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ONE HEALTH THROUGH AYURVEDA: INTEGRATING ANCIENT WISDOM INTO MODERN HEALTHCARE

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ABSTRACT:

One health is an integrated, unifying approach to balance and optimize the health of people, animals, and ecosystems [1]. This concept emphasizes collaboration across fields like medicine, veterinary science, environmental science, and public health. It's crucial for addressing complex issues like zoonotic diseases, antimicrobial resistance, food safety, and global challenges like climate change and biodiversity loss. By promoting cooperation among diverse sectors, One Health aims to enhance prediction, prevention, and response to health challenges. It adopts a holistic view of health, focusing on prevention over treatment, and considers the impact of health issues on social stability, economy, and security. The ancient practice of Ayurveda, with its comprehensive view of health and emphasis on a balanced relationship with nature, resonates well with the One Health concept.

Keywords: Ayurveda, One health, Antimicrobial resistance, Zoonotic diseases

INTRODUCTION

The concept of One Health has evolved over several decades, stemming from a growing recognition of the interconnectedness of human, animal, and environmental health. Its roots can be traced back to the late 19th and early 20th centuries, with the work of pioneers like Rudolf Virchow, a German physician who was among the first to advocate for the integration of human and animal medicine. During the mid to late 20th century, the increasing emergence of zoonotic diseases such as HIV/AIDS, Avian Influenza, and Ebola, underscored the need for a more integrated approach to health. This period saw the rise of the "ecosystem health" concept, emphasizing the importance of the environment in health and disease. The term "One Health" itself began to gain prominence in the early 21st century. A conference titled "One World, One Health" was hosted by The Wildlife Conservation Society and The Rockefeller University on September 29, 2004, in New York [2]. This conference was a pivotal moment in formalizing the One Health concept. Subsequently, major health organizations like the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and the World Organisation for Animal Health (OIE) began to advocate for One Health approaches. They emphasized the need for

collaboration across human, animal, and environmental health sectors to better predict, prevent, and control zoonotic disease outbreaks. One Health has since expanded to include a wide range of issues beyond zoonotic diseases, such as antimicrobial resistance, food safety, and the impact of climate change on health [3]. The approach has been integral in shaping public health policies and research agendas, promoting a holistic understanding of health that transcends traditional disciplinary boundaries.

METHODOLOGY:

Relevant literature was identified through a comprehensive search of online databases using phrases related to 'One Health', 'Ayurveda', 'environmental health', 'public health', and 'holistic health practices' and relevant contents from Ayurveda classical textbooks.

RESULTS and DISCUSSION

One health and its Goals

One Health is defined as a collaborative, multisectoral, and transdisciplinary approach working at the local, regional, national, and global levels. This definition emphasizes the need for cooperation across various sectors and disciplines to achieve health goals. This is achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared

environment. This goal highlights the interconnectedness of human, animal, and plant health within their shared environments.

Humans and Animals Interconnection:

One Health recognizes that humans and animals do not exist in isolation, but are parts of a larger whole, a living ecosystem, and that the activities of each member affect the others. This point stresses the interdependent relationship between humans, animals, and the ecosystem.

Evolvement of One health:

Hippocrates' Recognition: Hippocrates promoted the concept that public health depended on a clean environment. This historical perspective acknowledges the early understanding of the relationship between the environment and human health.

Rudolf Virchow's Contribution: Rudolf Virchow, a physician, recognized the link between animal and human medicine, came up with the term zoonosis to describe a disease that can be passed from animals to humans. Virchow's work is crucial in establishing the field of zoonotic diseases.

Calvin Schwabe's Term 'One Medicine': Calvin Schwabe, veterinarian, coined the term One Medicine in a veterinary medical textbook in 1964, which reflects the similarities between animal and human medicine and stresses the importance of collaboration between

veterinarians and physicians to solve global health problems. Schwabe's term underlines the need for collaboration between human and animal health sectors.

The environment that needs one health approach

- **Human and Animal Interface:** Many infectious diseases are zoonotic, which means they originate in animals and are transmitted to humans. This point highlights the significant overlap between human and animal health, particularly in the context of infectious diseases.
- **Microbes and Ecosystems:** Many of the same microbes infect animals and humans, as they share the ecosystems, they live in. This emphasizes the shared risk and transmission pathways of infectious diseases in a common environment.
- **Rabies Prevention - Example:** Rabies in humans is effectively prevented by targeting the animal source of the virus. This example demonstrates the effectiveness of controlling zoonotic diseases at the animal source.
- **Human Dependence on Animals:** Humans are unvaryingly dependent on animals for their livelihood and food requirements. This statement

acknowledges the essential role animals play in human societies.

- **Human and Environment Interface:** Human manipulations like biodiversity change, intensified production of livestock, illegal trade of wildlife, and climate change have directly or indirectly contributed to the emergence of novel infectious diseases. This point connects human-induced environmental changes to the emergence of new diseases.
- **Pandemics and Environmental Degradation:** Pandemic is a result of the continuous negligence of environmental degradation by human activities. This statement links pandemics to broader environmental issues caused by human activities.
- **Ebola Outbreak and Deforestation:** One of the reasons for the Ebola outbreak in West Africa was deforestation bridging the gap between wildlife and human habitat. This example illustrates how environmental changes can facilitate the spread of infectious diseases.
- **Nipah Virus and Fruit Bats:** Nipah virus spread was related to the upsurge in the migration of fruit bats. This highlights how changes in wildlife

behaviours, linked to environmental factors, can affect human health.

- **Avian Influenza and Poultry Farming:** Avian influenza was linked to unchecked poultry farming. This shows the connection between agricultural practices and the emergence of infectious diseases.
- **Common One Health Issues:** 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. This comprehensive list underlines the broad scope of One Health.

ONE HEALTH APPROACH ACROSS FIELDS:

Even the fields of chronic disease, mental health, occupational health, and noncommunicable diseases can benefit from a One Health approach involving collaboration across disciplines and sectors. This indicates the potential application of the One Health approach beyond infectious diseases. By involving experts in human, animal, environmental health, and other relevant disciplines and sectors in monitoring and controlling public health threats and to learn about how diseases spread among people,

animals, plants, and the environment. This describes the operational mechanism of the One Health approach. The goal of One Health is to promote a worldwide strategy for the well-being in all aspects of health of people, animals, and the environment. This underlines the global and comprehensive nature of the One Health strategy.

ONE HEALTH THROUGH AYURVEDA:

Ayurveda is a holistic system of medicine from ancient India, deeply rooted in the idea of a continuous relationship between living beings and their environment. This concept aligns closely with the modern 'One Health' approach, which recognizes the interconnectedness of human, animal, and environmental health.

GLOBAL RECOGNITION AND IMPLEMENTATION

The global recognition of Ayurveda's 'One Health' approach is evident in campaigns like 'Ayurveda for One Health,' celebrated on Ayurveda Day. With participation from around 100 countries, this campaign reflects the universal applicability of Ayurvedic principles in addressing modern health challenges.

Core Principles of Ayurveda

- **Balance of Mind-Body-Spirit:** Ayurveda emphasizes maintaining a state of balance between mind, body, and spirit to achieve good health and wellness.

- **Knowledge for a Healthy living:** Ayurveda provides a framework for understanding what is beneficial or harmful to our health, focusing on broader goals like universal care and planetary health.

Use of Natural Resources in Ayurveda

- **Medicinal Plants:** Ayurveda uses a wide range of plants, from small shrubs to big trees, for health purposes, following strict guidelines for their collection and cultivation. This highlights the use of a wide range of natural resources in Ayurvedic medicine, adhering to sustainable practices.
- **Animal Products:** The use of animal products in Ayurveda is coupled with principles of animal conservation.

Use of Animal Products in Ayurveda: Animal products are used for various purposes in Ayurveda. For doing this, Ayurveda maintains animal conservation. This indicates the use of animal-derived substances in Ayurveda, coupled with a commitment to animal conservation.

Ayurveda's Holistic Approach: It brings balance of mind-body-spirit, a state of good health and wellness. Ayurveda is an approach, a thought process, and practical guide that

teaches us what is beneficial and what is harmful for our health.

Ayurveda's Focus on Universal Care: Focuses broader goal of universal care and planetary health. This emphasizes Ayurveda's commitment to the health of the entire planet and all its inhabitants.

Environmental Practices in Ayurveda

- Air Purification (*Dhoopana*): Using specific medicinal plants for air purification.
- Water Purification: Methods involving ashes and herbs for cleaning water bodies and drinking water.
- Soil Detoxification: Techniques for cleansing polluted ground, including the use of specific plant pastes and ashes.

Emphasizing the importance of a clean environment for health.

LOKAPURUSHASAMYA VADA

This concept describes the human body as a microcosm of the external world. Every function within the body reflects activities in the universe. Environmental changes can thus have favourable or adverse effects on the human body. This concept aligns with the idea in many eastern philosophies that the universe and the individual are reflections of each other. It implies a deep interconnection between the cosmic forces and individual

existence, suggesting that understanding one helps in understanding the other^[4].

JANAPADODWAMSA

"*Janapadodwamsa*" refers to the widespread destruction or decimation of populations due to epidemics. This concept, rooted in Ayurveda, attributes such large-scale health crises to imbalances in environmental and collective factors, including the quality of air (*Vayu*), water (*Jala*), the condition of the habitat or region (*Desha*), the influence of seasons (*Kala*), and collective moral conduct (*Sadvritta*)^[5]. Essentially, *Janapadodwamsa* encapsulates an early understanding of public health and epidemiology, emphasizing the critical role of environmental and social factors in disease spread and prevention.

Daily and Seasonal Routines

- *Dinacharya* (daily regimen) and *Ritucharya* (seasonal regimen): Ayurveda recommends daily and seasonal routines for maintaining health.
- *Sattvavajaya*: Mental health practices, including yoga and meditation, are emphasised for overall well-being.

Antimicrobial Resistance and Role of Ayurveda

Ayurveda addresses the issue of microbes becoming resistant to conventional medications, which is often caused by misuse

or overuse of these drugs. Ayurveda categorizes infectious diseases as *Agantuja* (exogenous) diseases which are caused in men by organism, poison, wind, fire etc there is error of intellect [6]. And proposes holistic treatments, emphasizing the balance of bodily elements and the use of herbal remedies.

Protective Measures in Ayurveda

Rasayana Therapy: It includes potent formulations like *Ashwagandha choornam*, *Chyavanaprasha*, *Amalaki rasayana* etc. known for their immune-modulating effects, which are crucial in the face of infectious diseases.

Ayurvedic Approach to Disease Prevention and Cure

- *Sodhana*, *Shamana*, and *Nidana parivarjana*: These are various approaches in Ayurveda involving cleansing, pacifying, and avoiding the cause of diseases.
- *Panchakarma* Treatments: Therapies like *Vamana* (emesis), *Virechana* (purgation), and *Basti* (enema) are employed for detoxification and restoring balance in the body.
- *Krimighna* and *Jvarahara* Treatments: Use of specific herbs and formulations for their antimicrobial properties against various pathogens.

- **Antibacterial Properties of plants:** Research has shown that Ayurvedic herbs like *Bilva*, *Shalmali*, *Dadima*, *Kutaja*, *Arjuna*, and *Triphala* exhibit strong antibacterial activities, particularly against multi-drug-resistant strains like *Salmonella Typhi*.
- **Use of Silver Nanoparticles:** The integration of silver nanoparticles in Ayurvedic formulations enhances their effectiveness against multi-drug-resistant organisms.

Ayurveda and Animal Treatment

- **Veterinary Practices in Ayurveda:** Detailed protocols are provided for treating animals, including the use of specific animal parts like the urinary bladder of goats and sheep for enemas in larger animals.

Food Safety and Security in Ayurveda

- **The Great Medicine:** Ahara has been called as *Mahabhaishajya* by *acharya Kashyapa*. [7]. Ayurveda emphasizes the concept of safe food through the *Annaraksha* (food protection) concept, outlining various methods to detect and neutralize food toxins.
- **Avirudha** Concept: The food, which is wrong in combination, which has undergone wrong processing, which is consumed in incorrect dose, which is

consumed in incorrect time of day and in wrong season can lead to *Viruddha ahara* [8]. Ayurveda elaborates on 18 factors that contribute to making food safe and wholesome, stressing the importance of consuming food that is compatible and conducive to health.

Importance of *Desha* (Locality) in Ayurveda

- **Impact on Drug Efficacy and Diet:** The quality and efficacy of medicinal herbs, as well as dietary habits, are often influenced by the geographical and climatic conditions of the area.
- **Disease Treatment and habitat:** Ayurveda advises that changing one's living environment can sometimes be beneficial in treating diseases that are otherwise resistant to conventional treatments.

***Annapana Vidhi* (Dietary Regulations)**

- **Essential for Vitality:** Foods and drinks with desirable qualities and consumed in a prescribed manner contribute significantly to the vitality and overall health of an individual.

***Daneshana* (Pursuit of Wealth and Prosperity)**

- **Wealth as a Means to Health:** Ayurveda recognizes that financial stability, achieved through ethical means like

agriculture and trade, is essential for maintaining health and well-being [9].

Ayurveda's Perspective on Zoonotic Disorders

- ***Aganthu Roga* (Exogenous Diseases):** Ayurveda acknowledges diseases that originate from animals and environmental factors, emphasizing the importance of maintaining a balance between humans, animals, and their shared environment.

CONCLUSION

One Health is a multidisciplinary approach that recognizes the interconnection between people, animals, plants, and their shared environment in order to achieve optimal health outcomes. This concept highlights that the health of humans, domestic and wild animals, plants, and the wider ecosystem are closely linked and interdependent. One Health emphasizes the need for collaboration across various disciplines including medicine, veterinary science, environmental science, and public health. This approach is particularly relevant in addressing complex health issues like zoonotic diseases, which are transmitted between animals and humans, such as rabies or avian influenza. It also plays a crucial role in tackling antimicrobial resistance, food safety, and environmental concerns like climate change and biodiversity loss. One Health seeks to enhance communication and cooperation

between these diverse sectors to better predict, prevent, and respond to health challenges. This holistic view promotes a more comprehensive understanding of health and well-being, emphasizing prevention rather than just treatment of diseases, and considers the impact of global health issues on social stability, economy, and security. Ayurveda's comprehensive approach to health, which includes a deep understanding of the interplay between humans, animals, and the environment, resonates with the modern 'One Health' concept. Its practices, ranging from dietary regulations to herbal treatments, offer a sustainable and holistic way to maintain health and prevent diseases, emphasizing a balanced and harmonious coexistence with nature.

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