

Foreword

Insight on Infectious Diseases from the Perspective of One Health

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Pathogenic organisms, animals, and humans have always existed in the same ecosystem, but people rarely think of this when they are engaged in specific research regarding human health. However, people often argue on which of heredity or environment is more important to human health, and they never doubt the importance of environments on health. The unifying concepts of One Health are not entirely new as it has reemerged and been recognized again in recent years. One Health was formally endorsed by 3 bodies of the United Nations in 2010 including the Food and Agriculture Organization (FAO), the World Organization for Animal Health (OIE), and the World Health Organization (WHO) (1). Moreover, November 3 has been designated as One Health Day in 2016 (2).

In one ecosystem, whether disease-causing pathogens can successfully invade humans is dominated by genetics and the ecological environment, which is a complex interaction. One Health is an approach that recognizes that the health of people is closely connected to the health of animals and to the health of the environment, which provides an opportunity for people to work on one thing together (3). Coronavirus disease 2019 (COVID-19) is not the last pandemic which humans are co-infected with other animal species, and yet human beings cannot solve all health problems between humans, animals, and the environment in a short time. Conversely, it is more likely for human to struggle with new health problems all the time. But, COVID-19 makes people realize the importance of uniting against infectious diseases and further realize the importance of One Health.

Everyone has a role to play on earth. Collaboration and coordination among experts working in animal, human, and environmental health and other relevant areas are the foundation of the One Health approach (4). To this end, we organized this special issue to explore the potential risks of public health from different ecological perspectives based on a variety of research methods and data sources, which might be a slight challenge for traditional studies of public health. For example, Zhao MC et al. analyzed the distribution and evolution of viruses and hosts globally (5). Xu M et al. estimated relationship between ocean environment and infectious diarrheal disease (6). Hong Z et al. provided a perspective to eliminate schistosomiasis through the One Health approach (7). The findings rising from the issue highlight the necessity and importance to promote interdisciplinary research as the foundation of One Health.

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