

Preventive Care for Adolescence and Menopausal Health through Yoga with Clinical Work

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Abstract: Adolescence and menopause are two critical stages in a woman's life marked by major hormonal, metabolic, and psychological shifts. Yoga offers an effective, holistic preventive approach during both phases. In adolescence, rapid growth, menstrual irregularities, emerging metabolic risks, and emotional stress can lead to postural issues, PCOS tendencies, and mental instability. Yoga postures improve spinal alignment, strengthen musculoskeletal and pelvic structures, enhance insulin sensitivity, regulate the neuroendocrine axis, and promote emotional balance through pranayama and meditation. These benefits align with Ayurvedic concepts of Kapha-Pitta predominance, dhātu maturation, and Prana Vata stabilization.

During menopause, estrogen decline results in vasomotor symptoms, bone loss, metabolic disturbances, sleep issues, and mood fluctuations. Yoga helps reduce sympathetic arousal, improves thermoregulation, enhances bone strength through weight-bearing asanas, and supports metabolic and cardiovascular health. Restorative practices and pranayama promote better sleep and emotional steadiness, while pelvic floor techniques strengthen urogenital support. This corresponds with Ayurvedic views of Rajonivritti as a Vata-dominant stage requiring grounding, stabilizing, and strengthening therapies

Keywords: Adolescence, Menopause, Yoga, PCOS, Ayurveda, Preventive Care, Clinical Work

I. INTRODUCTION

Adolescence (10–19 years) involves rapid growth, emotional variability, menstrual irregularities, and risk of PCOS. Menopause (45–55 years) presents vasomotor symptoms, metabolic shifts, sleep disturbances, and bone loss. Yoga promotes neuroendocrine stability, autonomic balance, and emotional wellbeing^{1–8,13,14}. Clinical work shows improvement in PCOS, metabolic syndrome, and menopausal symptoms^{3–10}. Ayurveda describes adolescence as a Kapha-predominant period of dhātu formation (Charaka Samhita, Sharira Sthana)²¹ and menopause as Rajonivritti due to Vata dominance (Ashtanga Hridaya, Sharira Sthana)^{22,23}, both benefiting from Sattva-promoting Yoga practices^{24,25}.

II. REVIEW OF LITERATURE (MODERN)

Adolescence

Yoga improves autonomic function, mental health, and academic performance^{1,2,14,15}.

PCOS benefits from yogic lifestyle due to improved insulin sensitivity and metabolic regulation^{3,4}.

Postural correction and musculoskeletal strengthening via Yoga improve adolescent development^{12,17,18}.

Menopause

Yoga reduces hot flashes, night sweats, and sleep issues^{5–8}.

Mind-body practices lower metabolic syndrome risk^{9–11}.

Weight-bearing Yoga reduces osteopenia risk^{12,13}.



AYURVEDIC PERSPECTIVE

Adolescence (Tārūṇyāvasthā) is Kapha–Pitta predominant, supporting dhātu formation²¹.

Menopause (Rājapravṛtti-nivṛtti) involves physiological Vata increase, causing dryness, mood changes, insomnia, and bone depletion^{22, 23}.

Yoga, Prāṇāyāma, and meditation are Sattva-enhancing and Vata-pacifying interventions (Patañjali Yoga Sutra)^{24, 25}.

Srotoshuddhi through āsanās, breathwork, and mental steadiness aligns with Ayurvedic *chikitsā siddhānta*²⁴.

YOGA-BASED PREVENTIVE CARE FOR ADOLESCENCE**1. Physical Health****A. Posture & Musculoskeletal Health**

Rapid skeletal growth can lead to poor posture. Tadasana, Bhujangasana, Setu Bandhasana, and Vrikshasana strengthen paraspinal muscles, enhance core stability, and improve proprioception^{12, 17, 18}. Ayurveda correlates this with Kapha predominance aiding dhātu building.

B. Menstrual & Hormonal Regulation

Baddha Konasana, Malasana, and Marjari–Bitilasana improve pelvic circulation and regulate HPO axis^{3, 4}. Ayurveda associates this with Vata balancing and Artava-vaha srotas support.

C. PCOS Prevention

Surya Namaskar (slow), Naukasana, Dhanurasana, and Pranayama improve insulin sensitivity and reduce cortisol^{3, 9}. Ayurveda describes these changes under Kapha-Vata dushti and recommends structured physical activity.

D. Weight & Metabolic Fitness

Dynamic practices like Vinyasa Yoga, Plank variations, and Utkatasana improve BMI regulation, glucose uptake, and metabolic fitness^{10, 17}. Ayurveda links this to improved Agni, balanced Meda dhatu, and reduced Kapha vriddhi.

2. Mental Health Promotion

Bhramari Pranayama, Nadi Shodhana, Yoga Nidra, and meditation reduce anxiety and restlessness, and improve cognitive function^{1, 2, 14, 15}. Ayurveda attributes these benefits to Prana Vata stabilization.

YOGA-BASED PREVENTIVE CARE FOR MENOPAUSAL WOMEN**1. Vasomotor Control**

Cooling pranayama—Sheetali, Sheetkari, Bhramari—reduce sympathetic arousal and hot flashes^{5–8}. Ayurveda describes these as Pittashamana remedies.

2. Bone & Joint Health

Trikonasana, Virabhadrasana I & II, and Utkatasana enhance bone loading and balance, reducing osteopenia risk^{12, 13}. Ayurveda relates this to counteracting Asthi dhatu kshaya.

3. Metabolic & Cardiovascular Health

Surya Namaskar, Ardha Matsyendrasana, and Paschimottanasana improve lipid profile, glucose utilization, and visceral circulation^{9–11}. Ayurveda connects these with restoring Agni and reducing Meda-vriddhi.

4. Psychological & Sleep Health

Yoga Nidra, restorative poses, and slow pranayama reduce cortisol and improve sleep and mood^{8, 14, 15}. Ayurveda attributes this to Vata-hara action.

5. Pelvic Floor Rehabilitation

Moola Bandha, Setu Bandha Sarvangasana, and Vajrasana strengthen pelvic floor and urogenital support⁸. Ayurveda links this with proper functioning of Apana Vata.

DISCUSSION-**Yoga-Based Preventive Care During Adolescence**

Adolescence is a vital transitional phase marked by rapid physical growth, emotional fluctuations, and neuroendocrine maturation. Yoga provides multifaceted support during this period by enhancing autonomic balance, emotional regulation, and cognitive performance. Regular practice of asanas and pranayama improves parasympathetic activity, stabilizes heart rate variability, sharpens attention, and helps adolescents cope better with academic and social pressures. The increasing prevalence of adolescent obesity, dysmenorrhea, anxiety, and early metabolic disturbances highlights the importance of yoga as a preventive lifestyle intervention.

Structurally, adolescence is characterized by disproportionate skeletal growth, which predisposes young individuals to postural deviations such as kyphosis, lordosis, and muscular imbalance. Foundational yoga postures like Tadasana, Bhujangasana, Setu Bandhasana, and Vrikshasana play an essential role in realigning the axial skeleton, strengthening the paraspinal and core muscles, and enhancing neuromuscular coordination. These practices support balanced musculoskeletal development and reduce the risk of long-term postural issues. Ayurveda views this age as a Kapha–Pitta dominant period, where strengthening and stabilizing physical activities promote robust dhatu formation and healthy growth.

Menstrual irregularities, dysmenorrhea, and emotional instability are common among adolescent girls due to the gradual maturation of the hypothalamic–pituitary–ovarian axis. Yoga postures such as Baddha Konasana, Malasana, and Marjari–Bitilasana help improve pelvic circulation, relax uterine musculature, and support hormonal equilibrium. These practices reduce pelvic congestion and align with Ayurvedic principles that emphasize maintaining the health of the Artava–vaha srotas and regulating Vata during early reproductive development.

The rising incidence of adolescent PCOS is closely linked to sedentary lifestyles, chronic stress, and early insulin resistance. Yogic interventions such as slow-paced Surya Namaskar, Naukasana, Dhanurasana, and pranayama help improve insulin sensitivity, enhance ovarian function, and regulate stress hormones. These practices reduce abdominal adiposity, improve endocrine balance, and promote better metabolic adaptation. Ayurveda associates these early metabolic disorders with Kapha–Vata imbalance and stresses the need for structured physical activity to prevent Artava-dushti conditions including PCOS.

Yoga also contributes significantly to weight management and metabolic fitness during adolescence. Dynamic practices such as Vinyasa Yoga, Plank variations, and Utkatasana build cardiovascular endurance, increase lean muscle mass, and help maintain an optimal BMI. Enhanced mitochondrial efficiency, increased glucose uptake in muscles, and improved appetite regulation all contribute to metabolic stability. In Ayurvedic terms, these benefits correspond to strengthened Agni, balanced Meda Dhatu, and prevention of excessive Kapha accumulation resulting from inactivity.

Mental health support is another essential dimension of yoga for adolescents. Stressors such as academic competition, peer relationships, emotional transitions, and digital overload make young individuals particularly vulnerable to anxiety, irritability, and sleep disorders. Practices like Bhramari Pranayama, Nadi Shodhana, Yoga Nidra, and meditation reduce sympathetic hyperactivity, calm the mind, and improve concentration and emotional resilience. Ayurveda notes that adolescence is a sensitive stage for Prana Vata disturbance, and mind-calming yogic practices serve as effective stabilizing therapies.

Yoga-Based Preventive Care for Menopausal Women

Menopause marks a significant physiological transition characterized by hormonal changes that impact thermoregulation, bone density, metabolism, emotional stability, and overall well-being. Yoga offers a comprehensive and gentle approach to address these changes, supporting both physical and psychological health.

Vasomotor symptoms such as hot flashes, palpitations, and night sweats arise due to thermoregulatory instability associated with declining estrogen levels. Cooling and calming pranayama practices including Sheetali, Sheetkari, and Bhramari Pranayama help reduce autonomic arousal, stabilize breathing patterns, and diminish the intensity of vasomotor episodes. These techniques promote parasympathetic dominance and provide natural thermoregulatory balance. Ayurveda considers such symptoms expressions of Pitta and Vata aggravation, and the cooling nature of these practices aligns well with traditional therapeutic principles.

Bone and joint health become major concerns during menopause due to accelerated bone loss and reduced estrogen. Weight-bearing yoga asanas such as Trikonasana, Virabhadrasana, and Utkatasana stimulate bone formation through



mechanical loading, enhance postural stability, and improve joint mobility. Improved proprioception and reduced fall risk further support skeletal health. Ayurveda describes this stage as one of Asthi Dhatu Kshaya, and recommends strengthening and stabilizing activities that counteract degenerative changes.

Metabolic changes such as abdominal weight gain, dyslipidemia, hypertension, and insulin resistance are also common. Dynamic sequences like Surya Namaskar and twisting poses including Ardha Matsyendrasana and Paschimottanasana enhance glucose utilization, activate large muscle groups, and improve lipid metabolism. These practices also enhance visceral circulation, promote digestive efficiency, and support cardiovascular health. According to Ayurveda, these benefits correspond to balanced Agni, normalized Meda Dhatu, and reduced Kapha–Pitta aggravation.

Menopause is frequently accompanied by psychological and sleep disturbances, including anxiety, mood swings, cognitive dullness, and insomnia. Restorative practices such as Yoga Nidra, slow deep pranayama, and supported asanas help reduce cortisol levels, improve sleep quality, and stabilize emotional fluctuations. These practices help regulate the limbic system, enhance melatonin rhythm, and restore mental clarity. Ayurveda attributes these symptoms to Vata imbalance and recommends calming, grounding interventions, which are effectively provided by restorative yoga.

Pelvic floor dysfunction, commonly experienced due to hormonal decline and prior childbirth, can manifest as urinary incontinence, pelvic heaviness, and reduced muscular support. Practices such as Moola Bandha, Setu Bandha Sarvangasana, and Vajrasana strengthen pelvic floor muscles, improve neuromuscular coordination, and enhance continence control. Increased awareness and activation of pelvic musculature also provide better pelvic organ support. Ayurveda associates these dysfunctions with disturbed Apana Vata, and the stabilizing effects of these yogic techniques directly support pelvic structural integrity during and after menopause.

III. CONCLUSION

Yoga serves as a holistic and preventive health approach across both adolescence and menopause—two physiologically dynamic and vulnerable stages of a woman’s life. During adolescence, yoga promotes balanced physical development, supports hormonal maturation, enhances metabolic resilience, and fortifies mental stability. Through structured asanas, pranayama, and meditative practices, yoga not only corrects postural deviations and improves musculoskeletal strength but also mitigates menstrual irregularities, reduces stress, and prevents lifestyle-related disorders such as PCOS and obesity. These benefits closely align with Ayurvedic principles that emphasize Kapha–Pitta balance, healthy dhatu formation, stable Agni, and regulation of Vata during this formative phase.

Similarly, in menopausal women, yoga effectively addresses vasomotor instability, declining bone density, metabolic disturbances, psychological fluctuations, and pelvic floor weakening. Its cooling pranayama techniques, weight-bearing asanas, dynamic sequences, restorative practices, and bandhas together offer comprehensive support for physical, emotional, and endocrine transitions. These outcomes resonate with Ayurvedic understandings of Pitta-Vata aggravation, Asthi Dhatu Kshaya, impaired Agni, and Apana Vata dysfunction during menopause.

Overall, yoga emerges as a safe, adaptable, and deeply integrative modality that enhances quality of life across age groups. By aligning physiological mechanisms with Ayurvedic concepts of dosha balance and srotas health, yoga provides a sustainable framework for preventive wellness, disease mitigation, and long-term vitality in women’s health.

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