Impact of Lifestyle Modifications and Yoga in Prameha (Diabetes Mellitus)

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Abstract

India has the world's biggest diabetic population. It is a condition characterized by persistent hyperglycaemia and disruptions in carbohydrate, lipid, and protein metabolism as a result of insulin resistance and deficiency. The main factors contributing to the rising prevalence of type 2 diabetes mellitus are sedentary lifestyle and dietary changes. Prediabetes is a clinical entity that appears before Diabetes Mellitus and bears a striking similarity to Prameha. Obesity is one of the most modifiable risk factors. Diet and exercise are primary therapeutic options for its management. It is quite difficult to prescribe strict calculated calorie diet, thus it is preferable to provide alternatives among traditional dishes with optional adjustments. A diabetic patient's condition improves with exercise. Yoga activities and also play a function in the prevention of type 2 diabetes.

Keywords

Prameha, Diabetes mellitus, Yoga, Ahara

Introduction

Increasing urbanization, industrialisation, and economic progress have a negative impact on the biological and environmental risk factors for diabetes and other communicable illnesses. Diabetes is a major public health challenge of the 21st century. Epidemiological trends indicate that without proper control and prevention diabetes prevalence will increase tremendously. Diabetes like hypertension is not a single disease entity, and its etiopathogenesis is likely to involve the interplay of a host of factors. This metabolic condition is caused by an absolute or relative lack of insulin. Under physiological conditions, pancreatic beta cell activity and individual insulin requirements are in a state of dynamic equilibrium. Normally, beta cells can handle high insulin demands while maintaining metabolic balance. However, in the context of structural or functional pancreatic abnormalities, beta cells may be unable to achieve even the bare minimum of daily insulin requirements (absolute insufficiency). In certain cases, beta cells may release insulin that is insufficient to fulfil exceptionally high demands (relative insufficiency), which is caused by anti-insulin antibodies that prevent the produced hormone from functioning correctly. Prameha is considered among the Mutragata Rogas. Premeha is a syndrome that encompasses all clinical disorders characterized by increased urine volume with or without increased frequency of micturition. In nidana of prameha acharya mention the all those factors which increase the quantity of Kapha in the body, Sedentary habits, increase consumption of sweets and fats. [1]

Pathya - Apathya Ahara

Those Aahar which are suitable to Pramehi are called Pathya and those which induce Prameha are called Apathya. In Pathya Ahara Pramehi Rogi is adviced Mantha, Kashaya, barley, Leha and light easily digestible food, oiled barley, barley cakes, flour of parched grains, lean or fat free meat, soup of Munga, bitter vegetable, old Shali, Shashtika rice, wheat, and millet, pulses of Chanak, Arahar, Kulatha, Munga etc. In oil Danti, Ingudi, linseed and mustard oil can be used.[2]

Some other food items, which should be consumed in Prameha:

- Non starchy vegetables – Broccoli, carrots, greens, tomatoes
- Starchy vegetables- corn, green pea
- Fruits – Oranges, melon, apples, berries, grapes
- Nuts, peanuts, dried beans, eggs, lean meat

Pathya Vihara in Prameha:

- According to Acharya Dalhan walking
- Vamana and Virechana Karma is also indicated in Prameha.[3]
- Chankraman
- Ridding on elephant or horse [4]
- Yoga Asanas

In Apathya Ahara[5] Pramehi patient is

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advised to avoid Sauviraka, Tushodaka, Shukta, Maireya (wine), Asava, oil, ghee, milk and products like crud, ghee and pudding rice, milk-based sweets, sugarcane items, Pishtanna, Amla Yavagu, Panak, Gramya-Anupa-Audaka meat (meat dishes with high fat contents like beef, pork, fish etc.).

Apathya Vihar – Aasyasukha (sitting in a comfortable on chair), Swapna Sukha (long duration of sleep), Madyapana (alcohol consumption), Avyayama (avoidance of exercise), Divas swapana (sleeping in day time)

Yoga Practice in Prameha

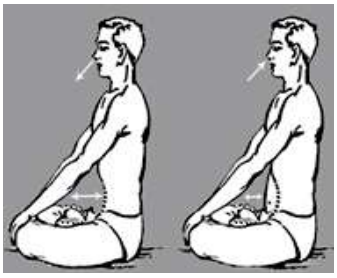
Yoga and physical exercise are alternative therapeutic regimen in prameha. In the samprapti (pathogenesis) of prameha acharyas mentioned that this occurs due to the blockage of srotas (circulatory channels) by the vitiation of doshas which vitiate the dushyas (vitiated tissues elements) and move them to mutravaha srotas (urinary bladder) to cause the disease.[6] By practising Yoga and exercises these doshas and mala eliminates from body through svedana (fomentation) by loosening the srotas. Different type of intense exercise promptly cures prameha, as a result regular yoga and exercise reduce aggravated kleda(oiliness), medas (adipose tissue), and kapha (heaviness). The primary factor contributing to insulin resistance is obesity and accumulation of this fat in omental and mesenteric regions, correlates with insulin resistance. This deposition of visceral fat can be influenced by exercise and yoga. A daily program of yoga and vigorous exercise helps to prevent the accumulation of visceral fat. In addition to these, the development of prameha also cause by high levels of mental stress, emotions and persistent worry. These factors can all be managed with regular practice of pranayama, yoga and meditation.

This yoga practises helps in weight loss, increase insulin absorption, reduce stress, enable utility of glucose, enhanced circulation, flexibility, digestive fire.

Yoga asanas beneficial in prameha are Kapalbhati, Vajrasana, Mandukasana, Dhanurasana, Paschimottanasana, Sarvanga asana.6

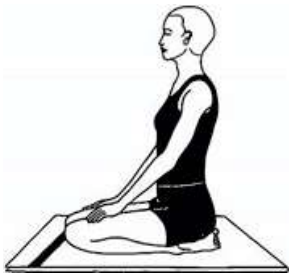
1. Kapalbhati

This breathing technique cleanse the body. Carbon dioxide is eliminated in large scale and blood is purified. Tissues and cells absorb a large quantity of oxygen. Stimulation of all Vegas nerve by contraction of abdominal muscles has a beneficial effect in the reduction of depression and normal insulin secretion from pancreas. (fig:1)



2. Vajrasana (Adamantine Pose)

Sitting in this asana for half an hour immediately after food, will enhance digestive pow and the stomach work vigorously. (fig:2)



3. Mandukaasana (frog pose)

It help to stimulate the pancreas to secrete more insulin in the patient of inadequate insulin secretion defect. (fig:3)



4. Dhanurasana (Bow pose)

This asana reduces the fats, energises digestion, increase peristalsis, invigorates the appetite and relieves congestion of blood in the abdominal viscera and tones them also. (fig:4)



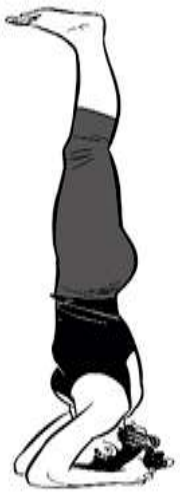
5. Paschimottanasana (seated forward bend)

This asana specific for corpulence or obesity. It stimulates the abdominal viscera and improves the digestion. (fig:5)



6. Sarvanga asana (shoulder stand pose)

It acts as a powerful blood tonic and purifier better circulation of blood carries the adequate amount of insulin to act upon the blood glucose level. (fig:6)



Discussion

Today's sedentary lifestyle, stressful work culture, irregular and irrespective food habit etc are the major risk factor of prameha. Ayurveda has greater emphasis on maintaining health and preventing illness than on treating any existing illnesses. For this Acharyas mentioned about Dincharya, Ratricharya and Ritucharya. The chronicity prameha leads to various complications i.e., neuropathy, vasculopathy, retinopathy, nephropathy. The prevention of disease can be revealed through ahara, vihara which mean through the lifestyle modification. Acharya Kashyapa described Pathya Ahara as"Mahabheshaja"[7]. Along with the medicine pathya apathya play important role in management disease. Modern dietetics adopt a reductionist view in determining the diet protocol with emphasis on the macro as well micronutrients in the food and overlooks the varied demands of the person consuming it. Yoga therapies like kapalbhati plays an important role to maintain the normal condition of agni (digestive fire) at grahani (duodenum) to normalize the metabolic process of body, which also helps to improve the functions of insulin. In a diabetic state, the force of arterial flow is also boosted and directed to any organ, which is really useful. Standing posture causes the skeletal muscles to contract. Their sugar absorption, which normalizes blood glucose levels. Yoga can also help to avoid capillary alterations because of the effect on vessel walls. Yoga acts on the microcellular level. Muscles that absorb sugar are more sensitive to insulin when the internal organs are massaged. Additionally, asanas strain the pancreas in an attempt to elevate the position of secretary. Acharya charaka mentioned that the person who are greedy for food, does't take bath and physical activity will soon get the prameha roga.[8]

Conclusion

To improve the health, lifestyle modification is necessary, One can change the habits by taking small steps i.e., morning walk, using of stairs instead of elevator, drink buttermilk instead of carbonate drinks, fixes the routine of eating, drink plenty of water, avoids snacks between large meal, add fruits in the meals, avoid prolong sitting in one position, practise yoga asana. Vihara includes Dincharya, Ritucharya, Yoga act helps to maintain physical and mental well being. Diabetes mellitus, basically a metabolic disorder is projected as a lifestyle disorder too for which suits best as a model of applying the principles of lifestyle modifications.

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