A REVIEW ON THE ROLE OF YOGA IN GERIATRIC HEALTHCARE

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Abstract – Jara indicates the declining phase after midlife i.e. the ageing process or senescence as described in several ancient texts. Sharangdhara illustrates decade wise decline conditions. Rasa Vagbhata describes causes of Akalaja Jara (premature ageing) and Kalaja Jara (natural ageing). Both Ayurveda and Yoga Shastras emphasize ways to delay the onset of jara with the goal of long life with good health. Yoga may prove particularly beneficial for elderly people, by enhancing strength and flexibility and preventing pain and injuries. Research to understand and identify how Yoga works on key areas of geriatric health and promotion of the same at clinic levels is imperative today.

This review analyzes how Yoga holds the key to healthy ageing when practically implemented through tailormade preventive and curative approaches, motivated by research into delaying and preventing senescence and thus age-related diseases.

The entirety of Ashtanga Yoga, Hatha Yoga and its allied forms engages the individual in an all-encompassing approach that spans the dimensions of the human being. It is applicable medically to stabilize imbalance caused by disease at each level: psychological, social, physical, emotional, spiritual. It is essential to study how Yama, Niyama impacts social, emotional and spiritual health in the aged; how Asana and Pranayama emboldens the body and mind; how Kriya, Mudras, Bandhas build resilience, strengthen all systems and delay ageing.

This paper explores mode of action of integrated approach to Yoga therapy on geriatric health problems and illuminates how this ageless holistic system emboldens the idea that the twilight years are a time of greater perspective and enlightenment rather than deterioration.

Keywords – Yoga, Geriatric Health, Jara Vyadhi, Asana

Introduction:

Geriatrics (jara chikitsa) is the branch of medicine dealing exclusively with the problems of aging and the diseases of elderly. Acharya Charak states that vruddhavastha begins at 60 years[1]; Acharya Sushruta and Vagbhata mention 70 years and above. However, signs of premature ageing and onset of geriatric diseases is evident today much before these ages. Jara is a swabhavabala pravrutta vikara. With swasthavritta palana it is attained at proper age i.e. kalaja jara. But due to aparirakshana kruta i.e. improper care and regimen, premature ageing or akalaja jara sets in.[2]

With age one attains many benefits — maturity, grace, wisdom, experience, and perspective; it also presents many challenges. Psychologically and emotionally, elders experience higher rates of depression, anxiety, memory decline. Evidence shows that stress and physical deterioration contributes to the etiology of heart disease, cancer, diabetes, and stroke joint stress, osteoarthritis etc. chronic conditions and diseases.

“Yoga” comes from the root “yuj” symbolizing union or ‘to join’ one’s own consciousness with the cosmic consciousness. At a practical level, regular practice of yoga has been evidenced to promote strength, endurance, flexibility and engenders qualities of friendliness, kindness, and better self-control, while nurturing a consciousness of tranquility and well-being. The practice of yoga produces a physiological state of rest and relax (instead of flight-or-fight stress response) y stimulating the parasympathetic nervous system[3] and with that a sense of balance and union between the mind and body can be achieved.

Patanjali Yoga Sutras outlines an eightfold – ashtanga - path to enlightenment; from socio-emotional health to physical and mental health, culminating with spiritual salvation.[4] Hatha yoga enhances the capacity of the physical body through asanas and pranayama. The breathing techniques of Hatha yoga prolong inhalation, breath retention, and exhalation.[5] It is through the unification of the sharira, prana, and mana, while performing asanas that impediments to in the energy channels are cleared and system attains balance. This is especially beneficial in elders or those approaching old age as their systems are at the start of degeneration. It is essential for health care professionals to be informed about the approach and impact of geriatric yoga.
**Objectives:**
This study aims to reveal the facts on key areas of geriatric health and role of yoga therein. The goal is to highlight the possible mode of action of yoga therapy on these areas and the merits it provides to the preventive and curative aspects of geriatric health conditions.

**Materials and methods:**
This is a conceptual study based on references garnered from the classic texts, research journals and acclaimed yoga books. The review is also based on experiential observations in practice of yoga therapy for patients and healthy individuals. The data has been summarized in accordance with these observations.

**Key areas - Geriatric Yoga:**
- Balance and stability
- Flexibility and joint health
- Respiration
- CVS including High blood pressure – regulation of blood pressure
- Digestive disorders
- Memory loss, senility
- Anxiety, elderly depression, Mood disorders
- Mindfulness
- Social, emotional and Spiritual health aspects

**Mode of action of yoga upon the key areas.**

**Balance and stability:**
These are important as one ages. Several asanas enhance balance by training the body in stability. Pranayama helps concentrate the mind which helps attain that physical balance which translates into a stable mind. This results in less incidences of falls and accidents that could lead to other injuries. Yoga was also shown to improve gait function and reduce age-related changes in gait among a group of healthy, non-obese elders.[6]

**Flexibility and joint health:**
*Hatha yoga* increases flexibility of tendons muscles and spine. It improves joint mobility through a range of structures poses correcting bad postures and reducing pains, knots stiffness.[7] Modifications and props are used for restorative yoga for the geriatric age group. Evidence shows benefits of yoga in osteoarthritis, sciatica, spondylosis, lumbar, neck and knee pain, frozen shoulder etc.

**Respiration:** With age comes respiratory limitations and reduced tolerance to physical exertion. Breath control and prolongation through *pranayama* enhances respiratory function. *Asanas* specific to opening the chest work on lung expansion, better tone and stretch of intercostal muscles; effective in COPD, B.asthma.[8] Neti kriya is useful in URTI. The breath - *prana* is the foundation of life and holds a central role in yogic practices.

**Cardiovascular system:**
*Yoga* is shown to enhance cardiorespiratory performance, psychological profile, and plasma melatonin levels and also significantly reduced systolic blood pressure, diastolic blood pressure, mean arterial pressure, and orthostatic tolerance. [9] Hypertension can lead to CVD (second leading cause of kidney disease). Recent studies have found that yoga reduces oxidative stress in the elderly. Oxidative stress is one of the underlying causes of high blood pressure and, especially for seniors, is a strong risk factor for heart attacks.[10] High blood pressure or simply regulation of blood pressure can be achieved through a set of carefully guided *asana pranayama*. Yoga nidra sessions help instantly to balance out blood pressure levels.

**Digestive disorders:**
With age comes deterioration or lags in function of organs and systems. *Asanas* work on gentle stimulation of digestive organs leading to better secretion of digestive juices, improved bowel movements. It directs proper *vatanulomana* and *agnivardhana*. A combination of *pranayama*, *asanas* and certain *mudras* and *kriyas* is seen to balance the digestive system and both prevent and treat digestive disorders often faced by the elderly.[8]

**Memory loss, senility:** Neuroendocrine research shows that high cortisol (stress marker) exposure of brain increases the risk for cognitive deficits in elders.[11] Chronic stress has detrimental effect on the brain and the autonomic nervous system - increasing the risk for disease. Research shows that yoga may moderate the stress response and improve executive function in older adults.[12]

Prolonged stress can have a deleterious effect on the brain, reducing ability to think, plan and reason effectively. This is particularly true for the elderly. Studies show that yoga improves memory and brain function in older adults.[13] It stimulates deep thinking, awakens and sharpens the mind and improves concentration.
Anxiety, elderly depression:
Elders often face loneliness, isolation, increased sense of purposelessness, fears, bereavement leading to feeling “useless” and mood disorders. Stress has a negative impact on the immune system.[14] Here yoga is an excellent non-pharmacological therapy in mental health. It activates the peripheral nervous system stimulating the rest and relax phase in the body. This cultivates a sense of calm and tranquility. Yoga can embolden all aspects of dinacharya and sadvritta.

Inspiring Mindfulness:
Yoga emboldens mindfulness, self-awareness and self reflection. This keeps the mind alert and awake, encouraging relaxation and strengthening muscles and joints and helping elders pay attention to their body. They become mindful of not just the body, but also their thoughts and emotions, becoming more connected to the community, and the world around them.[10] Mindfulness inspires the conscious effort to practice yoga which can slow down the effects of the ageing process.

Social, emotional and Spiritual health aspects:
Social health is a very crucial and often overlooked dimension of geriatric health. The yamas are interpersonal conventions and etiquette to inspire a healthy social life. Lack of social communications, companionship and isolation leads to depression, sleep and eating disorders, amongst others, in seniors. Niyama inspires good personal health.[4,15]

Sleep, exercise, healthy eating, social connections and spiritual awareness are necessary to prevent geriatric disorders. In society too we see the elders turning to swadhyaya and ishwar pranidhana for spiritual awareness and contentment. It works on their psyche to lessen stress and give sense of motivation and peace. With the mind at peace the body systems automatically enter a state of balanced optimal functioning. [4,8]

The Therapy : IAYT Design of Restorative Yoga:
[Integrated Approach to Yoga Therapy]
- Yoga Philosophy
- Yama
- Niyama
- Hatha yoga asana, Modified asana, Iyengar yoga, restorative yoga
- Pranayama – count breathing, ndishodhana, bhramari, etc.
- Pratyahara - meditation, deep relaxation, yoga nidra

- Dharana and dhyana – modified meditations, shatchakra meditation
- Mudra – therapeutically applicable according to body systems.
- Bandha - with care, only under guidance
- Kriya – trataka, kapalabhati, neti, etc. as and when needed.

Yogasana:
Numerous studies show that asana, meditation or a combination of the two can reduce pain and disability while improving flexibility and functional mobility in people with a number of conditions causing chronic pain,[16,17]

Mode of action: all asanas improve blood flow to the body parts. When an asana is maintained and then released a gush of blood flow to the part improves microcirculation and stimulates the muscles / organs to function better. Modified or adapted yogasana: Iyengar yoga places an emphasis on standing poses to develop strength, stability, stamina, concentration and body alignment. Props are utilized to facilitate learning and to adjust poses and instruction is given on how to use yoga to ease various ailments and stressors. There is a range of standing, sitting, lying down and chair yoga asanas.

Table 1: Asana: examples of their benefits:

<table>
<thead>
<tr>
<th>Asana</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trikonasana</td>
<td>Hip problems, digestive disorders, regulates B.P.</td>
</tr>
<tr>
<td>Bhujangasana</td>
<td>spine health, improves blood circulation that weakens with age.</td>
</tr>
<tr>
<td>ardhachakrasana</td>
<td></td>
</tr>
<tr>
<td>Tadasana, vrikshasana</td>
<td>Balance and mental stability</td>
</tr>
<tr>
<td>Shishuasana, saptavirasana, Setubandha sarvagasana with support</td>
<td>Stress reduction, calms nervous system</td>
</tr>
<tr>
<td>Pavanamukta sana</td>
<td>Relieves flatulence, better bowel movements.</td>
</tr>
<tr>
<td>Marjarasana &amp; bitilasana</td>
<td>Reduces spine stiffness that comes with age</td>
</tr>
<tr>
<td>Baddha konasana</td>
<td>Bowel movements, hip and pelvis health</td>
</tr>
<tr>
<td></td>
<td>Reduces joint stiffness and pain</td>
</tr>
<tr>
<td>Katichakrasana</td>
<td>Keeps the spine straight, prevent slouching.</td>
</tr>
<tr>
<td>Shishuasana</td>
<td>Calms the nervous system. Relaxes the back, helping to relieve back aches.</td>
</tr>
<tr>
<td>Siddhasana, padmasana, vajrasana, sukhhasana</td>
<td>Mindfulness, concentration, peace, makes them feel more energetic.</td>
</tr>
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</table>

**Chair yoga for senior citizens:**

Many seniors find this convenient as these asanas can be done while sitting on a chair. Increases flexibility enabling seniors to bend and reach the toes. Neck roll, bitilasana, paschimottanasan, uttanasan, utthita parshva konasana, ardhamatsyendrasana and virabhadrasana ii are all chair yoga asanas that have immense benefits.[18]

**Yoga Nidra**

**Yoga Nidra** is one of the most essential part of any yoga practice. As one ages it becomes more vital to embrace its benefits. Even single yoga nidra sessions are evidenced to reduce hypertension, anxiety, and irritability. Since stress is often at the core of diseases, yoga nidra can be a suitable process of stress management and reduction of negative emotional states in order to reduce the burden of disease.[19]

The multidimensional and individualized approach of IAYT can encourage the body, mind and spirit to achieve balance and harmony while reducing the effects of many age-related issues.

**Discussion:**

Working with older people presents the yoga therapist with a very varied caseload. Social and mental health development can be achieved through yama, niyama and yoga philosophy teachings. Restorative, gentle hatha yoga, asana, pranayama, yoga nidra and kriyas build strength, balance, and physical and mental resilience. This prevents premature ageing and manages established geriatric disorders.

State of an individual’s mind is crucial to healing. Yoga does wonders for the mind what merely popping pills does not.

Yoga is self-empowering; Sustained practice also leads to important outcomes such as changes in life perspective, self-awareness and an improved sense of energy to live life fully and with genuine enjoyment. Yoga therapy involves instruction in yogic practices and teachings to prevent reduce or alleviate structural, physiological, emotional and spiritual pain, suffering or limitations. Yogic practices enhance muscular strength and body flexibility, promote and improve respiratory and cardiovascular function, promote recovery from and treatment of addiction, reduce stress, anxiety, depression, and chronic pain, improve sleep patterns, and enhance overall well-being and quality of life.

**Conclusion:**

An integrative approach to yoga therapy, particularly restorative yoga, provides a plethora of advantages to seniors, at both somatic and psychological levels.

The interventional therapy, when made a part of the patient’s daily routine, targets key health conditions like anxiety, memory loss, pain, joint stress, imbalance, osteoarthritis, and other physical limitations. It has a very strong role in preventing premature ageing.

The current medical and social conditions demand research on yoga specific for certain geriatric diseases, implementation of yoga for seniors at clinical level, designing programs and promotion of the same at rehabilitation centers, old age homes, senior living communities and assisted living facilities.

The undeniable association between the mental and physical health and inner tranquility that yoga is tailor-made for diminishes the fickleness of the mana, empowers the patient to be his own healer, helping the aged suffer less and live better lives.

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