



ROLE OF DIET IN THE PREVENTION AND MANAGEMENT OF MENOPAUSAL SYMPTOMS. A REVIEW STUDY

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ABSTRACT

Introduction: Menopause is a change in a woman's life, is associated with large number of symptoms and health risks. Hormone Replacement Therapy, the mainstay for achieving therapeutic relief is having serious side effects and now a days dietary management have gained importance. *Rajonivrittijanya vikara* can be managed through *rasayana, bhojana and pana*. Ayurvedic dietetic guidelines and Bhojana, pana mentioned in Ayurveda would be beneficial in management of *rajonivrittijanya vikara*. In the present study an effort has been made to analyse the role of dietetics principles and dietary regimen in the prevention and management of menopausal syndrome and its complications that would enable researchers and practitioners to have fresh insights in the prevention and management of Menopausal syndrome. **Materials and methods:** The basic and conceptual materials are taken from ayurvedic classics. Related modern textbooks and research articles published in renowned journals has also been used. **Results:** Ahara rasa plays a significant role in causing menopause. The principles of ashta aharavidhivisheshayatana, virudha ahara can be incorporated in the pathophysiology of menopausal problems. Ayurveda classics have described the etiopathogenesis of jara, seasonal and daily indicated foods and ahara that have the property of rasayana, balya, *dhathupushtikara* properties which would be beneficial in menopause. Conclusion- Ayurvedic principles of diet and dietetics can provide new insights to nutritional science for the prevention and management of Menopause.

KEYWORDS: *Rajonivrutti, Ashtahara vidhivisheshayatana, diet, Rasayana.*

INTRODUCTION

Menopause is defined retrospectively as the time of final menstrual period followed by 12 months of amenorrhea.^[1] Menopausal syndrome is characterized by psychosomatic, vasomotor and urogenital symptoms. This period is usually associated with inevitable manifestation of ageing process in women. As women complete the transition to menopause, an estimated 85% report more than one symptom and makes visit to healthcare providers.^[2] The major health risks after menopause are osteoporosis and osteopaenia, cardiovascular disease, stroke Alzheimer's disease, Dementia, arthritis, hypertension, Diabetes mellitus, obesity, cancer and associated chronic problems such as ophthalmic diseases and oro dental issues³. The burden of cardiovascular disease in India is projected to increase by 115% from 1990 to 2020 and cerebrovascular incidence by 104%; The prevalence of low bone mass is to the extent of 40% from the age of 40 years and increases to more than 62% by age 60 years and 80% by the age of 65 years.^[4] Menopausal health concerns can be managed through modification in diet, lifestyle and hormone replacement therapy.^[5] Ayurveda describes *Rajonivritti* as end of

artava pravritti (menstrual blood).^[6] *Rajonivritti* is a sign of *jara* (ageing) and occurs in *jarapakwa sareera* and may get manifested from the age of 50.^[7] As per classics, *Rajonivritti* is considered as *swabhavik vyadhi* having no treatment but can be made *yapya* by *bhojana, pana* and *rasayana*.^[8] In Ayurveda, *ahara* forms the important component of life as it is included in *trayopasthamba* (three pillars of life). Ayurvedic dietary guidelines incorporate foods that are indicated and contraindicated for an individual, dietetic rules, *virudhahara, ahara varga*, the diet for each individual based on the *prakriti* (body composition), the *dosha* (body humors), *agni* (digestive power), *desa* (place of living), *kāla* (age and season) and *satmya* (homogeneity) of the person. Hormone therapy which is the major treatment of menopause is having complications like breast cancer, endometrial cancer, undiagnosed abnormal genital bleeding, active thromboembolic disease and active liver or gallbladder disease^[9]; hence prevention through dietary modification seeks importance. Researches proved that dietary factors play an important role in the causation, prevention and management of menopausal problems. Ayurvedic dietetic guidelines and *Bhojana, pana* mentioned in

Ayurveda have the property of rasayana, balya, dhathupushtikara, medohara, srotosodhana, vayasthapana, jeevaneya, medhya, agnideepana and manasadoshara properties which would be beneficial in management of rajonivrittijanya vikara. In the present study an effort has been made to analyse the role of dietetics principles and dietary regimen in the prevention and management of menopausal syndrome and its complications that would enable researchers and practitioners to have fresh insights in the prevention and management of Menopausal syndrome.

OBJECTIVES

To analyze the concept of dietetics of Ayurveda in causation, prevention and management of menopausal syndrome and its further health concerns.

To suggest dietary recommendation for the prevention and management of menopausal syndrome and its further health concerns.

MATERIALS AND METHODS

The basic and conceptual materials are taken from ayurvedic classics and available commentaries. Related modern textbooks and research articles published in renowned journals has also been used.

RESULTS AND DISCUSSION

Rajonivritti occurs in *jarapakwa sareera*, there will be degradation in the formation of *artava* which is the *upadathu* of *rasa* due to *apreenana*.^[10] The ageing process lead to improper nourishment of body tissues leading to *dhatukshaya* especially *rasa* and *rakta* causing *upadhathu artava kshaya*. *Srotodusti*, *agnimandhya* accumulation of *aama* and *dhathukshaya* along with *mithyaaharavihara sevana*, overstress, and decreased mental health of women will lead to *rajonivrittijanya vikara*. According to Vagbhata samgrahakara, old age is an age of constant reduction of tissues, senses acuties and other virtues, connected with manifestation of wrinkles of skin, whitening of hair, cough, reduced digestion, dyspnoea etc just like an old residence which will collapse gradually by rain. During this phase, there is a raise of *vāta* which manifest different symptoms like loss of power, flabbiness of muscle, joints and bones, irregularity of skin, bending of body, cough, dyspnoea, tremors, increase in *kapha* and decrease of tissues. Acharya Susruta have mentioned that Swabhavika vyadhi can be made *yapya* by *bhojana*, *pana* and *Rasayana*. *Rasayana* eradicates disease and senility, promotes qualities of *dhātus*. *Ahara rasayana* especially *Ajasrika rasayana*, in which food substances are used in regular basis such as milk, ghee and honey plays a significant role in prevention and management of Menopausal Syndrome by providing nutritional status and the better qualities of *dhātus* and provides longevity, immunity, improved mental and intellectual competence.

Role of ahara rasa in causing rajonivritti

According to Acharya Susruta, menstrual blood is formed from *ahara rasa* from the age of 12 years and decreases at the age of fifty years.^[11] *Dhathus* get nutrition from *ahararasa* and *artava* is formed from *ahara rasa* within a period of one month. According to kedara kulya nyaya, *raja* is produced from *prasadamsa* of *rasadhathu* by the action of *rasadhatwagni*. In old age, *ahara rasa* cannot do nourishment due to *paripakwa sareera*^[18] and *raja* is not formed leading to *rajonivritti*. Acharya Bhela opined that when body get undernourished, *raja* is not seen and when *dhathu paripoornatha* is attained *raja* is seen monthly.^[19] Acharya kashyapa opined that *raja* get manifested from the age of 16 depending upon specific nutritive diet and perfect health. Acharya Vaghbada opined that those who are not taking *ghrita* and *ksheera* daily, will not attain menstruation. Researches shown that diet may delay or hasten the onset of menopause.^[12]

Consideration of asthaahara vidhi visesha aytana in the pathophysiology of menopause

Menopausal period is accompanied by disturbance in *jataragni* and *dhatwagni*. *Jataragni* undergoes abnormal changes by improper food habits leads to improper digestion and formation of *aama*. This causes *srotorodha* leading to improper *dhathu* formation resulting in *dhathukshaya* and *ojokshaya* causing menopausal problems. considering the significance of *ahara* and *agni* in the pathophysiology of Menopause, the principles of *ashta ahara vidhi visesha ayatana* seeks importance. *Rasa vaghbata* has quoted the *sheeta* (cold food), *kadanna* (food articles which are devoid of *jeevaneya* properties) and *manapratikulata* as causative factors of *jara*.^[13] considering the significance of *ahara* and *agni* in the pathophysiology of Menopause, the principles of *ashta ahara vidhi visesha ayatana* seeks importance. considering *prakriti*, *laghu* foods are preferred during menopausal period as *agni* is in disturbed state. considering *samskara*, regular consumption of food treated with fat, sugar confectionaries should be avoided to prevent menopausal complications. The *samyoga* (combination) of *viruddhahara* (incompatible diet) leads to vitiation of *rakta* causing *srotorodha* and *aama* formation which are the major culprits of menopausal problems. Considering *rasi* (quantity) of food appropriate quantity of food that can be digested in proper time should be advised during menopausal period. Considering *desa*, intake of food cultivated in respective habitat will be congenial during menopause. Considering *kala*, it is mentioned in *Sabdakalpadruma* that intake of *samahara* after proper digestion of food at proper time will prevent *jara*. Considering *upayoga samstha* (dietetic rules), intake of *usna*, *snigdha*, compatible diet in proper quantity after digestion of previous meal is advised to prevent *jara*. Eating in a congenial place provided with necessary appearances provides psychological health during menopausal period.

Dietary regimen for Menopausal women

Among the food articles mentioned in Ayurveda classics, Ahara rasyana which can be specifically recommended in the prevention and management of menopausal syndrome are ksheera, ghrita, amalaki, vidarikanda, satavari, jeevanti and lasuna. It is mentioned that the usage of ksheera, ghrita, mamsa, navanna, navaneeta will prevent jara vyadhi.^[14]

Consideration of (daily recommended foods) nityasevaneeya ahara in menopause

Considering nitya sevaneeya ahara, milk and ghee is beneficial in menopause. sashtika is rich in carbohydrates and potassium and Sali and saindhava is rich in potassium. mudga is rich in protein, phosphorus, calcium and potassium. Amalaki having antiageing, antioxidant and rich in vitamin c and calcium. yava is light and diuretic and rich in vitamins.

Seasonal consideration of food in Menopause

Ayurveda recommends the seasonal consideration of foods for the prevention and management of jara. For kalakrita jara, it is mentioned in Sabdakalpa druma, that during greeshma rithu, chandana drava can be used; not to use Ghana toya in pravrit and to practice balanced diet at proper time; navanna and ushnaahara in hemantha and sisira.^[15]

Diet recommended for musculoskeletal health in menopausal women

The onset of menopause is associated with decline in estrogen, decreased bone mineral density, muscle mass and strength.^[16] Optimal dietary intake of protein, vitamin D, vitamin k as well as calcium may prevent age related alterations in musculoskeletal health in postmenopausal women. Dietary protein may positively impact bone health by increasing muscle mass, increasing calcium absorption. Vitamin D insufficiency has well known direct effects on bone health, through deregulation of calcium homeostasis causing increased bone resorption that exacerbate osteoporosis in menopausal women. Recommended dietary intake of calcium be > 800 mg/day; Vitamin D- 800 IU/d and protein 1.0-1.2 g/kg/BW/d, vitamin k-65-80 micro gram/day for postmenopausal women. Dairy products including milk, yogurt and cheese represent excellent dietary source of bone nutrients, such as calcium, phosphorus and protein. Oily fish, lentils, brown rice, cereals, butter, eggs represent excellent dietary source of vitamin D. Milk, buttermilk, curd, chappati, whitebread, rajma, soyabean, Bengalgram, blackgram, beetroot, methi, beans, okra, broccoli, almond, cashewnut, driedfigs, orange, rohufish are excellent source of calcium. For the absorption and deposition of calcium in bones, it should be combined with food rich in phosphorus such as peanuts, meat, cheese, onion, garlic and magnesium which can be found in wholegrain, nuts, legumes, green leafy vegetables, fish and meat. Boron which is found in apples, almond, honey, peas, beans, lentil and peanuts; findings suggest that in

postmenopausal women, subsiding low boron diet have increased calcium loss and demineralization. Ahara dravyas recommended for musculoskeletal health are ksheera, ghrita, mamsarasa, sashtika, godhuma, masha, jeevanti, lasuna, Sali, tila, aamalaki.

Diet recommended for cardiovascular health in Menopausal women

After menopause, risk of cardiovascular disease increases. An overall increase in heart attack among women generally occurs about 10 years after menopause. Dietary recommendations includes, Whole grains and whole fibre diet such as whole wheat, oats, barley; soluble fibre such as okra, oats, barley; fatty fish such as salmon, sardine; almond, walnut and pistachios, low fat milk, fruits and vegetables, soy protein, beans, lentils, seafoods having omega 3 fatty acids. Ahara dravya recommended for cardiovascular health are adadima, aamalaki, rasona, saindhav, patola, mudga, yava, tila, masha, kushmanda, mrdwika.

Diet recommended for central nervous system health in menopausal women

Menopause leads to memory loss, mild cognitive impairment, ischemic stroke, Parkinson's disease and Alzheimers disease. Deficiency of Estrogen reduces serotonin synthesis in brain which may lead to whole spectrum of problems. Tryptophan found in proteins such as eggs, milk, sesame and sunflower seeds, can help serotonin production

Diet recommended for Gastrointestinal health in Menopausal women

Estrogen deficiency during menopause causes bloating, indigestion, acid reflux, painful abdominal cramp, constipation, diarrhea, weight gain, flatulence, nausea and irritable bowel syndrome. Women are twice as likely to develop digestive issues during menopause. Phytoestrogen supplements such as soya, beans, dates, apple, flax, sesame; magnesium diet such as spinach, whole grain, tomato, banana, peanut; high fibre foods such as split peas, lentils are recommended. Ahara dravya recommended for GIT health are nagara, peya, hingu, jeeraka, pipali, haridra, saindhav, lajamanda.

Diet recommended for renal health in menopausal women

Menopause increases the risk of kidney disease. The incidence of hypertension increases more rapidly in postmenopausal women which is a major risk of chronic kidney disease. The decrease in estrogen and increased sensitivity to dietary sodium may be the important factors in causing postmenopausal hypertension. Dietary recommendation includes reduced salt intake (dietary salt should not exceed 5g), increased potassium enriched diet intake especially banana, diet reduced in saturated fat and cholesterol. Ahara dravya recommended for renal health are ervaruka, kulatha, kushmanda, sigru, masha, punarava, nalikera, trapusa.

Diet recommended for Diabetes mellitus in menopausal women

Menopause increases the risk of Diabetes mellitus. Diet rich in cereal, fibre and poly unsaturated fat low in trans fat and glycemic load is encouraged. Processed and unprocessed redmeat, sugar sweetened beverages should not be preferred. Ahara dravyas recommended for diabetes are hingu, bilwa, yava, karabellaka, trapusa, jiraka, udumbara, methi, launa, sunti, vartula, mudga, kulatha, aamalaki, jambu, sarshapa, muli, saidhav, Sali, haridra, patola.

Diet recommended for Respiratory health in Menopausal women

The menopausal transition may have significant consequences for respiratory health, risk of chronic respiratory disease. Ahara dravya recommended for respiratory health are nagara, pipali, surasa.

Diet recommended for vasomotor, genitourinary and psychological symptoms of Menopausal women

Ahara dravyas that can be recommended for the management of vasomotor symptoms of menopause are satavari, aamalki. Dadima, lajamanda, mrdwika and kharjura. Ahara dravyas that can be recommended for the management of genitourinary symptoms of menopause are satavari, vidarikanda, ghrita, masha, tila and aamalki. In sabdakalpadruma. Intake of phytoestrogen decreases menopausal symptoms especially vasomotor and genitor urinary such as soyabean, apple, barley, cabbage, carrot, green beans, peas, potato, rice, wheat. Bioflavonoid rich foods such as orange, grape; Vitamin E rich foods such as nuts and tomato and foods rich in essential fatty acids such as nuts, fish prevents genitourinary symptoms. Foods containing tryptophan such as Bannana, pineapple, plum, nuts, milk, cheese found to decrease the pshychological symptoms of menopause.

Diet recommended for oncogenic threat in Menopausal women

Intake of carotene and phytoestrogens decreases the development of breast cancer.

Recommendations for diet that should not be used in Menopausal women

Decrease caffeine intake, limit alcohol and avoid use of tobacco. Alcohol, coffee, tea can hinder the absorption of nutrients and can produce heat in the body. Avoid Spicy foods and hot foods and drinks, sugary foods, junk foods /highly processed foods which can be high in salts and additives. Avoid high carbohydrate foods and saturated fat which can affect arteries and heart health.

CONCLUSION

Diet plays a significant role in the causation, prevention and management of menopausal health concerns. Ayurveda presents unique principles of dietetics and diet that can be beneficial for preventing menopausal problems. Ahara rasa play a significant role in causing rajonivritti. The principles of ashtaahara vidhi vishesha

ayatana gains significant role in causing rajonivrittijanya vikara. The ahara prescribed in ahavarga having the properties of rasayana, dhathpushtikara, medhya, balya can be recommended for menopausal women. Thus can be concluded that Ayurvedic principles of diet and dietetics can provide new insights to nutritional science for the prevention and management of Menopause.

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