18 minutes time at a temperature of 38 degrees centigrade for a virus to be killed that is on floor and environment and also

can say that because it had so much of time to be killed, it had easily found a host and survived. This was the reason that virus would not be killed easily and able to spread.

### 3. Conclusion

It was a very well - known fact that high temperature kills virus but there were huge covid - 19 cases in India during hot summer

I have got a statement with my simple observation that virus would gets killed by high temperature no doubt, no question but it takes around 18 minutes and 38 degrees centigrade to be killed completely but during this time the virus would easily find another host and, starts living, replicating easily in the host. I would like to mention a statement that constant high temperature needed to remove virus and its time period was also very crucial, if the temperature was not subjected constantly to the virus, the virus would not get killed easily. So in an open environment, this was not happening that is the reason the virus would easily find its host and has spread easily so that we could witness so many cases during the hot summer in India.

### References

- [1] <https://en.wikipedia.org/wiki/Virus>