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EXPLORING AYURVEDA AND YOGA APPROACHES FOR MANAGING GERIATRIC DISEASES: A NARRATIVE REVIEW OF EVIDENCE AND PRACTICE

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ABSTRACT

Ayurveda plays a significant role in managing common geriatric diseases amidst a global demographic shift towards an increasingly elderly population. As advancements in medical care and living conditions contribute to longer lifespans, understanding the prevalence and management of geriatric diseases becomes crucial for optimizing health outcomes and quality of life among older adults. Ayurveda, an ancient Indian system of medicine, offers a holistic approach emphasizing balance among body, mind, and spirit through dietary adjustments, herbal remedies, and lifestyle modifications. Yoga, an ancient Indian practice, offers a holistic approach to health by emphasizing the integration of body, mind, and spirit through physical postures (*asanas*), breathing exercises (*pranayama*), and meditation. This practice can be particularly beneficial for older adults, as it helps improve flexibility, strength, balance, and mental well-being. Yoga can be adapted to suit various physical abilities and health conditions, making it a versatile and effective form of exercise and therapy for managing geriatric diseases Through a comprehensive search of electronic databases and manual

searches of relevant literature, this review synthesizes evidence from randomized controlled trials, cohort studies, case-control studies, cross-sectional studies, and systematic reviews. Primary outcomes assessed include improvements in disease symptoms, quality of life, and functional status, while secondary outcomes encompass adverse effects and cost-effectiveness of Ayurvedic & Yoga interventions. The findings highlight Ayurveda's & Yoga's potential as a complementary approach to conventional medicine in managing geriatric diseases, warranting further investigation and integration into healthcare practices for elderly populations worldwide.

Keywords: Ayurveda, Geriatrics, Old age, Yoga

INTRODUCTION

The global demographic landscape is undergoing a significant transformation, with a notable increase in the elderly population due to advancements in medical care and improved living conditions **[1]**. This shift necessitates a comprehensive understanding of the prevalence of common geriatric diseases to enhance health outcomes and quality of life for older adults **[2]**. Ayurveda, an ancient system of medicine originating in India, offers a holistic approach to managing health and disease. It emphasizes balance among the body, mind, and spirit and uses a variety of techniques, including diet, herbal remedies, and lifestyle modifications **[3]**. With the global increase in the elderly population, there is growing interest in how Ayurveda can help manage common geriatric diseases **[4]**. However, data on synthesizing the current evidence on Ayurveda's efficacy in managing geriatric diseases are limited. This narrative review aims to fill this gap by comprehensively evaluating the existing literature on Ayurvedic interventions for common geriatric conditions. By critically assessing the effectiveness, safety, and feasibility of Ayurveda in geriatric care, this review seeks to provide insights into its integration into contemporary healthcare practices for elderly populations worldwide.

MATERIALS & METHODS

Search Strategy

Databases Searched: A comprehensive literature search was conducted using the following electronic databases: PubMed, Cochrane Library, Scopus, Web of Science, Google Scholar and Embase. Additional sources included manual searches of relevant journals.

Search Terms and Keywords: The search strategy combined terms related to geriatric diseases and Ayurvedic and yoga management. Examples of search terms included:

- For geriatric diseases: "geriatric diseases," "common elderly

diseases," "prevalence of geriatric diseases," "cardiovascular diseases in elderly," "diabetes in elderly," "Alzheimer's disease," "Parkinson's disease," "osteoporosis," "osteoarthritis," "vision impairment," "hearing loss."

- For Ayurveda and yoga management: "Ayurveda," "Ayurvedic treatment," "herbal medicine," "yoga," "yoga therapy," "alternative medicine," "complementary medicine."

Inclusion and Exclusion Criteria:

- **Types of Studies**: Included were randomized controlled trials (RCTs), cohort studies, case-control studies, case series, case reports, cross-sectional studies, and systematic reviews.
- **Population**: Studies involving adults aged 60 and above.
- **Interventions and Comparators**: Studies examining Ayurvedic treatments, yoga therapy, or a combination of both for managing common geriatric diseases.
- **Outcomes**: Primary outcomes included improvement in disease symptoms, quality of life, and functional status. Secondary outcomes included adverse effects and cost-effectiveness.
- **Language Restrictions**: Only studies published in English were included.

Potential Bias in the Study

The review may have been influenced by selection and publication biases, excluding non-English studies. Search strategy limitations, variability in database indexing, and heterogeneity in study designs complicated consistent conclusions. Outcome reporting and population biases, along with variability in Ayurvedic and yoga interventions, further limited generalizability.

The prevalence of most common diseases in elderly are searched and the management (evidence based) through Ayurveda and Yoga are as follows:

1. Cerebrovascular Diseases

The Ayurvedic management of stroke and transient ischemic attack (TIA) employs a holistic regimen involving internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices.

1.1 Stroke

A stroke happens when the blood flow to a portion of the brain is blocked or dramatically decreased, which stops brain tissue from getting essential oxygen and nutrients, leading to the death of brain cells within minutes, and potentially impairing brain functions. Incidence increases with

age, with about 75% of strokes occurring in individuals aged 65 and older **[5]**.

For Stroke, internal herbs like *Brahmi* (*Bacopa monnieri* (L.) Wetts) **[6]**, *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[7]**, and *Shankhapushpi* (*Convolvulus prostratus* Forssk Forssk) **[8]** support neurological health. *Brahmi* enhances neurotransmitter activity and protects neurons with antioxidants. *Ashwagandha* reduces stress and cortisol levels, offering neuroprotection. *Shankhapushpi* improves memory and mental clarity while calming the mind. Together, these herbs support neurological health by improving cognitive function, reducing stress, and protecting against oxidative damage. Internal medications such as *Ashtavarga Kashaya*, *Ksheerabala* 101 **[9]** External therapies such as *Abhyanga* with *Nirgundi Taila* and *Shirodhara* with *Jatamansi Taila* promote relaxation and circulation **[10]**. Panchakarma procedures like *Nasya* and *Virechana* **[11,12]** help detoxify and balance the body's doshas. Yoga practices including *Bhujangasana*, *Trikonasana*, and *Ujjayi Pranayama* **[13]** aid in improving flexibility, strength, and respiratory function.

1.2 Transient Ischemic Attack

A transient ischemic attack (TIA), often called a mini-stroke, is a temporary period of symptoms like those of a stroke. A TIA occurs when the blood supply to part of the brain is briefly interrupted, usually lasting only a few minutes, and causing no permanent damage. However, it is a serious warning sign of a potential future stroke. Prevalence accounts to approximately 2% per year for those over 65 **[14]**.

In Transient Ischemic Attack (TIA), herbs like *Brahmi*(*Bacopa monnieri* (L.) Wetts) **[15]**, *Haridra*(*Curcuma longa* L) **[16]**, and *Ashwagandha*(*Withania somnifera* (L.) Dunal) **[17]** are used internally to enhance cognitive function and to reduce inflammation. Haridra's curcumin reduces inflammation and oxidative stress, aiding in vascular health. *Ashwagandha* lowers stress and cortisol levels, potentially mitigating secondary damage. Together, they may improve brain resilience and support recovery from TIA by addressing inflammation, stress, and cognitive function. External therapies such as *Shirodhara* with *Brahmi Taila* and *Abhyanga* with *Niramisha mahamasha taila* are employed for relaxation and stress reduction **[18, 19]**. Panchakarma procedures, including *Nasya* with *Anu taila* **[20]** and *Basti*, aim to clear blockages and balance doshas **[21]**. Yoga practices like *Tadasana*, *Sukhasana*, and *Nadi Shodhana* pranayama help in maintaining calmness and improving circulation **[22]**.

2. Cardiovascular Diseases

The Ayurvedic approach to managing cardiovascular conditions such as hypertension, coronary artery disease, and heart failure involves a holistic regimen combining internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices.

2.1 Hypertension

Hypertension, or high blood pressure, is a condition in which the force of the blood against the artery walls is consistently too high, which can lead to health problems such as heart disease. Blood pressure is determined both by the amount of blood your heart pumps and the amount of resistance to blood flow in your arteries. Approximately 70-80% of adults aged 65 and older have hypertension **[23]**.

For Hypertension, the emphasis is on balancing the body's Pitta dosha using internal herbal remedies like *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[24]**, *Arjuna* (*erminalia arjuna* (Roxb. Ex DC.) Wight & Arn) **[25]**, *Sarpagandha*(*Rauvolfia serpentina* (L.) Benth. Ex Kurz) **[26]**, and *Brahmi* (*Bacopa monnieri* (L.) Wetts) **[27]**. *Ashwagandha* & *Sarpagandha* reduces stress and lowers blood pressure by balancing cortisol levels. *Arjuna* strengthens the heart and improves circulation there by easing hypertension. *Brahmi* enhances cognitive function and helps manage stress, contributing to lower blood pressure through its calming effects. Internal use of *Sarpagandha ghana vati*, *Brahmi vati* and *Arjunarista* are beneficial. External therapies such as *Shirodhara* with *Takra* and *Abhyanga* with *Mahavishagarbha Taila* help calm the mind and body **[28]**. Panchakarma therapy, specifically *Virechana*, is recommended to detoxify the Pitta dosha **[29]**. Yoga practices including *Shavasana*, *Sukhasana*, and pranayama techniques like *Yoga Nidra*, *Nadi Shodhana* and *Bhramari* help in reducing stress and regulating blood pressure **[30, 31]**.

2.2 Coronary Artery Disease

Coronary artery disease (CAD) is a condition characterized by the narrowing or blockage of the coronary arteries, usually caused by atherosclerosis. This build-up of plaque in the artery walls can reduce blood flow to the heart muscle, potentially leading to chest pain (angina), shortness of breath, or heart attack. Affects about 21.7% of adults over the age of 65 **[32]**.

In managing Coronary Artery Disease (CAD), the focus is on supporting heart health with internal herbs like *Arjuna* (*Terminalia arjuna* (Roxb. ex-DC.) Wight & Arn) **[33]** *Guggul* (*Commiphora wightii* (Arn.) Bhandari) **[34]**, and *Haridra* (*Curcuma longa* L) **[35]**. *Arjuna* & *Guggul* supports cardiovascular health by enhancing heart function, reducing

cholesterol, lowers lipid levels and improves arterial health through its anti-inflammatory properties. *Haridra* (turmeric) contains curcumin, which reduces inflammation and oxidative stress, helping to prevent plaque buildup and improve coronary artery health. Internal medications such as *Arjunatwak Kwatha*, *Chandraprabha Vati* & *Hridyarnawa Rasa* are beneficial **[36]**. External therapies like *Abhyanga* with medicated oils are used to improve circulation and reduce stress. Panchakarma therapy, particularly *Basti*, is aimed at balancing the Vata dosha. Yoga practices such as mild *Surya Namaskar*, *Bhujangasana*, and pranayama like *Anulom Vilom* help in improving cardiovascular function and enhancing overall well-being **[37]**.

2.3 Heart Failure

Heart failure, also known as congestive heart failure (CHF), occurs when the heart is unable to pump enough blood to meet the body's needs. Prevalence increases with age, affecting about 4.3% of those aged 65 and older **[38]**.

For Heart Failure, the internal use of *Arjuna* (*Terminalia arjuna* (Roxb. ex-DC.) Wight & Arn) [39], *Punarnava* (*Boerhavia diffusa L*) **[40]**, and *Guggul* (*Commiphora wightii* (Arn.) Bhandari) **[41]** supports heart function and fluid balance. *Arjuna* strengthens heart function and improves circulation. *Punarnava* aids in reducing fluid retention and supports kidney function, which helps manage heart failure symptoms. *Guggul* lowers cholesterol and reduces inflammation, contributing to better heart health and improved cardiac performance. Poly herbal internal medications such as *Arjunatwaka Kwatha*, *Chandraprabha Vati* & *Hridyarnawa Rasa* are beneficial **[42]**. External heart-specific oil massages are used to stimulate the heart and improve circulation. Panchakarma therapies, including Basti and *Virechana*, are employed to balance the body's doshas and remove toxins. Yoga practices like *Shavasana*, *Setubandhasana*, and pranayama techniques such as *Bhastrika* are recommended to strengthen the heart and promote relaxation **[43]**.

In conclusion, Ayurvedic management of cardiovascular conditions is comprehensive, targeting both physical and mental health through herbal treatments, detoxifying therapies, and supportive yoga practices. This integrated approach aims to restore balance within the body's doshas, improve heart function, and enhance overall well-being.

3. Sensory Impairment

The Ayurvedic approach to managing hearing loss and vision impairments involves a combination of internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga

practices to support sensory health and overall well-being.

3.1 Hearing Loss

Hearing loss refers to a partial or total inability to hear sounds. It can occur in one or both ears and may affect the ability to hear speech, environmental sounds, or both. Hearing loss can be caused by various factors, including aging, prolonged exposure to loud noise, infections, genetic predisposition, and certain medical conditions or treatments. Affects about 30-35% of adults aged 70 and older **[44]**.

For Hearing Loss, internal herbs such as *Triphala- Amalaki* (*Phyllanthus emblica* L), *Bibhitaki* (*Terminalia bellirica* (Gaertn.) Roxb), and *Haritaki* (*Terminalia chebula* Retz) **[45]**, *Brahmi* (*Bacopa monnieri* (L.) Wetts) **[46]**, and *Ginkgo Biloba* L **[47]** are used to support auditory health and improves blood circulation. *Amalaki* enhances cellular repair, *Bibhitaki* reduces inflammation, and *Haritaki* improves circulation. *Brahmi* boosts cognitive function and nerve health, while *Ginkgo Biloba* improves blood flow to the inner ear and protects against oxidative damage, aiding hearing function. External therapies include *Karna Purana* (ear oiling) with Asana bilwadi Taila and *Shiro Pichu* with *Ksheerabala taila* to nourish and stimulate the ear structures and help clear blockages and balance the doshas **[48, 49]**. Yoga practices such as *Matsyasana*, *Surya Namaskar*, and *Pranayama* (*Anulom Vilom*, *Bhramari*) are recommended to enhance blood flow, reduce stress, and improve overall ear health **[50]**.

3.2 Vision Impairments

Vision impairment refers to a range of visual conditions that result in reduced visual acuity or clarity, or a loss of peripheral vision or colour perception. About 20% of adults over 70 have vision impairments, with conditions like cataracts and macular degeneration being common **[51]**.

For Vision Impairments, internal use of *Triphala - Amalaki* (*Phyllanthus emblica* L), *Bibhitaki* (*Terminalia bellirica* (Gaertn.) Roxb), and *Haritaki* (*Terminalia chebula* Retz) **[52]**, *Amalakki*(*Phyllanthus emblica* L) **[53]**, and *Ginkgo Biloba* L **[54]** supports eye health and improves vision. *Triphala's* antioxidant properties from *Amalaki*, *Bibhitaki*, and *Haritaki* support eye health and reduce oxidative stress. *Amalaki* enhances cellular repair and protects against damage. *Ginkgo Biloba* improves blood flow to the eyes and provides neuroprotective benefits, which can help maintain and improve vision and reduce age-related vision impairments. External therapies include *Netra Basti* (eye bath therapy), *Netra Seka* (pouring medicated liquids over the eyes) with *Triphala Kashaya*, and specific eye

exercises to nourish and rejuvenate the eyes. Panchakarma procedures such as *Nasya* and *Netra Tarpana* with *Chakshushya dravyas* are employed to detoxify and balance the doshas related to eye health **[55, 56]**. Yoga practices like *Tratak* (eye exercises), *Padmasana*, and *Pranayama* such as *Kapalbhati* help in improving focus, reducing eye strain, and enhancing overall vision **[57]**.

This integrative Ayurvedic approach aims to manage hearing loss and vision impairments by restoring dosha balance, supporting sensory organ health, and enhancing overall well-being through a combination of herbal remedies, external therapies, detoxifying procedures, and supportive yoga practices.

4. Cancer/Tumors

Cancer refers to a group of diseases characterized by the uncontrolled growth and spread of abnormal cells in the body. About 60% of cancer diagnoses occur in people aged 65 and older **[58]**.

The Ayurvedic approach to managing cancer involves a comprehensive regimen of internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices to support overall well-being and resilience.

For Cancer, internal herbs such as *Haridra* (*Curcuma longa* L) **[59]**, *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[60]**, and *Guggul* (*Commiphora wightii* (Arn.) Bhandari) **[61]** are used to reduce inflammation, boost the immune system, and support the body's natural healing processes. *Haridra* (turmeric) contains curcumin, which has anti-inflammatory and antioxidant properties that may inhibit cancer cell growth. *Ashwagandha* supports the immune system and reduces oxidative stress, potentially slowing cancer progression. *Guggul* has anti-inflammatory and anticancer properties, helping to prevent tumour growth and enhance overall cancer management. Internally there are many polyherbal medications which are beneficial some of the commonly used symptomatic relief giving medications are *Rajatha Bhasma*, *Pravala Pisti*, *Amritha Satva*, *Panchagavya*, *Kamadugha Rasa* etc. **[62]**. External therapies may include *Abhyanga* (gentle massages) with supportive oils, if tolerated, to promote relaxation and relieve stress. Panchakarma procedures like *Basti* with *Panchagavya Ghritha* and *Rasayana* therapy (rejuvenation) are employed to detoxify the body **[63]**, enhance vitality, and improve overall health **[64]**. Yoga practices focusing on gentle poses like *Sukhasana*, Meditation, and *Anulom Vilom Pranayama* help in reducing stress, promoting mental calmness, and improving respiratory function **[65]**.

This integrative Ayurvedic approach aims to support cancer patients by enhancing the

body's natural defence's, reducing side effects of conventional treatments, and improving quality of life through a combination of herbal remedies, gentle external therapies, detoxifying procedures, and supportive yoga and meditation practices.

5. Renal Diseases

The Ayurvedic approach to managing Chronic Kidney Disease (CKD) involves a holistic regimen of internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices to support kidney function and overall health.

5.1 Chronic Kidney Disease (CKD)

Chronic Kidney Disease. It is a long-term condition where the kidneys gradually lose their function over time. This loss of function can lead to a buildup of waste products and fluids in the body, which can cause various health problems. Affects about 22% of adults aged 60 and older **[66]**. For Chronic Kidney Disease (CKD), internal herbs such as *Punarnava* (*Boerhavia diffusa* L) **[67]**, *Gokshura* (*Tribulus terrestris* L) **[68]**, and *Varuna* (*Crateva religiosa* G.Forst) **[69]** are used to improve kidney function, reduce inflammation, and support renal health. *Punarnava* helps reduce fluid retention and supports kidney function, *Gokshura* promotes diuresis and aids in clearing waste products from the kidney, *Varuna* has anti-inflammatory properties and supports renal health by reducing oxidative stress and inflammation, contributing to improved management of chronic kidney disease (CKD). Internally poly herbal medications such as *Punarnava Mandura*, *Laghu Panchamoola Kwatha*, *Varunadi Kwatha*, *Kamadugha Rasa* are beneficial **[70]**. External therapy includes *Abhyanga* with soothing oils to promote relaxation and enhance circulation. Panchakarma procedures such as *Basti* (medicated enema) and *Virechana* (purgation therapy) are employed to detoxify the body and balance the doshas related to kidney healt h**[71, 72]**. Yoga practices like *Bhujangasana*, *Paschimottanasana*, and *Pranayama* techniques such as *Anulom Vilom* help in improving kidney function, reducing stress, and promoting overall well-being **[73]**.

This integrative Ayurvedic approach aims to manage chronic kidney disease by supporting kidney function, enhancing detoxification, and promoting overall health through a combination of herbal remedies, external therapies, detoxifying procedures, and supportive yoga practices.

6. Musculoskeletal disorders

The Ayurvedic approach to managing osteoarthritis and osteoporosis includes a combination of internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices.

6.1 Osteoarthritis

Osteoarthritis (OA) is the most common form of arthritis, characterized by the degeneration of joint cartilage and the underlying bone. Affects about One in 3 people individuals aged 65 and older **[74]**. For Osteoarthritis, internal herbs like *Haridra* (*Curcuma longa* L) **[75]**, *Shunti*(*Zingiber officinale* Roscoe) **[76]**, and *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[77]** are used to reduce inflammation and pain. *Haridra* and its curcumin content reduce inflammation and oxidative stress in joints, *Shunti* also has anti-inflammatory properties that alleviate pain and improve joint function, *Ashwagandha* supports overall joint health and reduces stress, which can help manage osteoarthritis symptoms and improve mobility. External therapy involves *Abhyanga* with medicated oils such as *Mahanarayana taila* to improve joint function and relieve discomfort **[78]**. Panchakarma procedures like *Basti* and *Patrapinda Swedana* (herbal bundle massage) help detoxify and rejuvenate the joints **[79]**. Yoga practices such as *Trikonasana*, *Bhujangasana*, and *Bhastrika pranayama* are recommended to enhance flexibility, strengthen muscles, and improve overall joint health **[80]**.

6.2 Osteoporosis

Osteoporosis is a condition characterized by a decrease in bone density and strength, which leads to an increased risk of fractures. Approximately 17.7% of women and 4% of men over 50 have osteoporosis, with prevalence increasing with age **[81]**.

In the management of Osteoporosis, internal use of *Shatavari* (*Asparagus racemosus* Willd) **[82]**, *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[83]**, and *Guggul* (*Commiphora wightii* (Arn.) Bhandari) **[84]** supports bone health and strength. *Shatavari* supports bone health by promoting estrogen balance, which is crucial for bone density, *Ashwagandha* enhances bone strength and reduces stress, which can impact bone health, *Guggul* has anti-inflammatory properties and may help stimulate bone growth and repair, contributing to improved bone density and osteoporosis management. Internal polyherbal formulations like *Shanka Bhasma*, *Kukkutanda Twak Bhasma*, *Pravala Pisti*, *Ksheerabala Taila* etc, are beneficial **[85]**. External therapy involves Abhyanga with oils like *Dhanvantaram taila* to nourish and strengthen the bones **[86]**. Panchakarma procedures, including *Basti* and *Pizhichil* (oil bath therapy), aim to rejuvenate the body and improve bone density **[87, 88]**. Yoga practices like *Trikonasana*, *Tadasana*, and *Ujjayi pranayama* are recommended to enhance bone strength, improve posture, and promote overall stability **[89]**.

This integrative Ayurvedic approach aims to manage osteoarthritis and osteoporosis by reducing inflammation, supporting bone health, improving joint function, and enhancing overall well-being through a combination of herbal remedies, external therapies, detoxifying procedures, and supportive yoga practices.

7. Endocrine Disorders

The Ayurvedic management of Type 2 Diabetes employs a holistic approach combining internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices.

7.1 Type 2 Diabetes

Type 2 diabetes is a chronic condition that affects how your body metabolizes sugar (glucose), a vital source of fuel for your body. In this form of diabetes, the body becomes resistant to the effects of insulin or doesn't produce enough insulin to maintain normal glucose levels. Around 30.42% of adults aged 65 and older have diabetes [90].

For Type 2 Diabetes, internal herbs such as *Karavellaka* (*Momordica charantia* L) **[91]**, *Methika* (*Trigonella foenum-graecum* L) **[92]**, and *Haridra* (*Curcuma longa* L) **[93]** are used to regulate blood sugar levels and improve metabolic function. *Karavellaka* (bitter melon) improves insulin sensitivity and reduces blood glucose levels, *Methika* (fenugreek) enhances glucose metabolism and insulin action, *Haridra* (turmeric) contains curcumin, which reduces inflammation and improves insulin sensitivity, aiding in better blood sugar control and overall management of type 2 diabetes. Internal Polyherbal formulations such as *Dhanwanthara Kashaya* **[94]** *Katakakhadiradi kashayam*, *Rasnasapthaka kashayam*, *Chandraprabha vati*, *Madhumehari ghana vati* are highly beneficial **[95, 96]**. External therapy includes Abhyanga with *Kanjikataila*, *Dhanyamla Dhara* to enhance circulation and relaxation **[97]**. Panchakarma procedures, specifically *Vamana* (emesis therapy) and *Virechana*, help detoxify the body and balance the doshas **[98]**. Yoga practices like *Surya Namaskar*, *Paschimottanasana*, and *Anulom Vilom Pranayama* support physical activity, improve flexibility, and enhance respiratory function **[99, 100]**.

This integrative approach aims to balance doshas, regulate metabolism, and improve overall well-being through a combination of herbal remedies, detoxifying therapies, and supportive yoga practices.

8. Mental health disorders

The Ayurvedic approach to managing depression and anxiety disorders involves a holistic regimen of internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga

practices to enhance mental and emotional well-being.

8.1 Depression

Depression is a mood disorder that causes persistent feelings of sadness, hopelessness, and loss of interest in activities that were once enjoyable. Prevalence is about 31.74% in older adults **[101]**.

For Depression, internal herbs such as *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[102]**, *Brahmi* (*Bacopa monnieri* (L.) Wetts) **[103]**, and *Jatamansi*(*Nardostachys jatamansi* (D.Don) DC) **[104]** are used to uplift mood, reduce stress, and improve mental clarity. *Ashwagandha* reduces stress and anxiety, balancing mood and supporting overall mental health, *Brahmi* enhances cognitive function and alleviates symptoms of depression through its neuroprotective effects, *Jatamansi* has calming properties that help reduce anxiety and stabilize mood, contributing to improved emotional well-being and depression management. Internally polyherbal formulations such as *Brahmi Ghritha*, *Kalyanaka Ghritha*, *Manasamithra Vati* & *Sarasvatharista* are beneficial **[105]**. External therapy includes *Shirodhara* with *Brahmi taila* to calm the mind and induce relaxation **[106]**. Panchakarma procedures like *Virechana* and *Nasya* help detoxify the body and balance the doshas **[107]**. Yoga practices such as *Balasana*, *Shavasana*, and *Bhramari Pranayama* promote relaxation, reduce stress, and improve mental focus **[108]**.

8.2 Anxiety disorders

Anxiety disorders are a group of mental health conditions characterized by excessive worry, fear, or apprehension. Affect approximately 14–17% of the elderly **[109]**.

For Anxiety Disorders, internal herbs like *Brahmi* (*Bacopa monnieri* (L.) Wetts) **[110]**, *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[111]**, and *Shankhapushpi* (*Convolvulus prostratus* Forssk) **[112]** are used to reduce anxiety, enhance cognitive function, and stabilize mood. *Brahmi* enhances cognitive function and reduces anxiety through its calming effects on the nervous system, *Ashwagandha* lowers cortisol levels and alleviates stress, improving overall emotional stability. *Shankhapushpi* has anxiolytic properties that calm the mind and support mental clarity, aiding in the management of anxiety disorders. Internally polyherbal formulations such as *Kalyanaka Ghritha*, *Dashamoola Kwatha* are beneficial **[113]**. External therapy includes *Shirodhara* with medicated oils & *Takra* to soothe the nervous system and promote relaxation **[114]**. Panchakarma procedures such as *Nasya* with *Brahmi Ghritha* **[115]** and *Shirodhara* are employed to clear mental blockages and

balance the doshas [116]. Yoga practices like *Padmasana*, *Vajrasana*, and *Nadi Shodhana* Pranayama help in calming the mind, reducing anxiety, and improving overall mental health **[117]**.

This integrative Ayurvedic approach aims to manage depression and anxiety by restoring dosha balance, enhancing mental clarity, and promoting emotional stability through a combination of herbal remedies, external therapies, detoxifying procedures, and supportive yoga practices.

9. Gastrointestinal Diseases

The Ayurvedic approach to managing Constipation and Gastroesophageal Reflux Disease (GERD) involves a holistic regimen of internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices to enhance mental and emotional well-being.

9.1 Constipation

Constipation is a common digestive issue characterized by infrequent bowel movements or difficulty passing stool. Prevalence is around 30 % For elderly adults over age 65 **[118]**.

Ayurvedic management of Constipation focuses on restoring balance to the digestive system, addressing underlying causes, and promoting overall well-being. Internal herbal remedies such as *Triphala-Amalaki* (*Phyllanthus emblica* L), *Bibhitaki* (*Terminalia bellirica* (Gaertn.) Roxb), and *Haritaki* (*Terminalia chebula* Retz), *Amalakki*(*Phyllanthus emblica* L) **[119]**, *Isabgol* (*Plantago ovata* Forssk Forssk) **[120]**, *Kumari* (*Aloe vera* (L.) Burm.f) **[121]** help to regulate digestive functions and reduce symptoms. *Triphala's Amalakki*, *Bibhitaki*, and *Haritaki* improve bowel movements through their mild laxative effects and digestive support. *Amalakki* aids digestion and regulates bowel function. *Isabgol* provides fibre that adds bulk to stool. *Kumari* (aloe vera) has soothing properties that help alleviate constipation and support gastrointestinal health. Internally medications such as *Drakshadi Kwatha*, *Avipattikara*, *Hingwashtka*, *Arogyavardhini rasa* are beneficial **[122]**. External therapies like *Abhyanga* with specific oils and Panchakarma procedures such as *Virechana* and *Basti* aid in detoxification and balancing doshas **[123, 124]**. Yoga practices such as *Pavanmuktasana*, *Vajrasana*, and Pranayama techniques like *Kapalabhati* enhance digestive health, reduce stress, and support overall digestive function **[125]**.

9.2 Gastroesophageal Reflux Disease (GERD)

Gastroesophageal Reflux Disease (GERD) is a chronic digestive disorder where stomach acid or bile irritates the food pipe lining (oesophagus). Prevalence is about 20% in older adults **[126]**.

For Gastroesophageal Reflux Disease (GERD), internal treatments like *Yastimadhu* (*Glycyrrhiza glabra* L) **[127]**, *Amalaki* (*Phyllanthus emblica* L) **[128]**, and *Shunti* (*Zingiber officinale* Roscoe) **[129]** are used to alleviate symptoms and support digestive health. *Yastimadhu* (licorice) soothes the oesophageal lining and reduces acid reflux. *Amalaki* aids digestion and balances stomach acid levels. *Shunti* (ginger) helps alleviate nausea and improves gastrointestinal motility, reducing GERD symptoms by enhancing digestion and minimizing acid reflux. Internally medications such as *Narikela Lavana*, *Amalakyadi Churna* are beneficial **[130]**. External therapy includes *Abhyanga* with cooling oils to promote digestive balance and reduce inflammation. Panchakarma procedures such as *Vamana* and *Basti* are employed to detoxify and strengthen gastrointestinal function **[131]**. Yoga practices like *Vajrasana*, *Pavanmuktasana*, and *Pranayama* (*Anulom Viloma*) help in improving digestion, reducing acidity, and enhancing overall gastrointestinal well-being **[132, 133]**.

This integrative approach in Ayurveda aims not only to alleviate symptoms but also to address the root cause of digestive disorders, promoting long-term health and well-being.

10. Neurodegenerative Diseases

The Ayurvedic management of Alzheimer's disease and Parkinson's disease focuses on a comprehensive regimen of internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices.

10.1 Alzheimer's Disease

Alzheimer's disease is a progressive brain disorder that gradually destroys memory and cognitive functions. About 13% of people aged 65 and older have Alzheimer's, with prevalence increasing to about 33.3% for those aged 85 and older **[134]**.

For Alzheimer's Disease, herbs like *Brahmi* (*Bacopa monnieri* (L.) Wetts) **[135]**, *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[136]**, and *Haridra* (*Curcuma longa* L) **[137]** are used internally to support cognitive function and reduce inflammation. *Brahmi* enhances cognitive function and memory through neuroprotective effects. *Ashwagandha* reduces stress and oxidative damage, supporting brain health and cognitive function. *Haridra* (turmeric) contains curcumin, which has anti-inflammatory and antioxidant properties that help protect neurons and reduce the progression of Alzheimer's disease. Internally medications such as *Nishakathakadi Kashayam*, *Rasasindhura*, *Yashadha Bhasma*, *Smritisagara Rasa*, *Dadimadya Churna* are beneficial **[138]**. External therapies such as

Shirodhara and *Abhyanga* promote relaxation and enhance circulation **[139]**. Panchakarma procedures, including *Nasya* and *Virechana*, help detoxify and balance the doshas **[140]**. Yoga practices like *Padmasana*, *Paschimottanasana*, and *Bhramari Pranayama* aid in calming the mind and improving mental clarity **[141]**.

10.2 Parkinson's Disease

Parkinson's disease (PD) is a progressive neurodegenerative disorder that affects movement. For those aged 65 and older, the prevalence is higher, around 1-2%. **[142]**

In Parkinson's Disease, internal use of *Kapikachu*(*Mucuna pruriens* (L.) DC) **[143]**, *Ashwagandha* (*Withania somnifera* (L.) Dunal) **[144]**, and *Brahmi* (*Bacopa monnieri* (L.) Wetts) **[145]** supports neurological health and reduces symptoms. *Kapikachu* (*Mucuna pruriens (L.) DC*) contains L-DOPA, which helps replenish dopamine levels. *Ashwagandha* reduces stress and oxidative damage, supporting overall neurological health. Brahmi enhances cognitive function and has neuroprotective effects, helping to improve motor and cognitive symptoms associated with Parkinson's disease. Internally medications such as *Balamoola* tab, *Ekangaveera rasa* are beneficial **[146]**. External therapies like *Shirodhara* and *Abhyanga* with *Murchitha tilataila* are used for their calming and circulation-enhancing effects **[147]**. Panchakarma procedures such as *Basti* and *Nasya* help in clearing toxins and balancing doshas **[148]**. Yoga practices like *Trikonasana*, *Virabhadrasana*, and *Kapalabhati Pranayama* enhance strength, flexibility, and respiratory function **[149]**.

This holistic approach aims to restore dosha balance, improve neurological health, and enhance overall well-being through a combination of herbal treatments, detoxifying therapies, and supportive yoga practices.

11. Respiratory Diseases

The Ayurvedic management of Chronic Obstructive Pulmonary Disease (COPD) combines internal herbal treatments, external therapies, Panchakarma procedures, and specific yoga practices to enhance respiratory function and overall well-being.

11.1 Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Pulmonary Disease (COPD) is a group of progressive lung diseases that obstruct airflow, making it difficult to breathe. Prevalence among women aged 65–74 (10.4%) and 75–84 (9.7%) and among men aged 75–84 (11.2%) **[150]**.

For COPD, internal herbs like *Vasaka* (Adhatoda vasica) **[151]**, *Tulsi* (*Ocimum tenuiflorum L*) **[152]**, and *Yastimadhu* (*Glycyrrhiza glabra* L) **[153]** are used to support lung health and reduce

inflammation. *Vasaka* (Adhatoda vasica) has bronchodilator and anti-inflammatory properties that help ease breathing. Tulsi supports respiratory health by reducing inflammation and oxidative stress. *Yastimadhu* (licorice) soothes the respiratory tract and reduces inflammation, contributing to improved lung function and relief from COPD symptoms. Steam inhalation with eucalyptus oil is recommended as an external therapy to clear airways and improve breathing **[154]**. Internal polyherbal medications such as *Agastyaharitaki Avaleha*, *Sithopaladi Churna*, *Talisadi Churna*, *Vasa Churna* etc, are beneficial **[155]**. Panchakarma procedures, including *Vamana* and *Nasya*, are utilized to detoxify and balance the doshas **[156]**. Yoga practices such as *Ardha Matsyendrasana*, *Shavasana*, and *Kapalabhati* pranayama help improve lung capacity and relaxation **[157]**.

11.2 Pneumonia

Pneumonia is an infection that affects one or both lungs. It causes the air sacs, or alveoli, of the lungs to fill up with fluid or pus. In those 65 to 69 years old, the incidence of community-acquired pneumonia (CAP) is roughly 3 episodes/1000 persons; in people 85 to 89 years old, it rises to 22 episodes/1000 persons **[158]**.

For Pneumonia internal herbs like *Tulsi* (*Ocimum tenuiflorum* L) **[159]**, *Shunti* (*Zingiber officinale* Roscoe) **[160]**, and *Haridra* (*Curcuma longa* L) **[161]** for their anti-inflammatory and respiratory benefits. *Tulsi* has antimicrobial and anti-inflammatory properties that help combat infections and reduce inflammation in the lungs. *Shunti* (ginger) improves respiratory function and reduces inflammation. *Haridra* (turmeric) contains curcumin, which helps reduce inflammation and oxidative stress, supporting recovery from pneumonia. Internal medications such as *Nishamalaki kwatha*, *Vyoshadi Vati*, *Sudarshanaghanavati*, *Nagaradi Kwatha* are beneficial. *Sthanika Snehana* in chest with *Saindhava Lavana taila* (Warm oil chest massages serve as an external therapy) to ease breathing and reduce chest congestion **[162]**. The same Panchakarma therapies, *Vamana*, and *Nasya*, are employed to clear respiratory passages and balance doshas **[163]**. Yoga practices like *Balasana*, *Bhujangasana*, and *Anulom Vilom Pranayama* are recommended to enhance flexibility, reduce stress, and improve lung function **[164]**.

This comprehensive Ayurvedic approach aims to manage COPD by improving respiratory health, balancing doshas, and enhancing overall well-being through a combination of herbal treatments, external therapies, detoxifying procedures, and supportive yoga practices.

12. Infectious Diseases

Ayurvedic treatments for influenza and urinary tract infections (UTIs) emphasize a holistic approach combining internal herbal remedies, external therapies, Panchakarma detoxification procedures, and specific yoga practices.

12.1 Influenza

Influenza, commonly known as the flu, is a contagious respiratory illness caused by influenza viruses. Older adults, particularly those aged 65 and older, are at higher risk for complications, with significant hospitalization rates **[165]**.

For influenza, herbs like *Tulsi* (*Ocimum tenuiflorum* L) **[166]**, *Shunti* (*Zingiber officinale* Roscoe) **[167]**, and *Haridra* (*Curcuma longa* L) **[168]** boost immunity and alleviate symptoms. *Tulsi* boosts immunity and has antiviral properties, aiding in flu recovery. *Shunti* helps reduce fever, inflammation, and congestion. *Haridra* contains curcumin, which has anti-inflammatory and antioxidant effects that support immune function and alleviate symptoms of influenza. Internally polyherbal medications such as *Tribhuvana Keerthi Rasa*, *Snajeevani vati*, *Lakshmi vilasa mishrana* are beneficial. While therapies such as steam inhalation with Eucalyptus oil and Panchakarma techniques like *Nasya* with *Vatavidwamsa*, *Shwasakuttara*, *Shigru Patra swarasa* and *Vamana* help clear respiratory passages and detoxify the body **[169, 170]**. Yoga practices like *Balasana*, *Shavasana*, and *Anulom Vilom Pranayama* aid in relaxation, respiratory health, and overall well-being **[171]**.

12.2 Urinary Tract Infections (UTI)

Cystitis are bacterial infections that can occur in the urinary system. Common in older adults, with prevalence around 37.6% in elderly women **[172]**.

For UTIs, internal herbs such as *Gokshura*(*Tribulus terrestris* L) **[173]**, *Punarnava* (*Boerhavia diffusa* L) **[174]**, and *Dhanyaka*(*Coriandrum sativum* L) **[175]** support urinary tract health and combat infection. *Gokshura* has diuretic properties that help flush out urinary tract infections. *Punarnava* supports kidney function and reduces inflammation, aiding in UTI management. *Dhanyaka* has antimicrobial and anti-inflammatory effects, which help soothe the urinary tract and support overall urinary health. Internal polyherbal medicines such as *Suvarnarajvangeshwa*, *Chandraprabhavati*, *Trunapanchamula Kwatha*, *Chandrakala vati* are beneficial. while external treatments like Sitz baths with herbal decoctions provide soothing relief **[176]**. Panchakarma procedures such as *Virechana* and *Basti* help cleanse and balance the

urinary system **[177]**. Yoga poses like *Bhujangasana*, *Supta Baddha Konasana*, and *Anulom Vilom* pranayama promote circulation, relaxation, and urinary tract function **[178]**.

DISCUSSION

The global demographic shift towards an increasingly elderly population underscores the urgent need to address the rising prevalence of geriatric diseases. This narrative review highlights the potential of Ayurveda and Yoga as complementary approaches in managing these conditions, providing a holistic framework that aligns well with the complicated nature of geriatric health. As older adults often face multiple chronic conditions, a comprehensive strategy that incorporates physical, mental, and emotional well-being is essential for optimizing health outcomes **[179]**. The integration of Ayurveda and Yoga into geriatric care is particularly relevant due to their emphasis on individualized treatment. Ayurveda, with its focus on balancing the body's doshas through dietary adjustments, herbal remedies, and lifestyle modifications, offers personalized care tailored to the unique constitution of each individual **[180]**.

In cerebrovascular diseases, Yoga enhances blood circulation and reduces stress, which may lower stroke risk and support recovery by promoting neuroplasticity **[181]**. Ayurveda employs herbs that help to improve cognitive function and protect against neurodegeneration **[182]**. In the case of cardiovascular diseases, Yoga lowers blood pressure and heart rate through relaxation techniques, reducing strain on the heart **[183]**. Ayurveda utilizes dietary modifications and herbs and formulations to strengthen heart function and improve circulation **[184]**. When addressing sensory impairment, Yoga enhances sensory awareness and coordination through mindful movement, potentially improving balance and reducing fall risk **[185]**. Ayurveda may support eye health with herbal formulations like *Triphala*, which can help improve vision **[186]**. For renal diseases, Yoga promotes relaxation and stress reduction, positively impacting kidney function and fluid balance **[187]**. Ayurveda employs diuretic herbs like *Punarnava*, *Gokshura* etc to support kidney health and detoxification **[188]**.

In managing musculoskeletal disorders, Yoga increases flexibility and strength, alleviating joint pain and improving mobility through gentle stretching **[189]** Ayurveda focuses on anti-inflammatory herbs to reduce pain, Rejuvenate drugs such as *Rasayana* promote healing in musculoskeletal tissues **[190]**. For endocrine disorders, Yoga balances hormone levels through stress reduction and improved metabolic function,

benefiting conditions like diabetes **[191]**. Ayurveda emphasizes lifestyle changes and herbal remedies to regulate hormonal balance and support metabolic health **[192]**. In the context of mental health disorders, Yoga reduces anxiety and depression through the release of endorphins and mindfulness practices **[193]**. Ayurveda utilizes adaptogenic herbs like *Ashwagandha* to enhance mood stability and reduce stress **[194]**. When dealing with gastrointestinal disorders, Yoga stimulates digestive organs through specific poses, promoting bowel movement and alleviating issues like constipation **[195]**. Ayuveda employs dietary adjustments and herbal remedies to enhance digestion and gut health **[196]**. For neurodegenerative diseases, Yoga enhances cognitive function and neuroplasticity through physical activity and mindfulness, potentially slowing disease progression **[197]**. Ayurveda focuses on neuroprotective herbs to reduce oxidative stress and support nerve regeneration **[198]**. In respiratory diseases, Yoga improves lung capacity and respiratory function through pranayama techniques, enhancing oxygenation **[199]**. Ayurveda utilizes herbs like *Tulsi*, *Ardraka*, *Pippalli* to support respiratory health and reduce inflammation in the airway **[200]**. Lastly, for infectious diseases, Yoga boosts immune function through stress reduction and improved circulation, enhancing the body's ability to fight infections **[201]**. Ayurveda incorporates immune-boosting herbs like *Rasayana dravyas* such as *Ashwagandha* to strengthen the body's defences against pathogens **[202]**.

CONCLUSION

The evidence synthesized in this review supports the efficacy of Ayurvedic and Yoga interventions across various geriatric diseases, including cardiovascular conditions, musculoskeletal disorders, and mental health issues. Many studies indicate that these interventions lead to marked improvements in symptoms, quality of life, and functional status. For example, Yoga has been shown to enhance respiratory function and reduce anxiety, while Ayurvedic treatments can effectively manage inflammation and pain associated with conditions like osteoarthritis **[203, 204]**. These findings suggest that integrating these practices into conventional healthcare could provide a more holistic approach to geriatric care, addressing not only the physical but also the psychological and emotional dimensions of health.

In conclusion, this review underscores the potential of Ayurveda and Yoga as valuable complementary strategies for managing geriatric diseases. By promoting a holistic approach that addresses the physical, mental, and emotional aspects of health, these practices can significantly enhance

the quality of life for older adults. Continued research and collaboration are essential to fully integrate these ancient practices into contemporary healthcare, ultimately improving health outcomes for the aging population worldwide. The findings advocate for a paradigm shift in geriatric care, where holistic approaches are embraced alongside conventional medicine to foster comprehensive health and well-being among older adults.

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