

# Viral Ecology and Environmental Virology: Current Research Frontiers

Wanid Husse\*

Department of Clinical Virology, University of Dhaka, Dhaka, Bangladesh

## Abstract

The impact of climate changes and air pollution on the prevalence of asthma in the general population and on the timing of asthma exacerbations, although the global rise in asthma prevalence and severity could also be an effect of air pollution and climate change. Since airborne allergens and air pollutants are frequently increased contemporaneously in the atmosphere, an enhanced IgE-mediated response to aeroallergens and enhanced airway inflammation could account for the increasing frequency of respiratory allergy and asthma in atopic subjects in the last 5 decades. Pollen allergy is frequently used to study the relationship between air pollution and respiratory allergic diseases, such as rhinitis and bronchial asthma.

**Keywords:** COVID-19 • Airborne pollutants • Aortoventricular

## Introduction

As stated in the recent Working Group I Report of the Intergovernmental Panel on Climate Change, "most of the observed increase in globally averaged temperatures since the mid20<sup>th</sup> century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."<sup>12</sup> Changes are also occurring in the amount, intensity, frequency, and type of precipitation as well as increases in extreme events, like heat waves, droughts, floods, thunderstorms and hurricanes, and these are real and daunting problems. A recent position statement on climate change and health impacts from the European Respiratory Society (ERS) was developed after a workshop co-organized by the HENVINET Project and the American Thoracic Society. The position statement highlights climate-related health impacts, including deaths and acute morbidity due to heat waves; increased frequency of acute cardio-respiratory events due to higher concentrations of ground-level ozone; changes in the frequency of respiratory diseases due to transboundary particle pollution; and altered spatial and temporal distribution of allergens (pollens, moulds, and mites) and some infectious disease vectors. According to the report, these impacts will not only affect those with existing respiratory disease but likely increase the incidence and prevalence of respiratory conditions. "The annual economic cost of premature deaths from air pollution across the countries on the WHO European region stood at US \$1.431 trillion and the overall annual economic cost of health impacts and mortality from air pollution, including estimates for morbidity costs, stood at US \$1.575 trillion [1-3].

## Literature Review

The effects of climate change on respiratory allergy are still unclear, and studies addressing this topic are lacking. Global warming is expected to affect the start, duration, and intensity of the pollen season on the one hand, and

*\*Address for Correspondence:* Wanid Husse, Department of Clinical Virology, University of Dhaka, Dhaka, Bangladesh, E-mail: husse53@edu.in

**Copyright:** © 2023 Husse W. This is an open-access article distributed under the terms of the creative commons attribution license which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

**Received:** 27 June, 2023, Manuscript No. Vcrh-23-115582; **Editor assigned:** 29 June, 2023, Pre QC No. P-115582; **Reviewed:** 13 July, 2023, QC No. Q-115582; **Revised:** 18 July, 2023, Manuscript No. R-115582; **Published:** 24 July, 2023, DOI: 10.37421/2736-657X.2023.7.191

the rate of asthma exacerbations due to respiratory infections and/or cold air inhalation on the other.<sup>33</sup> Data provided by 30 years of observations within the International Phenological Gardens Network showed that spring events advanced by 6 days, the highest rate of phenological changes being observed in Western Europe and Baltic regions. Conversely, Smoke emissions can travel hundreds of kilometers downwind of fire areas, exposing people to a complex mixture of fine particles, ozone precursors, and other health-harming compounds one recent worldwide estimate is that 339,000 deaths annually may be attributed to landscape fire smoke. Respiratory and cardiovascular hospital admissions and emergency department visits increase in response to wildfire smoke exposure, strongly associated with PM levels Drought conditions create multiple health challenges: in dry conditions, more pollen, dust, particulates, and when present, wildfire smoke which can irritate respiratory epithelium, exacerbate chronic respiratory illnesses, and asthma, and increase risks for acute respiratory infection In urban areas, the effects are higher because climate change influences outdoor air pollution because the generation and dispersion of air pollution is in strict correlation with local patterns of temperature, wind, and precipitation [4].

## Viral met genomics has potential for viral discovery and detection

One of the great advantages of neural networks is their ability to learn and generalize from large amounts of data. This means that as more data is fed into the network, it can continue to improve its accuracy and predictions. Additionally, neural networks can be trained to recognize complex relationships and patterns that may be difficult for humans to understand or quantify. Although interest in neural networks has ebbed and flowed over the years, their versatility and potential for practical applications has ensured that they remain a popular tool in many research fields today. To get a genuine aortoventricular point, the point between the annular plane and flat plane in a sideways view ought to be boosted, and this view isn't really in the coronal plane. Moreover, assessed the aortoventricular point in the end-systolic stage, while didn't determine the point inside the heart cycle at which they estimated angulation. Their illustrative casings don't have all the earmarks of being in an end-systolic stage. Given the 3-layered incitation of the ventricle during systole, which incorporates twist, it is normal that aortoventricular point estimations might be reliant upon the time inside the cardiovascular cycle [5,6].

## Discussion

The relationship between the virus, the mosquito vector, and the surrounding environment is a complex interplay that significantly influences the prevalence and spread of these diseases. The advancements in the field, including the

use of next-generation sequencing and transgenic vector methodologies, have revolutionized our understanding of these interactions. How could clinicians (and diary editors) digest these dissonant messages? Would it be advisable for one be worried about the wellbeing of oneself extending prosthesis in view of the significant information of the other hand be consoled by the complex bigger dataset. Instead of rushing to make a judgment call that this finding is unvaryingly valid or false, the actual examinations ought to be inspected for significant subtleties that might have delivered dissonant outcomes from comparative picture logical approaches.

---

## Conclusion

No such COVID arm reactions were experiential in people who got the Pfizer COVID-19 vaccine, they added. When a worker or self-employed worker who works in other people's facilities suffers a serious physical injury that necessitates specialized medical treatment, it is established that an occupational accident indicates a particularly serious situation. The Authority for Working Conditions (ACT) has a publication with practical guidelines as an example that clarifies and specifies a set of situations that may be considered as a reference for the ACT's action, based on the United Kingdom law "Reporting of Injuries, Diseases, and Dangerous Occurrences Regulations" because the legislation in Portugal does not have a typification for serious accidents.

---

## Acknowledgement

We thank the anonymous reviewers for their constructive criticisms of the manuscript. The support from ROMA (Research Optimization and recovery in the Manufacturing industry), of the Research Council of Norway is highly appreciated by the authors.

---

## Conflict of Interest

The authors declare that there was no conflict of interest in the present study.

---

## References

1. Metcalf, T. G., J. L. Melnick and M. K. Estes. "Environmental virology: from detection of virus in sewage and water by isolation to identification by molecular biology-a trip of over 50 years." *Annu Rev Microbiol* 49 (1995): 461-487.
2. Church, Deirdre L. "Major factors affecting the emergence and re-emergence of infectious diseases." *Clin Lab Med* 24 (2004): 559-586.
3. Weiss, Robin A. and Anthony J. McMichael. "Social and environmental risk factors in the emergence of infectious diseases." *Nat Med* 10 (2004): S70-S76.
4. Daszak, Peter, Andrew A. Cunningham and Alex D. Hyatt. "Anthropogenic environmental change and the emergence of infectious diseases in wildlife." *Acta tropica* 78 (2001): 103-116.
5. Wilson, Mary E. "Travel and the emergence of infectious diseases." *Emerg Infect Dis* 1 (1995): 39.
6. Antia, R., Regoes, R.R., Koella, J.C. and Bergstrom, C.T. "The role of evolution in the emergence of infectious diseases." *Nature* 426 (6967): 658-661.

**How to cite this article:** Husse, Wanid. "Viral Ecology and Environmental Virology: Current Research Frontiers." *Virol Curr Res* 7 (2023): 191.