

## INTRODUCTION

- One Health approach **significantly improve the overall global health security** in response to infectious disease threats in the world which transcend the national boundaries.
- This study is mainly focusing on the importance of addressing one health as a concept to improve preparedness for pandemics and global health. Therefore, the concept of one health together with global health will be further reviewed and explain by further researchers.

## PROBLEM STATEMENT

- What is the impact of COVID-19 on the interaction of human-animal-environment?
- Can One Health approach improve the overall global health?
- How COVID-19 impact global health post-pandemic?

## OBJECTIVES

- Impact of COVID-19 on the human-wildlife interaction
- Impact of COVID-19 on human-natural environment
- Role of One Health approach on global health
- Post-pandemic transformation in global health

## METHODOLOGY

- Primary and secondary sources
- Database : PubMed, ScienceDirect, EbsCOHOST, PROQUEST, Scopus, Wiley
- Inclusion : Full article available, between March 2020 to December 2021
- Exclusion : Papers not in English, inappropriate and not pertinent to study

## 1. Impact of COVID-19 on human-wildlife interaction

- **Trading activities** of the wildlife can cause zoonotic spill overs starting from the phase of hunting, trapping and butchering, transporting, selling to consumption phase<sup>1</sup>
- **Wildlife as a tourist attraction** has positive and negative impact due to pandemic such as increase enrichment of animals, shortage of food, danger in losing home and increase awareness regarding zoonotic disease<sup>1</sup>
- Various restrictions during pandemic lead to **higher life expectancy of animals** by increasing their body mass index and can live together with family<sup>2</sup>
- Besides, increase number of animals lead to **reduce probability of extinction**<sup>3</sup>

## 2. Impact of COVID-19 on human-natural environment

- **Changes in Opportunity**
  - increase people's available time for other activities; visiting natural environments in their neighbourhood, however reduced the time for group of extremely busy person e.g. healthcare workers<sup>3</sup>
  - opportunity to improve ecosystem: reduce air<sup>4</sup>, water, soil<sup>5</sup> and noise pollution<sup>6</sup>
- **Changes in Capability**
  - reduce the capability of people interact with nature e.g. people infected with COVID-19, or people fear of uncertainties which has higher prevalence of psychological illnesses<sup>3</sup>
- **Changes in Motivation**
  - increase motivation to interact with nature possibly to compensate for reduced everyday physical activity<sup>7</sup>

## RESULT AND DISCUSSION

### 3. Role of One Health approach on global health

- **Long-term surveillance** of interspecies connections through underlying ecological and anthropological data<sup>8</sup>
- Identifying regulations applied on certain area helps the authority to **plan and implement a new and improved regulations** to reduce transmission of zoonotic disease risk that is acceptable by the community through social and cultural aspect<sup>9</sup>
- **Integration of a variety of expertise** for ecological sustainability<sup>10</sup>
- **Physicians should also possess the skills** and essential competencies to enable them to **comprehend, cooperate, and advocate for the sake of systemic change**<sup>11</sup>
- **Urban land-use planning or village models** should be studied and applied to help **lower human density and avoid saturating an ecosystem**<sup>12</sup>
- **Veterinary colleges** must continue to make strenuous attempts - **increased recruiting efforts, employment of faculty members from more varied backgrounds** and specialties, and **curriculum adaptation**<sup>13</sup>

### 4. Post-pandemic transformation in global health

- Civil society actors, health professional groups, and people who believe in the fundamental to health will all need to rethink **and reinterpret their roles in this pandemic-torn terrain**<sup>14</sup>
- **Comparable epidemiological models** were utilised to predict transmission and guide intervention measures<sup>14</sup>
- **Encouraging agencies to work together** more closely to promote healthy agriculture, promoting healthy diet, restoring and increasing land and water resources that sustain natural biodiversity<sup>10</sup>
- Changes must be made in **regulatory institutions and people's attitudes** regarding the welfare of food animals and its consumption<sup>15</sup>
- With the assistance of international financial institutions, **existing safety net programmes to support poor people's incomes and food security** can be expanded<sup>16</sup>
- Susceptibility of the world's food security calls for **reformation to perpetuate inequalities through One Health incorporation into Global Health Security**<sup>16</sup>



## CONCLUSION

- There is stabilization between positive and negative impact of pandemic COVID-19 towards human-animals-environment interaction
- One health promotes collaboration of multi-disciplinary expertise to improve global health security

## REFERENCES

1. Ankit, Kumar, A., Jain, V., Deovanshi, A., Lepcha, A., Das, C., Bauddh, K., & Srivastava, S. (2021). Environmental impact of COVID-19 pandemic: more negatives than positives. *Environmental Sustainability* 2021 4:3, 4(3), 447-454. <https://doi.org/10.1007/S42398-021-00159-9>
2. Hilderink, M. H., & de Winter, I. I. (2021). No need to beat around the bushmeat-The role of wildlife trade and conservation initiatives in the emergence of zoonotic diseases. *Heliyon*, 7(7). <https://doi.org/10.1016/J.HELIYON.2021.E07692>
3. Soga, M., Evans, M. J., Cox, D. T. C., & Gaston, K. J. (2021). Impacts of the COVID-19 pandemic on human-nature interactions: Pathways, evidence and implications. *People and Nature*, 3(3), 518-527. <https://doi.org/10.1002/PAN3.10201/SUPPINFO>
4. Muhammad, S., Long, X., & Salman, M. (2020). COVID-19 pandemic and environmental pollution: A blessing in disguise? *Science of The Total Environment*, 728, 138820.
5. Espejo, W., Celis, J. E., Chiang, G., & Bahamonde, P. (2020). Environment and COVID-19: Pollutants, impacts, dissemination, management and recommendations for facing future epidemic threats. *Science of The Total Environment*, 747, 141314. <https://doi.org/10.1016/J.SCITOTENV.2020.141314>
6. Zambrano-Monserrate, M. A., Ruano, M. A., & Sanchez-Alcalde, L. (2020). Indirect effects of COVID-19 on the environment. *Science of The Total Environment*, 728. <https://doi.org/10.1016/J.SCITOTENV.2020.138813>
7. Ding, D., del Pozo Cruz, B., Green, M. A., & Bauman, A. E. (2020). Is the COVID-19 lockdown nudging people to be more active: a big data analysis. *British Journal of Sports Medicine*, 54(20), 1183-1184. <https://doi.org/10.1136/BJSPO-2020-102575>
8. Osterhaus, A. D. M. E., Vanlangedonck, C., Barbeschi, M., Brusckhe, C. J. M., Christensen, R., Daszak, P., de Groot, F., Doherty, P., Drury, P., Gmacz, S., Hamilton, K., Hart, J., Katz, R., Longuet, C., Mcleay, J., Morelli, G., Schlundt, J., Smith, T., Suri, S., ... Wagenaar, J. A. (n.d.). *Make science evolve into a One Health approach to improve health and security: a white paper*. <https://doi.org/10.1186/s42522-019-0009-7>
9. Ruckert, A., Zinszer, K., Zarowsky, C., Labonté, R., & Carabin, H. (2020). What role for One Health in the COVID-19 pandemic? *Canadian Journal of Public Health = Revue Canadienne de Santé Publique*, 111(5), 641. <https://doi.org/10.17269/5411997-020-00409-2>
10. Borzée, A., McNeely, J., Magellan, K., Miller, J. R. B., Porter, L., Dutta, T., Kadinjappalli, K. P., Sharma, S., Shahabuddin, G., Aprilinayati, F., Ryan, G. E., Hughes, A., Abd Mutalib, A. H., Wahab, A. Z. A., Bista, D., Chavanich, S. A., Chong, J. L., Gale, G. A., Ghaffari, H., ... Zhang, L. (2020). COVID-19 Highlights the Need for More Effective Wildlife Trade Legislation. *Trends in Ecology & Evolution*, 35(12), 1052-1055. <https://doi.org/10.1016/J.TREE.2020.10.001>
11. Dykstra, M. P., & Baitchman, E. J. (2021). A Call for One Health in Medical Education: How the COVID-19 Pandemic Underscores the Need to Integrate Human, Animal, and Environmental Health. *Academic Medicine*, 95(11), 953. <https://doi.org/10.1097/ACM.00000000000004072>
12. Espejo, W., Celis, J. E., Chiang, G., & Bahamonde, P. (2020). Environment and COVID-19: Pollutants, impacts, dissemination, management and recommendations for facing future epidemic threats. *Science of The Total Environment*, 747, 141314. <https://doi.org/10.1016/J.SCITOTENV.2020.141314>
13. Fathe, R. L., Rao, S., & Salman, M. (2020). The COVID-19 pandemic: A time for veterinary leadership in one health. *One Health*, 11, 100193. <https://doi.org/10.1016/J.ONEHLT.2020.100193>
14. Leach, M., MacGregor, H., Scoones, I., & Wilkinson, A. (2021). Post-pandemic transformations: How and why COVID-19 requires us to rethink development. *World Development*, 138, 105233. <https://doi.org/10.1016/J.WORLDDEV.2020.105233>
15. Usui, R., Sheeran, L. K., Asbury, A. M., & Blackson, M. (2021). Impacts of the COVID-19 pandemic on mammals at tourism destinations: a systematic review. *Mammal Review*, 51(4), 492-507. <https://doi.org/10.1111/MAM.12245>
16. Swinnen, J., & McDermott, J. (2020). Covid-19 and Global Food Security. *EuroChoices*, 19(3), 26-33. <https://doi.org/10.1111/1746-692X.12288>