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Living with Diabetes

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Abstract

Diabetes, a term that physicians frequently use to refer to a set of metabolic illnesses, is characterized by elevated blood glucose due to either insufficient insulin secretion, improper insulin cellular response, or both. Patients with elevated blood sugar often have polyuria (frequent urine), polydipsia (growing thirst), and polyphagia (increasing hunger). The definition of diabetes mellitus and its cause: The word diabetes is Greek in origin and means "siphon." Diabainin was the term given to the illness by the Greek physician Aretus the Cappadocian in the second century A.D. He explained people with polyuria, or the overflow of water, as if they were a siphon. The Medieval Latin diabetes was adopted by the English, and so the word "diabetes." Although it's more often called diabetes, Thomas Willis added mellitus to the phrase in 1675. The word "mel" in Latin means "honey," therefore persons with diabetes have high blood and urine glucose levels because glucose tastes sweet, just like honey. "Siphoning off sweet water" could be a literal description of diabetes mellitus. People noticed in ancient China that some people's urine would attract ants due to its sweetness. It was decided to call it "Sweet Urine Disease."

Keywords: Diabetes, Symptoms, Management.

INTRODUCTION

Diabetes has become a major global health issue that is especially affecting India's economy.[1] India is becoming a central location in the fight against diabetes due to its sizable population and continuous socioeconomic changes.[2] Among the obstacles encountered include socioeconomic considerations and challenges in detecting the illness. It is essential to create healthcare models especially suited for the Indian setting in order to address these problems in an efficient manner. Furthermore, it is imperative to cultivate public-private partnerships in order to guarantee the provision of efficient healthcare services.[3]

According to projections from the International Diabetes Federation (IDF), 77 million Indians aged 20 to 79 currently suffer from diabetes; by 2045, that number is projected to rise to 134.2 million.

India is now among the top nations battling the socioeconomic effects of diabetes.[4] The impact is clear diabetes and its consequences account for over a million deaths in India.[5-9]

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A. Some Key Aspects of Diabetes

- High blood sugar levels are a long-term symptom of diabetes.
- Type 1 Diabetes: an inability of the body to make insulin.
- Type 2 diabetes, which is caused by insufficient insulin production in the body.
- Gestational diabetes: this kind impacts women who are expecting.
- Frequent urination, extreme thirst and hunger, weight gain, unexpected weight loss,
- The most common signs of diabetes include fatigue, numbness and tingling in the hands and feet, male sexual dysfunction, and non-healing cuts and bruises.

Diabetes is Disorder of Metabolism Diabetes mellitus falls under this category. How our bodies employ digested food for development and energy is called metabolism. The majority of the food we eat is converted to glucose. Our bodies use glucose, a type of sugar found in the blood, as its main energy source. After our food is broken down, glucose enters our bloodstream. Glucose is used by our cells as fuel and for growth. But insulin is necessary for glucose to enter our cells; without it, glucose cannot enter our cells. Insulin facilitates glucose uptake. The pancreas is a gland that produces the hormone insulin.[10]

The pancreas secretes enough insulin into the bloodstream after a meal to facilitate the uptake of glucose by our cells. Blood glucose levels drop as soon as glucose enters the cells. An individual with diabetes who has hyperglycemia has elevated blood glucose levels. This can be attributed to the body producing either too little or no insulin, or to cells not responding properly to the insulin produced by the pancreas. The blood thus becomes too glucose-loaded.

Eventually, the body excretes this extra blood glucose as urine. Therefore, even if there is an abundance of glucose in the blood, the cells are not receiving enough of it to meet their basic needs for development and energy.

B. Finding out if you have diabetes, prediabetes, or neither: Three separate tests are used by clinicians to assess patients for diabetes, prediabetes, or a normal metabolism:

The A1C test – According to the A1C test, prediabetes is defined as 5.7% to 5.99%, diabetes as 6.5% or more, while normalcy is defined as less than 5.7%.

The test known as fasting plasma glucose, or FPG Diabetes: It is indicated by a fasting plasma glucose (FPG) test result of at least 126 mg/dl; prediabetes is indicated by a result between 100 mg/dl and 125.99 mg/dl; and normality is indicated by a result of less than 100 mg/dl. The patient has impaired fasting glucose (IFG) if an abnormal measurement follows the FPG. **Oral glucose tolerance test (OGTT)**Results less than 140 mg/dl is considered normal, between 140 and 199.9 mg/dl is indicative of prediabetes, and more than 200 mg/dl is indicative of diabetes. An anomaly in the OGTT results indicates impaired glucose tolerance (IGT) in the patient.

C. List of the most common diabetes symptoms:

Frequent urination: Have you recently noticed an increase in the frequency of your urination? You spend most of the day using the restroom, have you noticed? Your blood will urinate more frequently if there is an excess of glucose, or sugar. Your kidneys are unable to return the glucose to the circulation if your insulin is inefficient or absent altogether. The process by which the kidneys dilute glucose by drawing water from your blood causes your bladder to fill up.

Disproportionate thirst: You must replenish any liquids you are peeing out more than usual. You'll be consuming more alcohol than normal. Have you recently consumed more alcohol than normal?

Intense hunger: Your body may respond by looking for extra energy in the form of food as your cells are not receiving any insulin in your blood, or it may not be there at all. You'll start to feel hungry.

Weight gain: This might be the result of the above symptom (intense hunger).

D. List of possible complications that can be caused by badly controlled diabetes:

Eye Problems: Problems with the eyes, such as diabetic retinopathy, cataracts, and glaucoma. Foot issues include ulcers, neuropathy, and even gangrene, which may necessitate amputating the foot. Skin complications: Individuals with diabetes have an increased risk of developing skin infections and problems

Heart issues: such as ischemic heart disease, which occurs when the heart muscle's blood supply is reduced.

Diabetes is frequently accompanied by hypertension, which increases the risk of renal illness, eye issues, heart attacks, and strokes.

Mental health: Having uncontrolled diabetes increases the likelihood of developing anxiety, depression, and other mental illnesses.

Hearing loss: Individuals with diabetes are more likely to experience hearing issues Gum disease: People with diabetes are far more likely to have gum disease.

Gastropteresis: the stomach's muscles contract.

A buildup of ketone bodies and acidity in the blood is called ketoacidosis, which is a hybrid of acidosis and ketosis.

Diabetic neuropathy is a form of nerve injury that can result in a number of various issues. Hyperosmolar Hyperglycemic Nonketotic Syndrome (HHNS) is characterized by excessively elevated blood glucose levels and the absence of ketones in the urine or blood. This situation is urgent. Nephropathy, or high blood pressure, can cause kidney disease. PAD, or peripheral arterial disease, can cause leg pain, tingling, and occasionally difficulty walking.

Stroke: The risk of stroke increases dramatically if blood pressure, cholesterol, and blood glucose levels are not under control.

Impotence in men with erectile dysfunction.

Infections diabetes poorly managed individuals are far more prone to infections

Healing of wounds: Lesions and cuts require a lot longer time to heal. Some diabetes myths and facts: There are a lot of so-called "facts" concerning diabetes that are circulated in periodicals, newspapers, and online; however, some of them are actually false. Accurate knowledge of the disease is crucial for individuals with diabetes and prediabetes, as well as for their loved ones, employers, and educational institutions.

E. Diabetes myths:

People with diabetes should not exercise - NOT TRUE!! Just like everyone else, those with diabetes should exercise. Exercise reduces stress, enhances mood, helps control blood sugar, and improves cardiovascular health in addition to helping with body weight management. Patients should first talk to their doctor about exercise.

Fat people always develop type 2 diabetes eventually - It is untrue that type 2 diabetes always strikes persons who are overweight. Although being overweight or obese is a risk factor for diabetes, it does not guarantee that a person will develop the disease. A large number of type 2 diabetics were never obese. Most overweight individuals do not go on to have type 2 diabetes.

Diabetes is a nuisance, but not serious - Heart attacks or strokes account for two thirds of the early deaths of diabetics. A diabetic's life expectancy is five to 10 years less than that of the general population. Diabetes is a dangerous condition.

Children can outgrow diabetes - this is not true. Type 1 diabetes affects almost all children with the disease; the pancreatic beta cells that produce insulin have been damaged. These never reappeared. Until a cure is discovered someday, children with type 1 diabetes will require insulin for the rest of their lives.

Don't eat too much sugar, you will become diabetic - this is not true. Diabetes type 1 was brought on by the immune system destroying beta cells in the body that produce insulin. A high-calorie diet, which can lead to obesity or overweight, increases the chance of type 2 diabetes, particularly in those with a family history of the condition.

Diabetes diets are different from other people's -The healthy diets that medical professionals and dietitians suggest for those with diabetes are also healthy for everyone else. Meals should be low in sugar, salt, and trans or saturated fat and should include an abundance of fruits, vegetables, and whole grains. Experts claim that since the nutritious foods we can purchase in most stores offer no unique benefits, there is no need to purchase special foods for diabetics.

High blood sugar levels are fine for some, while for others they are a sign of diabetes -No one's blood sugar levels should ever be normal. In adults without diabetes, some illnesses, psychological stress, and steroids can temporarily raise blood sugar levels. A medical expert should examine anyone who has higher-than-normal blood sugar levels or sugar in their urine to rule out diabetes.

Diabetics cannot eat bread, potatoes or pasta -Diabetes sufferers are able to consume starchy foods. They need to pay attention to the portion sizes, though. Starchy foods made from whole grains are preferable, even for those without diabetes.

One person can transmit diabetes to another person - NOT TRUE. In the same way that a fractured limb cannot be contracted. A increased vulnerability to the disease may be inherited by an offspring from one or both of their parents.

Only older people develop type 2 diabetes -Things are evolving. Type 2 diabetes is striking

more and more kids and teenagers. According to experts, this is related to the sharp rise in childhood obesity rates, bad dietary habits, and sedentary lifestyles.

Diabetes you cannot eat chocolates or sweets Chocolates and other sweets are acceptable for diabetics as long as they are consumed in moderation or as part of a balanced diet.

Diabetes patients are more susceptible to colds and illnesses in general - Good diabetes management does not make a diabetic more susceptible than healthy individuals to have a cold or another illness. An increased risk of problems arises, though, because a diabetic's diabetes becomes more difficult to manage when they get sick. The symptoms of diabetes might easily go unnoticed by a person. Primarily, this is because the symptoms appear innocuous when viewed in isolation.

F. Pranayamas & yogaasanas

1. Pranayama by Bhastrika Three to five minutes a day
2. 5–10 minutes a day for kapal-bhati
3. Anulom-viloma five to ten minutes each day
4. Five times a day, Bhramari
5. Five Udgit-Om Uccharan per day
6. Surya Namakar: every two weeks, take three to seven turns, maintaining the stance for ten seconds in between each turn.
7. Add a ¼ minute every week by tadasana from ¼ to one minute.
8. Trikona-asana: add 0.5 minutes every week until one minute on each side.
9. Perform Pashimottanasana for one minute on each side, increasing the time by one minute per week.
10. The Bhujangasana Every two weeks, take three to seven revolutions each, maintaining the stance for ten seconds before adding one turn each.
11. Shavasana 2-5 minutes, with a weekly addition of 1 minute

G. Vegetables recommended:

Brinjal, Ladies finger, Karela, Drumstick and Cabbage; besides these all-green leafy vegetables are generally recommended

H. Salads Recommended:

Carrots, Beet root, Cabbage, Tomato, Onion, Garlic

I. Walking Time:

40-45 mins, atleast 5 days in a week

J. Duration of Sleep:

Atleast 5 hours 30 min

K. General allopathy Medicines recommended*:*

Salts of Glimipride and metformin. Actually,Glimipride salt stimulates β- cells of pancreas to secrete more and more amount of insulin in blood and metformin reduces cholesterol and also excretes excess sugar in blood through urine.

Note: But all medications must be taken by proper consultation with doctor.

L. General Homeopathy Medicines Recommended:

- Black plum, also known as *Syzygiumjambolanum* or *S. cumini*, is thought to be helpful in treating skin ulcers, excessive urination, weakness, and thirst.
- Uranium nitricum is sold to cure burning while urinating, nausea, and excessive urine.
- Conium (hemlock) is said to help treat diabetic neuropathy, or nerve damage, as well as numbness in the hands and feet.
- Lead, or plumbum, is thought to be beneficial for tinnitus, nerve discomfort, and numbness in the hands and feet.
- It is thought that calendula, or marigold, can heal inflamed ulcers.
- Phosphoric acid is recommended as a treatment for memory loss, erectile difficulties, frequent nighttime urination, confusion, and heavy heads. It is thought that *Candida* (yeast) can cure yeast infections.

Note: But all medications must be taken by proper consultation with doctor.

M. AuyrvedicManagement approaches

a. Prevention

1. Dishes made from yava (barley), old rice, bitter gourd, mudga (green gram), patola (snake gourd), pumpkin, drumstick, methi (fenugreek), cucumber, bimbi, watermelon, buttermilk, triphala, etc. can be beneficial for patients who are borderline diabetic as preventive measures.

2. Dinacharya (daily regimen) and rittucary! (seasonal regimen)
3. Increased calorie-consuming hobbies and regularexercise(briskwalking,swimming,etc.)
4. Consistent use of rasayana medications (Amalakirasana, etc.).
5. Limiting the consumption of dairy products, fried foods, and sugar and sugar-related goods
6. Limiting the use of various wines, excessive oil use.
7. Steer clear of daytime naps and indolence

b. Medical management

Line of treatment (Charaka Samhita, Chikitsa Sthana.6/15)

1. Nidana parivarjana, or the avoidance of aetiological variables, includes avoiding sweets, dairy, fried foods, soft drinks, tubers, and sweet fruits including dates, custard apples, mangoes, and bananas.
2. If the patient is obese, vamana, virechana, and vasti are examples of Samshodhana chikitsa (bio-cleansing therapies) that should be administered; however, this needs to be determined by an Ayurvedic physician with the necessary qualifications. Palliative therapy, or Shamana Chikitsa, is the only suggested course of action for a thin and lean patient.
3. Medication therapy: According to Ayurveda, the majority of medications prescribed for diabetes mellitus may operate on the pancreatic beta cells, enhancing insulin sensitivity and production.

c. Counselling - Advice the patient to

1. Engage in physical exercise for 30 to 60 minutes every day.
2. Include more barley, mudga,,roasted chana (bengal gram) and wheat in your diet.
3. Restrict your intake of potatoes, rice, milk, milk products, and fatty foods.
4. Practice good personal hygiene, paying special attention to your hands and feet.
5. Prevent injury and get medical attention right once if you sustain an injury or skin infection.
6. Abstain from all forms of tobacco and alcohol usage
7. Limit or quit eating sweets
8. Routine blood glucose testing and physical examinations A patient's foot inspection, either twice a year or every day, a yearly renal function screening, a twice-yearly glucose-adjusted hemoglobin (HbA1c) test, a yearly eye exam, a quarterly blood pressure check.
9. Lipid profile annually
10. Cardiac checkup once annually

N. ***Indications for referral*****:**

a. Severe infections and renal dysfunction
b. Linked to drug non-response and consequences (diabetic neuropathy, diabetic retinopathy diabetic foot, coronary artery diseaseetc.).

O. Chanting OM mantra for diabetes:

You need to recite "Aum" instead of "Om." According to meditation experts, the Sanskrit term "Aum" has evolved into "Om" throughout time as a result of propagation and travel. Additionally, there is science behind this; it is not fantasy. Unlike the trisyllabic word Aum, Om is essentially a monosyllabic word. This is due to the fact that the two words have different pronunciations. Om is only said in the same manner that it is written. In contrast, the pronunciation of Aum is aa-uu-eemm. 'O' is a diphthong sound in Sanskrit. This indicates that the two sounds "A" and "U" are combined to produce it. The only thing that separated the two variants, Om and Aum, was transliteration.

The vibrations

When you chant the three syllables of Aum, you should feel vibrations in the three locations listed below. Chanting AA will cause vibrations in your abdomen and around your navel. It has to do with being awake. Chanting UU: Your chest cavity's surrounding vibration. It has to do with dream states. Chanting EEMM: The resonance in your throat and surrounding area. It has to do with the deep sleep phase.

CONCLUSION

India has a vast population and continuous socioeconomic change, making diabetes a major health concern. Diabetes management is fraught with difficulties in India, including low diagnosis rates, a lack of awareness, a lack of access to high-quality care, problems with medication adherence, and a shortage of time and expertise among doctors. Diabetes diagnosis and access to high-quality care continue to be major obstacles, with many cases

going misdiagnosed, particularly in rural regions. This problem is exacerbated by elements including the expense of therapy, logistical difficulties, and a lacklustre healthcare system. Diabetes patients' poor medication adherence is a serious concern that is influenced by a number of factors, including expensive prescription drugs, complicated treatment plans, and few transportation choices. One factor contributing to the rising rate of diabetes is the shortage of qualified healthcare workers, such as diabetes educators and dietitians.

Although there are obstacles to their implementation and no information on their efficacy, India's current policies attempt to enhance the treatment of people with diabetes. All things considered, managing the problems associated with diabetes treatment in India necessitates a multifaceted strategy that includes raising awareness, enhancing healthcare professional knowledge and training, improving diagnosis and access to care, lowering the cost of medication, and successfully implementing policies and programs.

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