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Advancing global health with one health concept

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A majority of human diseases in the last century has been linked to direct or indirect contact with domestic and wild animals. Recognizing the close association of humans, animals and the environment, One Health concept - a global strategy integrating interdisciplinary partnership from human medicine, veterinary medicine, and environmental science for attaining optimum health was initiated. One Health approach has been applied as an important disease control and prevention strategy by several international agencies, including the Food and Agricultural Organization, World Health Organization, and the United States Centers for Disease Control and Prevention.

Veterinarians play a critical role in implementing One Health due to their occupational interaction with a multitude of animal species. In addition, animals are often the first subjects showing symptoms of a new disease outbreak; thus recognizing and controlling the disease in animals is critical for preventing its transmission to humans. This is particularly crucial since a great majority of emerging and re-emerging human diseases are zoonotic in nature. Finally, the extensive use of antibiotics in animal agriculture has partly contributed to bacterial antibiotic resistance, thus highlighting the critical function of veterinary medical professionals in curbing this global health hazard.

This talk will provide an overview of One Health, including its need, mission, history and advantages. Additionally, examples of success stories on controlling human diseases after implementation of One Health will be discussed. Finally, the role of veterinarians in implementing One Health, and the need for including One Health in veterinary medicine curriculum will be discussed.

Biography

Kumar Venkitanarayanan received his Bachelor of Veterinary Science and Master of Veterinary Science degrees from Kerala Agricultural University and Tamil Nadu Agricultural University, respectively, after which he practiced as a veterinarian for a year. In the US, He obtained his MS in Food Science (University of Nebraska-Lincoln) and PhD in Animal Science (University of Connecticut). He later worked as a Postdoctoral Research Associate at the Center for Food Safety, University of Georgia. He has published 80 peer-reviewed journal manuscripts, 10 book chapters and characterized five new bacterial genes. Having successful in garnering more than 5 million dollars as funding for his research, Venkitanarayanan serves on the editorial board of multiple international journals, and is currently supervising one post-doctoral scientist, five PhD candidates, and five MS students.

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