

Ayurvedic approach in treatment of Diabetes Mellitus**Dr. Manjushree Wankhede/Ingle**

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Betul, M. P.**Abstract:**

Diabetes mellitus is a clinical syndrome which builds up sugar in the blood as body is unable to produce enough insulin because of pancreatic dysfunction. Now a days, almost all the diabetes patients are on antidiabetic medicines either in the form of oral medicines or insulin injections. It has become mandatory for them to go for these therapies as diabetic condition can lead to many complications like kidney failure, retinopathy and neuropathy. Aim of this review article is to educate people about how diabetes can be treated with Ayurveda along with yoga, exercise lifestyle modification, and diet. This is the collection of ayurvedic description of diabetes, lifestyle modification, yoga, diet and use of ayurvedic treatments like panchakarma, ayurvedic medicines for diabetes cure.

Keywords: Ayurveda, Type II diabetes mellitus, lifestyle.

Introduction:

Diabetes is a global condition affecting about 25% of population all over the world. It is a condition in which sugar builds up in the bloodstream as body is unable to produce adequate insulin. It is characterized by frequent urination, polydipsia, increase thirst, weight loss, blurred vision, weakness and slow wound healing. Daily routine test includes blood test for sugar level, HbA1C, glucose tolerance test and urine test.

Ayurvedic description:

In Ayurvedic texts, Diabetes is referred as Madhumeh means urine pass by diabetic patient is like honey means sweet. It is found in routine life as well as it is mentioned in ayurvedic text that ants are gathered to the site of urine of diabetic patient, which is referred as an important symptom in the diagnosis in prediabetic condition. It belongs to eight major diseases called ashtamahagad.

Diabetes is a kapha dosha imbalance problem. However, just being a kapha dominant person does not signify diabetes. When the kapha dominance is not counterbalanced with a balancing diet and lifestyle, it can manifest as diabetes. When

the Kapha Dosha is imbalanced and it is compounded with a weak Agni, it slows down the metabolism. This causes problems with excessive sugar levels in the body. What happens in this case is that poor pancreatic function increases Kapha in the stomach. This leads to turbidity and frequent urination. A person who is Kapha dominant should ensure that there are enough air and fire elements in their food and habits.

Ayurvedic texts about Ayurvedic treatment for diabetes also describe 'Dhatupaka Janya Vikruti'. This is the ill effect that high sugar levels have on other bodily tissues. The texts also describe a tendency to inherit the disease. Ayurveda defines Ojas as the very essence of life, when this is lost, the strength of all the bodily functions is lost. In diabetes, Ojas is lost through the urine and hence diabetes is sometimes called Ojomeha or the loss of Ojas through the urine.

Causes of diabetes mellitus:

1. Stress and anxiety
2. Sedentary lifestyle and
3. Excess weight gain
4. High blood pressure
5. Age
6. Dyslipidemia
7. Impaired glucose tolerance
8. Family history

These are some important factors that lead to diabetes. What is important is that it is challenging for us to prevent occurrence of disease, dangerous complications and associated morbidity of this disease. Despite of having good drugs for control, the increasing number of patients day by day forcing us to deal more carefully with causative factors along with prevention of complications and formulation of cheaper treatment without adversity of drugs.

Management of diabetes mellitus:

Life-style modification:

Physical activity:

- Increase activities like walking, jogging, skipping, swimming
- Walking should be increased gradually about a km in 20 min. Which can be increased to 2 kms in 20 min over a week time. Ideal is a continuous walk for 30 min daily.
- Use stairs instead of lift. Just 10 min of stairs climbing is equal to 30 min of walking.
- Get involved in outdoor sports than indoor games.
- Use bicycle for short distances
- Minimize TV watching
- Reduced the time spend in playing computer games or aimless internet browsing.
- Those with sedentary jobs can include at least 30-45 mins of exercise daily.
- Avoid sleep during day.

Yoga effectively reduces stress. Glucagons secretions are enhanced by stress, thus yoga reduces glucagon and possibly improves insulin action. Yoga balances adrenaline, non-adrenaline and cortisone in blood which are termed as stress hormones. This is likely mechanism of improvement in insulin action. Many yogic postures produce stretch on the pancreas which is likely to stimulate the pancreatic function, such as Dhanurasan, Halasan, Vajrasan, Bhujangasan, Naukasan etc.

Dietary modification: -

As a long-term cure for diabetes, Ayurveda greatly stresses various diet and lifestyle changes which can help a diabetic patient lead a much healthier life.

- Aim for Negative energy balance that is food intake should be less than energy expenditure Include the Vegetables and Greens in the main meals
- Increase high fiber diet and decrease carbohydrate rich food.
- Moderate intake of food rich in proteins and cereals
- Minimize intake of food rich in fats and fried foods
- Avoid snacking between major meals and while watching TV.
- Make whole grains a part of diet. Whole grains help in regulating the glycemic response, increasing insulin sensitivity, improving pancreatic beta cell functions, and increasing insulin secretion. Opting for brown rice and whole grain cereals could have a healing effect for the diabetic patient.
- Garlic and onions should be consumed as garlic contains allicin that reduces sugar level, while onion has low sugar characteristics.
- Cheese and yogurt prepared with skimmed milk can be taken.
- Eat plenty of green vegetables, black gram, and fish.
- Avoid sweet fruits like pineapple, grapes, mangoes, etc. Rather include fruits with a low glycemic index which includes Indian gooseberry, apples, peaches, pears, orange, guava, and Jambul fruit in your diet.
- Include Bengal gram (Chana) in your diet as it has shown good results in glucose tolerance and urinary excretion.
- Barley is the best grain for managing diabetes. As an effective way to control diabetes, you can make a flour mixture of 1 part barley, 1-part black chickpeas, and 4 parts whole-wheat flour. This mixture can be then used to make chapattis or form pancakes and bread.
- Avoid potatoes, sweet potatoes, colocasia (taro), yams, fresh grains and pulses (legumes), whole yogurt (high in fat)

Main purification therapies: - As the etiology of disease is chronic hence Shodhan purvak shaman chikitsa is better than shaman chikitsa as only shaman chikitsa is not able to correct long lived vitiation of doshas and to break old samprapti.

Udvartan is a powder massage often used for slimming and treatment of obesity that can be done daily.

Abhyang is a warm oil massage. The oil is often premedicated with herbs for specific conditions.

Vaman includes vomiting using herbal medicine. Through Vaman toxins of upper part of the body are completely removed. As the channels are free from harmful toxins body tissues gets recharged and it also rejuvenates the person's body and mind. It reduces Kapha prominent symptoms like frequent urination and turbidity of urine.

Virechan is the intake of oral medicine leading to elimination of toxins through anal route. It eliminates excess toxins from the mid-zone of the body. It increases person's appetite, body strength enhances and person becomes active, functions as an excellent rejuvenate procedure. It reduces Pitta prominent symptoms like peripheral neuropathy.

Basti - Special medicines are introduced through the anal route for the evacuation of accumulated toxins and metabolic waste. It is mainly used in vatpradhan prameh for 16 days (kala basti) niruh & anuvasan alternately can be given.

Need of Herbal Drug Management

Currently we have many superior drugs & also the purified forms of long and short acting Insulin to treat DM. But still resistance to these drugs in their maximum therapeutic dose is seen in increasing number of patients in long term treatment. Apart from these increasing complications in diabetics are seen these days.

That's why it is essential now not only to treat DM but to prevent resistance to drugs as well as prevention of complications. To achieve this goal if we follow the therapeutic principles mentioned in Ayurvedic classical texts for treatment and prevention of disease it will be very useful to achieve our goal. The active principles present in medicinal plants & minerals have been observed to possess pancreatic beta cells regenerating, insulin releasing, and secreting, sparing and even ameliorating the problem of insulin resistance.

Natural remedy helps to increase metabolic rate, detoxification of body, and boosts immune system, resulting to increase pancreatic function by

production of beta cells, increase enough insulin production and treat hyperglycemia.

It has an abundance of essential nutrients, and it completes the nutritional demand of the body cells.

Some various spices and herbs help control the level of blood sugar by improving the function of Pancreas and boosting your immune system. The home remedies include cinnamon, Bitter Gourd, Amla, tulsi, Ginger, Guggul, Giloy, Belpatras, Neem, Bael leaves, Fenugreek seeds, Jamun seeds, Ashwagandha, Shankhpushpi, Shatavari, Punarnava, Red Chandan, White Chandan, Choti Elaichi, Badi Elaichi, Turmeric, Triphala, Harad, shilajit, Guduchi, Guggul, Brahmi, banyan tree bark, Vijaysar, Carom seeds, Adoosa, Naag Kesar, Safatika Bhasma, Green tea, Gau Jaban, Gokhru, Katuja, Trikatu, carom Seeds, Laung, Long Pepper and Black pepper, etc.

Guduchi- Giloy, scientifically called *Tinospora cordifolia*, is dubbed as amrita, which is known as the root of immortality. The leaves of the plant play a major role in stabilizing blood sugar levels and controlling diabetes. It is a great herb to boost immunity; thanks to the antioxidants that fight damaging free radicals. The herb also acts as an immunomodulatory that controls glycaemia in the body. It is a natural anti-diabetic medicine that suppresses craving for sugar. Moreover, it ups the production of beta cells of the pancreas. It results in smooth regulation of insulin and glucose in the blood. Giloy also helps improve the digestive system, which key in keeping blood sugar levels controlled.

Vijaysar - Scientifically known as *Pterocarpus Marsupium*, vijaysar is said to maintain blood sugar levels and control diabetes well. It is anti-hyperlipdemic property of this herb that help reduce total cholesterol, low-density lipo-protein and serum triglyceride levels in the body. Moreover, it helps reduce the symptoms associated with diabetes that include frequent urination, overeating and burning sensation in the limbs. It also tends to improve the digestive system and ups the insulin production level in the pancreas.

Gurmar- Gurmar, or *Gymnema sylvestre*, is a perennial woody vine that grows in tropical regions of India, Africa, and Australia. It contains certain compounds that include flavonols and

gurmarin that have positive effects on diabetics. Gurmar means ‘the sugar destroyer’.

Sadabahar- Sadabahar is known as periwinkle and is a commonly found herb in India. The smooth and glossy dark green-coloured leaves along with the flowers are known to act as natural medicine for type-2 diabetes.

Neem Patra is rich in antioxidants and directly works on your pancreas cell and improves insulin production to control the blood sugar level.

Bel leaves have antidiabetic property, and it protects your body from hyperglycemia.

Fenugreek Seeds: Methi seeds are rich in soluble fibers and help maintain the digestion and absorption of food. It supports the removal of toxins from the body and keeps the sugar level in your body.

Cinnamon: Cinnamon has anti-inflammatory properties, and it protects your body from various infections and boosts your immune system to keep you safe from the hyperglycemia problem.

Banyan Tree Bark: Bark of the Banyan tree is useful for diabetes. It contains a compound named leucocyanidin that stimulates insulin production and helps maintain the blood sugar level and protects your body from high sugar problems.

Karvellak: (Momordica charantia) - This is attributed to the high content of antioxidants and bioactive compounds like polypeptide-p that exhibits hypoglycemic activity

Rasa: - Tikta, katu Vipak:-Katu Virya:- Ushna Guna:-Laghu, Ruksha

It acts by its Ras & Guna. Due to bitter taste, it causes early satiety so that over eating is avoided indirectly. As it is Laghu & Ruksha it should be used in Sthool Pramehi. It improves function of liver & pancreas thus it causes better assimilation of ingested food and hence prevents post-prandial hyperglycemia. This is specifically useful in treatment of both IDDM & NIDDM. For its better activity it should be used in swarasa kalpana in adbhukta aushadhi sevan kala.

Daruharidra: - (Berberis aristata)

Rasa: - Tikta, kashay Vipak: - Katu Virya: -Ushna Guna: -Laghu, Ruksha

It is better acts on liver by improving its function and thus helps in regulating gluconeogenesis.

Tulsi :- (Ocimum sanctum) Tulsi helps in regulating blood sugar levels. They increase insulin resistance in the body. This herb also produces methyl eugenol, caryophyllene, and eugenol.

Jamun :- (Syzygium cumini) Jamun contains alkaloid jambolana or antimellin that prevents the conversion of starch into sugar. Jamun seeds also reduce the risk of kidney dysfunction and accelerate the wound healing process in diabetics.

Aloe Vera- Aloe vera is beneficial for diabetic patients. It slows down the progress of type-2 diabetes in the body. A study was done on the rats to see the effect of Aloe Vera in diabetic patients. Studies show that Aloe Vera repairs the beta cells that make insulin. Scientists say that Aloe Vera has antioxidant effects that help in the treatment of Diabetes.

Amla - This herb is rich in vitamin C and helps diabetic patients in many ways. This herb contains nutrients such as calcium, iron, and phosphorus. It brings blood sugar levels to the normal range. This herb also removes toxins from the body and improves the immune system. Moreover, this herb improves the digestive system.

Ginger - Ginger helps in decreasing insulin resistance in the human body.

Conclusion:

Diabetes Mellitus is mentioned in ayurvedic text as Premeh/Madhumeh. Most of the treatments of Ayurveda like panchkarma and ayurvedic medicines are very useful to improve pancreatic function and ultimately to reduce blood sugar level. Even some herbs which we use in our daily kitchen are very useful to avoid diabetic complications. Regular intake of such herbs in our diet in specific method is found to reduce blood sugar level significantly. But importance of panchkarm, ayurvedic medicines and herbs has been unnoticed in our community. This article will help people to know about ayurvedic management in Type II diabetes mellitus. Awareness of such modalities is necessary to overcome fear of diabetes in community and ultimately to reduce mortality rate due to diabetes.

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