Editorial

Asia Pacific Allergy

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APAAACI Allergy Week on Climate change, One Health and digital health

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Allergic diseases and asthma are major global health problems and a growing concern in the Asia-Pacific area, with a significant increase in their prevalence over the past few decades. The Asia-Pacific region encompasses diverse cultures, lifestyles, environments, and genetic factors, which contribute to the unique characteristics of allergic diseases in this area.

Global epidemiological studies have shown that air pollution, climate change, and reduced biodiversity are major threats to human health with detrimental effects on a variety of chronic noncommunicable diseases (NCDs)/lifestyle diseases, including allergic diseases [1-3]. These factors have far-reaching consequences, impacting work productivity, mental health, and healthcare expenditures, thereby affecting the overall economy of a nation, especially in resource-constrained settings. Certain populations, such as children, pregnant women, individuals with preexisting conditions, disabled and elderly individuals, underserved communities, and indigenous people, are particularly vulnerable and experience heightened impacts.

In recent years, Asia has experienced rapid economic growth and a deteriorating environment with increasing infrastructure, numbers of vehicles, and reduced green spaces. Fossil fuel and transportation are the main sources of air pollution (eg, sulfur oxide and nitrous) leading to health issues, poor air quality, and acid rain. Anthropogenic emissions have contributed ~37% and 73% of O_3 and $PM_{2.5}$ impacts, respectively. Naturally occurring O_3 precursor emissions (eg, from vegetation and lightning) and $PM_{2.5}$ (eg, dust and sea salt) were the next biggest contributors. One of the effects of climate change and global warming that can threaten respiratory health is "thunderstorm asthma" which can be fatal [4–6]. In fact, air pollutants can interact with allergen-carrying submicronic and paucimicronic particles derived from pollen or other parts of the plant, and these allergens can enter the peripheral airways, inducing asthma in sensitized subjects [6, 7]. Urbanization coupled with increased vehicular emissions correlates with an increase in the incidence of respiratory allergies in people living in urban versus rural areas [7–10]. In South-East Asia, air pollution is a result of demographic changes due to massive migration from rural to urban. Biodiversity is a key factor in maintaining a healthy and functioning ecosystem and for human health. It includes diversity and variability among all living organisms, diversity within and between species, and ecosystems. Loss of biodiversity impacts several NCDs and communicable immune diseases such as asthma and allergy, obesity, diabetes, cancer, and so on. The impact of climate change, air pollution, and biodiversity in the Asia Pacific and the impact on allergic diseases are summarized in these APAAACI articles [11, 12].

With planetary and human health in crisis, climate action and mitigation are essential for addressing the impact of the environment on health trajectories. One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and the environment. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment are closely linked and interdependent. A One-Health approach to allergic diseases and asthma is crucial [13].

Digital technologies are now integral in daily life. Innovation, particularly in the digital sphere, is happening at an unprecedented scale. Even so, its application to improve the health of populations remains largely untapped, and there is immense scope for the use of digital health solutions.

According to the World Health Organization, nearly one million of the 3.7 million people who died from ambient air pollution in 2012 lived in South-East Asia [9]. Westernized diets and lifestyles, urbanization, air pollution, and climate change have contributed to different interactions with the human immune system and allergens, and alteration of the gut microbiome, and contributed to the increase in the incidence of respiratory allergies in people living in urban versus rural areas in Asia Pacific. In this context, and to address the climate crisis, it is important to raise awareness and engage with global bodies (Fig. 1). APAAACI organizes an APAAACI Allergy Week every year to address key issues of global relevance. In 2021, APAAACI Allergy Week focused on *COVID-19: Allergies and the Vaccines, Understanding the Facts and Myths*. In 2022, the APAAACI Allergy Week focused on the theme "*Climate Change a Global Challenge: Impact on Allergic Diseases*". In 2023, APAAACI chose to address the theme, "*One Health, One Planet, Climate Mitigation, and Digital Health"* from the 8th to 14th May 2023 (Fig. 2). In addition to activities by member societies, a central webinar was held, which comprised lectures on Climate Change and One Health by leaders from global organizations, namely the G20-India Presidency, United Nations Environment Program, World Health Organization, and the Asian Development Bank. Prof. Sachin Chaturvedi, the Director General of Research and Information System for Developing Countries, and G20-T20 India Core Group, provided valuable insights into the G20-T20

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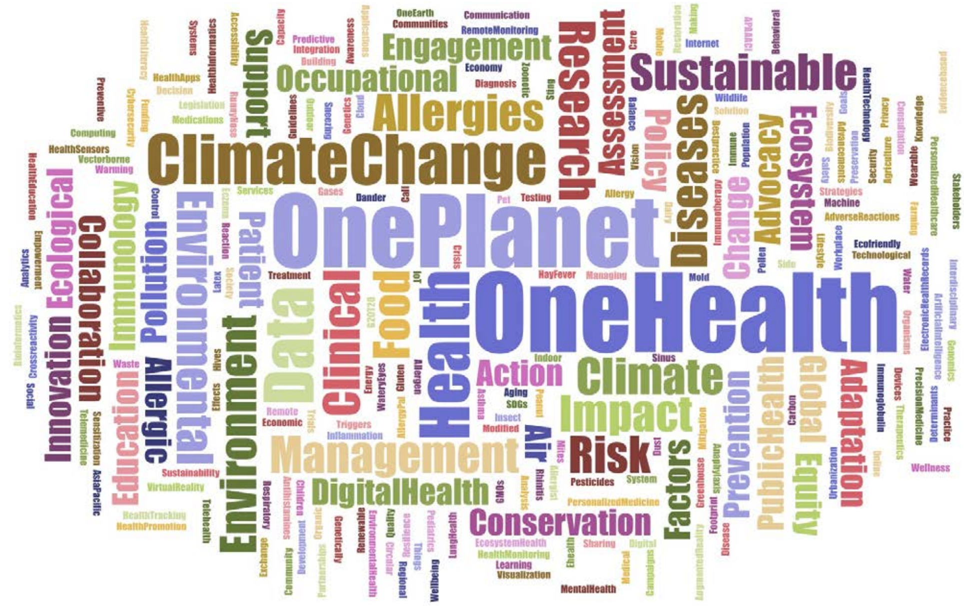

Figure 1. A word Cloud including words related to climate change, allergies, NCDs and One Health. NCD, noncommunicable disease.

Figure 2. APAAACI Allergy Week logo and flyer.

Vision on Lifestyle and Environment. Ms. Dechen Tsering, the Regional Director and Representative for Asia and the Pacific at the United Nations Environment Program, emphasized the importance of climate mitigation and its wide-ranging societal implications. Dr. Maria Van Kerkhove, Technical Lead at the World Health Organization on COVID-19 shed light on the concept of One Health. Dr. Patrick L. Osewe, the Chief of Health Sector Group at the Asian Development Bank, shared valuable perspectives on the economic impact of climate change. APAAACI leadership then addressed these topics, including climate crisis, One Health, and digital health via lectures and a panel discussion. covered a diverse range of topics, including the impact of climate change on allergies, digital solutions in healthcare management, and country-specific data on the influence of climate change on allergies. The event proved to be a valuable platform for knowledge exchange, collaboration, and actionable discussions, aiming to pave the way for a healthier and more sustainable future. The overwhelming response and international participation demonstrated the significance and impact of APAAACI Allergy Week 2023 in addressing the challenges posed by climate change and promoting the well-being of individuals and our planet. The webinar was well attended by colleagues from 56 countries. APAAACI will continue to foster collaboration and engagement with its member societies, international and regional allergy/immunology organizations, and with global bodies to work towards addressing climate change via a One-Health approach.

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