Short Communication

One Health approach: need of the hour

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ABSTRACT

One Health is an integrated and unifying approach to balance and optimize the health of people, animals and the environment. It is particularly important to prevent, predict, detect and respond to global health threats such as the COVID-19 pandemic. Zoonotic diseases can be controlled by preventing animal diseases thus emphasizing on One Health concept, which aims to enhance human, animal and world health including better livestock management.

Keywords: One Health; animal health; environment; zoonotic disease

INTRODUCTION

In developing countries, demand for animal products is predicted to rise by around 70 per cent in the next 30 years owing to population and economic growth. In comparison to land, livestock wealth is more evenly distributed and the growing demand for animal food products creates enormous opportunities for the poor to overcome poverty through diversifying and intensifying livestock production. The livestock sector helps in resolving these issues by fostering sustained economic growth, social inclusion and efficient natural resource management. Animal health and welfare can be improved by minimizing the economic impact of animal diseases, improving food safety and reducing the possibility of antibiotic resistance. Thus the livestock industry must invest in veterinary services and animal disease surveillance (Garcia et al 2019).

WHO formed a One Health initiative to integrate work on human, animal and environmental health across the organization. WHO is also working with the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP) and the World Organisation for Animal Health (WOAH) as a One Health quadripartite. The quadripartite is promoting multi-sectoral approaches to reduce health threats at the human-animal-ecosystem interface. The transformation required to prevent and mitigate the impact of current and future health challenges at global, regional and country levels is outlined in the Quadripartite One Health Joint Plan of Action (OH-JPA).

One Health High-Level Expert Panel (OHHLEP): It was formed in May 2021 to advise FAO, UNEP, WHO and WOAH on One Health issues. This includes recommendations for research on emerging disease threats and the development of a long-term global plan of action to avert outbreaks of diseases like H5N1 avian influenza, MERS, COVID-19, Ebola and Zika. The panel also has a role in investigating the impact of human activity on the environment and wildlife habitats and how this drives disease threats. One Health issues include zoonotic diseases, antimicrobial resistance, food safety and food

security, vector-borne diseases, environmental contamination and other health threats shared by people, animals and the environment. Boqvist et al (2018) stated that critical areas include food production and distribution, urbanization and infrastructure development, international travel and trade, activities that lead to biodiversity loss and climate change and those that put increased pressure on the natural resource base – all of which can lead to the emergence of zoonotic diseases.

Potential danger to human and animal health: Observations of ecosystem health provide early signs of potential dangers to human and animal health. This also gives people a chance to conserve the biodiversity of ecosystems which is required for mutual survival between animals and humans (Osterhaus et al 2020). In accordance with findings of Parkes et al (2020), the environment is the most dynamic and consequently the most confounding sector of the One Health triad as evident from the examples of antibiotic resistance and climate change. Antibiotic resistance has been described as the quintessential One Health issue as it exists in all the three sectors.

Hoelzer et al (2017) stated that antibiotic resistance is a direct consequence of the selection pressure from warranted and indiscriminate antibiotic use in human and animal health and antibiotic exposure in the environment. As per findings of One Health Initiative Task Force of American Veterinary Association (Anon 2008) environmental issues have gained greatest traction in terms of climate change and its adverse effects on the health of humans, animals and the environment.

Climate change compromises the ecological and environmental integrity of living systems (Black and Butler 2014) by inducing lifecycle changes in pathogens, vectors and reservoirs; new and emerging diseases of plants and food and domestic and wild animals; trophic cascades; interfering with the synchrony between interacting species in a particular habitat and modifying or destroying habitats (Patz and Hahn 2013).

Singer (2011) termed it as the threat multiplier in that it adversely affects infectious diseases, zoonosis, food security, food safety and local, regional and global responses to them. The author stated that aligning One Health with climate change could entrench the environmental sector in the One Health triad. The inextricable links between human, animal and environmental health necessitate a systems approach to One Health. This approach acknowledges that health and disease occur within complex molecular, biological, ecological, economic, social, policy and political systems. The approach focuses on understanding the functioning of systems, both individually and collectively, in terms of their dynamic relationships, feedback loops, interactions and dependencies (Essack 2018).

Through participation in the One Health initiative, countries can provide crucial information about the situation of the environment and the problems people need to focus on to defend the health of all species. Due to the increased interconnectedness between humans and animals, diseases are more likely to spread and cooperation among all countries is mandatory to maintain healthy populations (Osterhaus et al 2020). An example of this would be COVID-19 and its studies that will help in the prevention of further corona viruses emergence. The One Health Institute, Davis, CA, USA, currently works on compiling an open source FAQ with thorough information on the topic provided by many countries and organizations that aim to raise pandemic preparedness.

Preventive measures: As per Osterhaus et al (2020), today's health problems are frequently complex, transboundary, multifactorial and across species and if approached from a purely medical, veterinary or ecological standpoint, it is unlikely that sustainable mitigation strategies will be produced. One Health is a ground-breaking philosophy for improving health. It imaginatively challenges centuries-old assumptions about wellbeing and is now widely regarded as the best solution for mitigating human health problems including pandemic zoonotic diseases.

One Health's success is imperative because without big changes to the status quo, great suffering and ill-health will follow. However, even in its more ambitious guises, One Health is not radical enough. For example, it has not embraced the emerging philosophical view that historical anthropocentrism is an unfounded ethical prejudice against other animals (Coghlan et al 2021). It must expand the circle of moral concern beyond a narrow focus on human interests to include non-human beings and the environment. On this bolder agenda, progressive ethical and practical thinking converge for the benefit of the planet and its diverse inhabitants – human and non-human.

CONCLUSION

Successful public health interventions require the cooperation of human, animal and environmental health partners. Professionals in human health (doctors, nurses, public health practitioners, epidemiologists), animal health (veterinarians, paraprofessionals, agricultural workers), environment (ecologists, wildlife experts) and other areas of expertise need to communicate, collaborate on and coordinate activities. Other relevant players in a One Health approach could include law enforcement, policymakers, agricultural communities and even pet owners. No one person, organization or sector can address issues at the animal-human-environment interface alone. By promoting collaboration across all sectors, a One Health approach can achieve the best health outcomes for people, animals and plants in a shared environment.

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