

## Janapadodhwamsa: An Ayurvedic Preventive Model For Contemporary Environmental And Public Health Challenges.

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### ABSTRACT

Ayurveda, the traditional medical system of India, offers a comprehensive and preventative approach to health that encompasses individual, social, and environmental well-being. Classical Ayurvedic texts stress the health of whole populations and call large-scale health problems **\*\*Janapadodhwamsa\*\***, which means that societies are sick because of shared environmental and moral factors. This paper is attempted to study and analyse Janapadodhwamsa as an Ayurvedic preventive framework for addressing contemporary environmental and public health challenges. Ayurvedic texts like the Charaka Samhita, Sushruta Samhita, Bhela Samhita, and Kashyapa Samhita, as well as recent scientific studies on public health, epidemics, and environmental health were studied. Adharma, which comes from Prajnaparadha, is what mostly causes Janapadodhwamsa. Along with this the air (Vayu), water (Jala), land (Desha), and seasonal cycles (Kala) dushti results in environmental diseases, leading to extensive disease outbreaks. The concept of Janapadodhwamsa is discussed in perspective of modern public health problems such as pandemics, illnesses caused by pollution, climate change, urbanisation, and lifestyle disorders. Ayurvedic preventive strategies explained in swasthavritta like Dinacharya, Ritucharya, Sadvritta, Panchakarma, Rasayana, dhupana karma etc along with chikitsa explained in Janapadodhwamsa is discussed..

**Keywords:** *Janapadodhwamsa, Rasayana, Environmental diseases, Public health..*

### INTRODUCTION

Ayurveda, being the ancient medical system of India, offers a holistic approach beyond individual health. Classical Ayurvedic texts significantly emphasis on community well-being addressing large-scale public health alongside personal health. Within this framework, Janapadodhwamsa emerges as a key concept that reflects Ayurveda's strong preventive aspect. It displays valuable insights about the causes, management, and prevention of environmental diseases by recognizing the role of shared environmental, social, and ethical factors in the onset of disease. Janapadodhwamsa shows how imbalances in the environment can have a impact on Environmental and Public Health.

The Sanskrit term Janapadodhwamsa, is made up of three parts namely Janapada i.e. people living in particular area or habitat and Udhwamsa i.e.e destruction or decay. Together, this term shows the consequences of significant events that result in massive illness and death among populations. 1The main reason for Janapadodhwamsa is Adharma and the main cause of Adharma i.e. Pragyaparadha.2 Pragyaparadha is knowing doing wrong things. The other reasons for Janapadodhwamsa are Lobha (Greed), Bhutasangha (contact with an organism), Abhishapa (curse) which are described as Adharma.3 Dalhana also explains these to be caused by the Adharma (immorality) of population of that particular area.4 Janapadodhwamsa occurs when persons with different Prakriti, diets, and lifestyles gets diseased due to external factors like air (Vayu), water (Jala), land (Desha), and seasonal influences (kala). These environmental changes can overshadow immune strength i.e. vyadhi kshamatva as well. The viewpoint of Janapadodhwamsa matches closely with existing public health issues, including pandemics of infectious diseases, pollution of environmental, changes in climate and urban growth. Contemporary epidemiology also favours the influence of environmental factors, social behaviors, and governance on disease trends.5

Ayurvedic literature provides guidelines for personal and community health maintenance through behavioural changes (Sadvratta), seasonal adaptation (Ritucharya), daily regimens (Dinacharya), immunity enhancement (Rasayana), and ethical conduct (Dharma). This review article aims to go through Ayurvedic concept of Janapadodhwamsa, its etiopathogenesis, preventive strategies, and relevance in the environmental diseases and public health.

## AIMS AND OBJECTIVES

To review the Ayurvedic concept of Janapadodhwamsa, including its causes, lakshana and implications.

To study Concept of Janapadodhwamsa in perspective of environment and Public Health Challenges

To analyse its relevance and applicability in addressing contemporary public health challenges.

## DISCUSSION

### Concept and Definition of Janapadodhwamsa

Janapada: is particular region, country, or a settlement where people reside. It signifies a collective entity rather than an individual. Udhwamsa : Denotes complete destruction, devastation, or annihilation.<sup>6</sup> Thus, Janapadodhwamsa signifies the widespread destruction or devastation affecting a large population or an entire region, not just individuals. This destruction can manifest in various forms, including widespread disease, famine, environmental collapse, and social disorder. Different acharyas use different terminologies for Janapadodhwamsa. Acharya Charaka, name it as janapadodhwams. Acharya Sushruta named it as Maraka (destroying condition)<sup>7</sup> and Acharya Bhela called it as Janamaar.<sup>8</sup> for this condition (destroying condition), With the use of mantras and medicines one should remain engaged in the saluation of bramhins, Janamaar by doing this can be avoided.<sup>9</sup> Acharya Kashyapa also said about the disease which occurs in Janpadvishesha.<sup>10</sup>

In ayurvedic classics four factors that have been described in derangement in those can cause janadamwadwamsa. They are Vayu (air), Jala (water), Desha (land) and Kaala (season).<sup>11</sup> Any abnormal changes in these factors can significantly affect environment and public health. One can understand this as disease outbreak, many scholars consider this condition as an endemic or epidemic or pandemic disease. The communicable disease outbreaks such as COVID-19, influenza, cholera, and plague etc can be considered as Janapadodhwamsa.

### Etiological Factors JANAPADODHWAMSA

Charaka identifies four primary causes of Janapadodhwamsa are Vayu (Air), any pollution or disruption of atmospheric conditions needs to be considered as vayudushti. Jala (Water) i.e Contaminated water sources. Any sort of soil degradation and unsanitary conditions can result in Deshadushti (Habitat/Land). The last is Kala (Time/Season) – Abnormal seasonal patterns, climatic imbalances need to be considered as kala. These environmental disruptions are often linked with adharma.

Vayu (Air): According to the World Health Organisation, over 99% of the global population breathes unhealthy air, and urban air pollution has adverse neurological, cardiovascular and pulmonary health effects.<sup>12,13</sup> When air gets polluted by dangerous elements like toxic gases, contaminants, microbes, chemical warfare, industrial pollutants, open burning of garbage waste, burning of fossil fuels makes Abnormal alterations to the air's composition and flow. This can lead to Air pollution which became aggravating factor for many airborne diseases like Covid 19.<sup>14,15</sup>

Jala (Water): The most common cause of water pollution is use of fertilizers, Contamination of water bodies (rivers, lakes, wells, rain) inadequate sanitation. Water can become unwholesome due to impurities, stagnation, or changes in its natural properties.<sup>14,15</sup> This causes for waterborne illnesses like cholera, typhoid. Cholera, typhoid and hepatitis outbreaks during natural disasters continue to inflict widespread suffering, particularly when the water supply is compromised.<sup>16,17</sup>

Desha (Land/Place): Deforestation, desertification and soil pollution also lead not only to loss of food security but also rapid migration, poverty and social dislocation.<sup>16,17</sup> Alterations in the quality and fertility of the land due to depletion of soil, natural disasters like earthquakes, floods, droughts, and contamination of agricultural lands.<sup>14,15</sup> Soil degradation, deforestation, natural disasters, contamination from nuclear waste or industrial spills, climate change impacts on land resulting into affection of land. This can result in diseases like loss of biodiversity, displacement of populations, vector-borne diseases.

Kala (Time/Season): Several consequences of climate change, including unpredictable weather patterns, heat waves, floods, epidemic breakouts of vector-borne diseases, as well as food insecurity, ensue.<sup>20,21</sup> The impact of seasonal and climatic discord on health is also felt with the increasing spread of diseases such as dengue or malaria and the increase in natural disasters, such as hurricanes and wildfires.<sup>22,23</sup>

Acharya Charaka explains the prime reason for Janapadodhwamsa is Adharma i.e immorality. Adharma denotes lack of morality, or unrighteousness in the people. These Unethical and non- harmonious practices among communities said to be the reason of Janapadodhwamsa. The three main reasons for the development of diseases in ayurveda are Pragyaparadha, Asatmyendriyarthasamyoga, Parinama.<sup>24</sup> Among them Pragyaparadha is knowingly doing wrong things. This happens as a result of deranged Dhee (intellect), Dhriti (patience), and Smriti (memory) leading to all sorts of Ashubh karma

(unwholesome/inauspicious actions). Which causes vitiation of all Doshas.<sup>25,26</sup> The other reason for Bhutasangha i. e contact with a micro-organism, Abhishapa i.e curse has also been described as Adharma.<sup>27</sup> Lobha along with Abhidroha and Kopa has also been mentioned as etiological factors for the occurrence of eight major diseases.<sup>28</sup> Acharya Sushruta has mentioned that the reason behind the change in Marakais Adrishta (invisible or idiopathic). Sometimes the Ritu Vyapad (seasonal variations) may also be caused due to various reasons like Abhishaap (curse), Rakshkrodh (demon resentment)<sup>2 9</sup>

The concept of Aupasargik Rogas which also can be considered under this category, explained by Acharya Shusruta like

प्रसङ्गाद्वात्रसंस्पर्शान्निःश्वासात् सहभोजनात्। सहशय्यासनाच्चापि वस्त्रमाल्यानुलेपनात्॥ (सु. नि 5/32)<sup>30</sup>

These are the communicable diseases that spread through direct contact or contaminated objects like through direct physical contact, expired air, eating with others by sharing plates, sharing bed, clothes. Here according to Acharya Dalhana Prasangaatmeans excessively and frequently if these activities are performed.<sup>31</sup> These etiological factors lead to tridosha prakopa, i.e Vata, Pitta, Kapha gets aggravated simultaneously in the entire community and results in manifestation of several diseases. Prana Vayu dushti can result in various respiratory diseases.

### Lakshana of Janapadodhwamsa

Acharya Charaka has described Vikritalakshanas(altered characteristics) of the said factors are as follows.<sup>32</sup>

When vayu gets affected it shows features like Vishama (absence of features in accordance with season), Atistimita (excessive calm), Atichalam (excessive violent), Atiparusha (excessive rough), Atishita (extreme cold), Atyushna (extreme hot), Atiruksha (excessive dry), Atyabhishyandi (excessive humid), Atibhairavaravam (wind blowing with excessive sound), Atipratihataparaspargati, Atikundalinam (excessively cyclonic), Asatmayagandhavashpasiktapanashudhumophatamiti (wind with unwholesome smell, mixed with gases, sand, ashes and smoke)<sup>32</sup>

When Jala(water) gets affected, it shows feature like Vikrit gandh, avarna, rasa, sparsa (Abnormal smell, colour, taste and touch), Kledabahula (excessive stickiness), Jalcharavihangam (water bodies is devoid of aquatic animals like fishes etc.), Upkshinamjaleshaya (reduced water levels in lakes and ponds), Apritikaram(unpleasant appearance or taste), Upgataganam (devoid of natural qualities)<sup>32</sup>

The Desha (land) when get affected, it shows features like Vikrit gandh, avarna, rasa, sparsa (Abnormal smell, colour, taste and touch), Kledabahula (excessive stickiness), Abundance of serpents, wild animals, mosquitos, locusts, flies, rats, owls, vulture and jackals, Pratanaadibahulam (excessive orchard with grass, weeds and creepers), Atishukshanastashasyam (extremely dried land with destroyed crops), Dhumrapawanam (abundance of smoke in air), Suffering of different animals and birds due to bewilderment and agony. Land where religion, truth, modesty, manners, conducts and other qualities of the inhabitants are absent. Kshubhitdirnajalashayam (disturbed and turbulent water bodies), Pratataulkapatanighatabhumikampa (Frequent occurrence of meteorites, thunderbolts and earthquakes. Atibhayavaramroopam (hearing of fearful sounds), Sun, moon and stars appears as they are covered with coppery, reddish-brown and whitish coloured clouds. people living on the land appears as confused, bewildered, agitated, sorrowful, frightened etc. Lastly when Kaala gets affected, features opposite, more or less to the features of normal course of season will manifest.<sup>32</sup>

### Ayurvedic Preventive Model for Environmental and public health Challenges:

विगुणेष्वपिखल्वेतेषुजनपदोद्ध्वंसकारेषुभावेषुभेषजेनोपपन्नानां नामाभयंभवतिरोगेभ्यः ॥

येषांनमृत्युसामान्यंसामान्यंनचकर्मणाम् । कर्मपञ्चविधंतेषांभेषजं परमं उच्यते ॥

रसायनानां विविधश्च उपयोगः प्रशस्यते । प्रस्यते देहवृद्धिश्च भेषजैःपूर्वमुद्धृतैः ॥ (च. वि. 3/8)<sup>33</sup>

People don't get sick from these diseases if they are given the right medicines that have already been collected and processed, even if all four vitiated variables are at work. It is recommended to use Panchakarma and correctly administer Rasayana therapies for the efficient management of Janapadodhwamsa.

The herbs used for the medicine preparation should be collected prior to the onset on diseases in that particular area. Along with this Satyabhuta (Truthfulness), Bhoote Daya (compassion for living beings), Dana (charity), Bali (scarifies), Devatarchana (prayer to the gods), Sadvritta Anuvritti (good deeds), protection of the self by Mantra etc are very effective, Shivanaamupsevnam (devotion towards God), "Sevanambrahmcharyasyatathevbhramchaarinaam" service to those observing brahmacharya(celebracy) and following it, SamkathaDharmshastranam (discussion on religious scriptures), Samkatha Maharishinaam (befriending great sages), Jeetatmananam (who have self- control), Dharmika(who follow religion), who are Satvikaand who are learned people. These therapies, which when adopted during spread of communicable diseases (Janapadodhwamsa), can easily save the lives of individuals provided the death of the individuals is not pre-determined (Yesham Na MrityuSaamnyamiti). In the situation of Maraka, Acharya Sushruta has also suggested to utilise medicines that has been collected before the onset of diseases and to use pure water.<sup>34</sup>

Along with these general measures following measures should be followed.

**Dinacharya:** Daily regimen, is an important component to prevent janapadwasamsa janya vyadhi;s by preventing dosha imbalances. The regimen like walking up at brahma muhurta (around 4-6 am), ushajalapan. For oral hygiene dantadhavana (brushing) and Jihva Nirlekhana (Tongue scraping) Kavala (Gargling with either cold or warm water), Mukha Prakshalana (face wash), Anjana (Collyrium), Nasya (Nasal medication) for preventing Urdhva-jatrugata Vyadhi are explained. Dhumapana (Medicated smoking), Gandusha (retaining liquid in the mouth without movement). Abhyanga (oil massage) improves circulation, reduces stress, and supports skin health. Benefits include wrinkle prevention and enhanced ojas.<sup>35</sup> Vyayama also plays important role to maintain health.

**Ritucharya:** Seasonal Adaptations prevent environmental and public health concern. Ritucharya includes the seasonal regimen by modifying diet and lifestyle according to the six seasons: shishira (late winter), vasanta (spring), grishma (summer), varsha (monsoon), sharad (autumn), and hemanta (early winter). Ritucarya mitigates dosha imbalances. Vasanta rutu is kaphaprakopa kala, hence, ritucharya suggests the consumption of pungent, bitter foods and rigorous activity to mitigate kapha. Grishma exacerbates pitta, hence staying in cool places is advised. Moderate exercises mitigate heat-related conditions. Varsha diminishes agni ushna , laghu ahara is advised. In Sharad ritu tikta rasa, ghrita is advised. Hemanta and Shishira exacerbate Kapha and Vatam, hence abhyanga kaphavatashamaka ahara vihara is advised. Ritucharya encompasses shodhana (purification) such as vamana in spring for the alleviation of kapha. In sharad rutu virechana has to be adapted. Ritucharya guarantees year-round equilibrium, rendering it essential for the therapy of prevention of environmental diseases<sup>36</sup>

**Sadvritta (Code of Conduct):** Sadvritta is Ethical Conduct for Psychological Well-being. Sadvritta, the ethical code of conduct, emphasises mental and social hygiene to avert psychological imbalances that lead to environmental diseases. It encompasses ahimsa (non-violence), satya (truthfulness), asteya (non-stealing), and brahmacharya (moderation), promoting sattva guna for cognitive clarity. Stress resulting from unethical conduct exacerbates vata, resulting in anxiety and hypertension. Sadvritta advocates Sadvritta: Ethical Principles for Mental Well-being Sadvritta, the ethical code of conduct, emphasises mental and social hygiene to avert psychological imbalances that lead to lifestyle illnesses.

**Panchakarma:** In Ayurveda, Panchakarma therapy is considered as more effective than Samshamana therapy because the doshas treated with Samshamana may sometimes be re-triggered by the nidana sevana. Panchakarma includes vamana (therapeutic emesis), virechana (therapeutic purgation), asthapana basti (therapeutic decoction enema), anuvasana basti (therapeutic oil enema), and Nasya Karma (nasal medicine). By eliminating toxins from the body, It enhances mental, physical, and emotional well-being, leading to an improved sense of self-worth and overall health, hence contributing to prevention and management of various environmental diseases and public health. Common environmental disorders which can be treated with Panchakarma include. Vamana: diseases dominated by Kapha, such as asthma, other respiratory diseases etc. Virechana: diseases dominated by Pitta like hyperacidity. Basti: Conditions associated with Vata. It also balances Vata and strengthens immunity. Nasya: for issues like migraines, sinusitis, hair loss, insomnia and it also prevents respiratory infections.

**Roksoghana Dhupana Karma (Fumigation):** In Kashyap Samhita, Raksoghana Dhupana is mentioned for protection from infections and Gana Dhupana for all diseases originating from Bhuta (microbes).<sup>37</sup> In Charaka and Sushruta Samhita different type of Dravya's i.e drugs are mentioned in different diseases that are used for Dhupana Karma. Like, Guggulu (Commiphoramukul), Nimba (Azadiractaindica), Vacha (AcorusCalamus), Kutha (Saussurealappa), Haritaki (Terminalia chebula), Sarsapa (Brassica campestris), Yava (Hordeumvulgare) with Ghrita.<sup>38</sup> In Sushruta Samhita, Rakshoghna Dravya are mentioned like Sarsapa, Nimba, Lavana with Ghrita fumigation with them to be done twice a day for 10 days. Microbes are destroyed by Raksoghana drugs.<sup>39</sup>

**Rasayana Therapy (Rejuvenation and Immunity Enhancement):** Rasayana therapy is one of the eight major branches of Ayurveda (Asthanag Ayurveda) and is considered the science of rejuvenation and immunity enhancement. According to Sushrutacharya, Rasayana tantra includes different steps of delaying aging process, increases longevity, and intelligence and provide disease resistant power to the individual.<sup>40</sup> According to Charakacharya, Rasayana is the method to produce the dhathus of optimum quality. According to Sharangadhara, Rasayana treatment is one which result in the prevention of diseases due to old age.<sup>40</sup> Overall the goals of Rasayana are Dirghayu (Long life) Smriti and Medha (Memory and Intelligence)

**Arogyata (Health) Vyadhikshamatva (Disease resistance) Vranparasadana (Glowing complexion) Dehabala and Indriyabala (Physical and sensory strength).** There are different types of rasayana. Main among them is Kutipravesika and Vatatapika. Kutipraveshika Rasayana Conducted in isolation, strictly follows diet, lifestyle, and internal Rasayana drugs Intensive rejuvenation therapy. On other hand vatatapika rasayana needs to be conducted in normal lifestyle conditions, involves daily consumption of rasayana drugs and diet which sound to be more practical and widely used. The other type of rasayana is Naimittika and Ajasrika Rasayana. Naimittika rasayana are indicated for specific disease conditions, for example, Guduchi Rasayana for Jwara (fever), Ashwagandha for stress, etc. Ajasrika Rasayana are rasayana which include regular wholesome diet e.g., milk, ghee, honey, amala etc. Saveral Rasayana dravyas described in Ayurveda which are used in clinical practice for strengthening immunity and to prevent environmental diseases are Ashwagandha (Withania somnifera), Guduchi (Tinospora cordifolia), Shatavari (Asparagus racemosus), Amalaki (Phyllanthus embelica), Yashtimadhu (Glyceriza glabra) are potential

immunomodulators. Some of formulation can act in same way are Chyawanprash, Brahma Rasayana, Amrit Rasayana, Pippali Rasayana, Agastya Rasayana, Dhatri Rasayana. Achara Rasayana is another important rasayana which plays vital role in prevention of environmental diseases and improving public health.

### Relevance to Contemporary Public and Environmental Health:

The concept of Janapadodhwamsa is important way through which present-day public and environmental health challenges can be understood. Increasing incidence and prevalence of environmental diseases is due urban expansion, pollution, climate change, and global mobility. These makes the demand of some alternative option which can prevent these environmental diseases and improve public health.

Janapadodhwamsa recognizes that disturbances in air, water, land, and seasonal rhythms can simultaneously affect entire populations. The example of the COVID-19 pandemic exemplifies how globalization, environmental stressors, and social behaviors together contribute to widespread disease outbreaks, reinforcing the relevance of this ancient Ayurvedic perspective to contemporary epidemiology.

Another important reason to include Janapadodhwamsa in today's context is Rapid urbanization and lifestyle transitions which results in Degradation of desha through overcrowding, inadequate sanitation, and sedentary lifestyles. These are the factors which can contribute to the growing burden of environmental diseases. Alongside of this water pollution leads to diseases like cholera, diarrhoea etc. Air pollution is the reason for respiratory diseases mainly.

According to ayurveda the prime reason of Janapadodhwamsa is adharma which can be linked with ethical and behavioural dimensions collective moral and social decline. In modern terms, this can be understood as unethical governance, environmental exploitation, and social inequities which leads to environmental diseases. Ayurveda's preventive strategies explained in Janapadodhwamsa play crucial role in prevention and treatment of environmental diseases.

The preventive therapies explained in swasthritta like dincharya, ritucharya, Panchkarma, rasayana etc needs to be adapted. Ayurveda not only focuses on prevention but also treatment. The treatment of dhupana karma is important to air related consequences. The classical recommendations for treatment are daivavyapashraya (spiritual and community-based measures), yukti vyapashraya (rational and evidence-based interventions), and sattvavajaya (psychological and behavioral regulation) together form a comprehensive preventive framework. These principles parallel modern public health practices such as vaccination, sanitation, disaster preparedness, mental health support helps to prevent and manage environmental diseases and improve public health.

### CONCLUSION:

Janapadodhwamsa explained in ayurveda offers a detail and progressive perspective on environmental and public health. The concept of vayu, jala, desha and kala dushti is still relevant to today's anxieties about pollution, climate change, urbanisation, and diseases. This review indicates that Janapadodhwamsa is more than just an old description of an epidemic, pandemic and environmental diseases. Janapadodhwamsa is ayurveda's transitions from an individual centric approach to community-based approach which is focused on preventive approach by recognising the importance of collective environmental factors, social behaviour, and ethical standards in widespread diseases. By adapting basic concepts of Janapadodhwamsa certain environmental diseases can be prevented very well hence reducing morality, maintains environmental balance. In a time of pandemics and environmental problems, going back to Janapadodhwamsa can make public health systems better. The concept like Dinacharya, Ritucharya, Sadvritta, Panchakarma, Rasayana, dhupana karma etc can enhance immunity acting to prevent environmental diseases and improving public health

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