Dare to be Non-Diabetic

Abstract: Diabetes is one of the most important worldwide health hazards that needs special attention in our practice. Here the preliminaries and preventive measures have been described along with the dietary management. The homoeopathic treatment is most helpful to treat the cases of Type-2 Diabetes Mellitus. A considerable number of homoeopathic medicines have been described with an intention to treat such cases and to save the patient from its destructive process.

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Introduction

Diabetes is one of the burning health problems in our country and also world-wide. In most cases, the person is unaware about the disease which he is harboring within himself and is diagnosed accidentally when he goes for investigation for other problems or for complications of diabetes. Diabetes is broadly classified as *Diabetes Mellitus and Diabetes Insipidus*. But here we will confine our discussion to Diabetes Mellitus. Diabetes Mellitus is a clinical syndrome characterized by hyperglycemia due to absolute or relative deficiency of insulin. Lack of insulin affects the metabolism of carbohydrate, protein and fat and causes a significant disturbance of water and electrolyte homeostasis. Most of the diabetic patients presents with *polyuria, polydipsia, polyphagia and significant weight loss* despite polyphagia.

The depressed immune status of a diabetic patient, may result in flare-ups of pulmonary tuberculosis, non-healing wounds, recurrent styes, candidial pruritus vulvae, balanitis and recurrent urinary tract infections to which special attention is paid by the patient who rushes to the doctor before he knows himself to be a diabetic. Some patient presents with end organ involvement eg retinopathy, nephropathy or neuropathy (eye complications, renal complications, nerve complications).

In most of the cases the risk factors for diabetes are identified as *obesity, pregnancy, modern life-style, sedentary life-style, genetic predisposition* (First degree relatives of known diabetes).

Epidemiology

The incidence of both Type -1 and Type – 2 diabetes is rising world-wide. In the year 2000, 150 million people world-wide had diabetes. This global pandemic principally involves Type 2 diabetes and is associated with several contributory factors including *increased longevity, obesity, unsatisfactory diet, sedentary life-style, increasing urbanization*. Prevalence of diabetes varies considerably around the world and is related to genetics and environmental factors. The prevalence is more among the migrant populations to the industrialized countries, eg Asian and Afro-Caribbean immigrants to the United Kingdom.

Classification

Diabetes mellitus is broadly classified as *Primary and Secondary*. 'Primary' implies that no associated disease is present while 'Secondary' implies that there are some other identifiable conditions which causes or allows a diabetic syndrome to develop.

Primary diabetes includes both Type 1 (Insulin Dependent Diabetes, IDDM) and Type 2 (Non-insulin dependent, NIDDM) diabetes. Whereas diabetes in the patient due to pancreatic diseases, hormonal abnormalities, insulin receptor abnor-

malities, genetic abnormalities or drug induced are categorized as *Secondary type.*

Potential diabetics are persons with a normal glucose tolerance test who have an increased risk of developing diabetes for genetic reasons, eg children of two diabetic parents, sibling of a diabetic, non-diabetic member of a pair of monozygotic twins where the other is a diabetic.

Latent diabetes are persons in whom the glucose tolerance test is normal but who are known to have given an abnormal result under conditions imposing burden on the pancreatic cells eg during pregnancy, infection, severe stress, overweight etc.

Gestational diabetes is said to manifest when diabetes mellitus or impaired glucose tolerance test (IGT) first appears during pregnancy. It is often associated with foetal loss or congenital malformation of foetus. Diagnosis of gestational diabetes is based on *O'Sullivan Criteria;* 0 hr (fasting) blood sugar level is 90 mg/dl (maximum), 1 hr reading is 165 mg/dl (maximum), 2 hrs reading is 145 mg/dl (maximum).

COMPARISON OF DIFFERENT TYPES OF DIABETES MELLITUS

FEATURES	IDDM (Type – 1)	NIDDM (Type – 2)
Genetic location	On chromosome 6	On chromosome 11
Age of onset	Usually begins before the age of 40 years	Usually begins after the age of 40 years
Mode of onset	Onset of symptoms may be abrupt, with polyuria, polydypsia, polyphagia and weight loss developing over days or weeks.	The symptoms begin gradually over a period of months or years. Hyperglycemia is detected in an asymptomatic person on a routine examination.
Physical make-up	Normal to waste	The typical patient is obese.
Plasma insulin	Low or immeasurable	Normal to high
Plasma glucagon	High, but suppressible with insulin	High, but resistant to insulin
Acute complications	Initial episodes of keto-acidosis, is followed by a symptom free interval (Honeymoon period) during which no treatment is required.	Usually do not develop ketoacidosis. In decompensated state they are prone to develop hyperosmolar non-ketotic coma.
Family history of diabetes	Usually not present	Usually present
Association of other auto-immune disease	Usually present	Usually not found
Presence of auto-antibodies	Present	Absent
Insulin therapy	Responsive	Responsive to resistant

MANIFESTATIONS OF DIABETES MELLITUS

The major manifestations of diabetes mellitus are hyperglycaemia (commonest), ketoacidosis, systemic disorders (complication), hypoglycaemia (as a result of treatment).

SIGN AND SYMPTOMS

HYPERGLYCEMIA	HYPOGLYCEMIA	KETOACIDOSIS
➢ Excess thirst with dry mouth	*Autonomic Manifestations*	*Symptoms*
➢ Polyuria, nocturia	▪ Sweating	▪ Polyuria, thirst
➢ Tiredness, fatigue, irritability, apathy	▪ Trembling	▪ Weight loss
➢ Recent change in weight	▪ Hunger	▪ Weakness
	▪ Anxiety	▪ Nausea, vomiting
		▪ Leg cramps

➢ Blurring of vision ➢ Pruritus vulvae, balanitis ➢ Nausea ➢ Headache ➢ Hyperphagia, extraordinary craving for sweets.	*Neuroglycopenic* ▪ Confusion ▪ Drowsiness ▪ Difficult speech ▪ Inability to concentrate ▪ Incordination *Non-specific* ▪ Nausea ▪ Headache ▪ Tiredness	▪ Blurred vision ▪ Abdominal pain *Signs* ▪ Dehydration ▪ Hypotension ▪ Tachycardia ▪ Air Hunger ▪ Smell of acetone ▪ Hypothermia ▪ Confusion, drowsiness, coma (10%)

SYSTEMIC DISORDERS (COMPLICATIONS OF DIABETES)

Retinopathy:
- Impaired vision
- Cataract
- Glaucoma

Nephropathy:
- Renal failure
- Uraemia

Peripheral neuropathy:
- Sensory loss
- Motor weakness

Autonomic neuropathy:
- Postural hypotension
- Gastric disorders

Diabetic foot:
- Ulcerations
- Arthropathy

Diabetic Skin:
- Non healing wounds
- Candidiasis
- Infections

DIAGNOSIS OF DIABETES MELLITUS

Diagnosis of diabetes mellitus is based on:

1) Symptoms
- ➢ Polyuria
- ➢ Polydypsia
- ➢ Polyphagia
- ➢ Weight loss

2) Signs
- ➢ Non-healing wounds
- ➢ Recurrent styes
- ➢ Pruritus vulvae
- ➢ Recurrent urinary tract infections

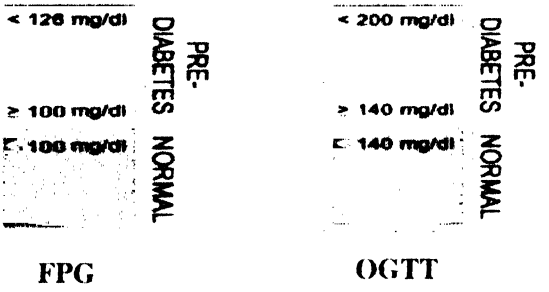
3) Risk factors
- ➢ Obesity
- ➢ Pregnancy
- ➢ Genetic Predisposition
- ➢ Sedentary life style

4) Biochemical investigations
- ➢ Urine: glycosuria with or without ketonuria
- ➢ Glycosylated haemoglobin level (HbA_1) may be elevated (normal = 6-8 %)
- ➢ HLA typing in Type-1 (IDDM) to reveal genetic predisposition.

HOW TO PREVENT PRE-DIABETES

Pre-diabetes is a serious medical condition that can be treated. The people with pre-diabetes can prevent the development of type 2 diabetes by making changes in their diet and increasing their level of physical activity. They may even be able to return their blood glucose levels to the normal range.

The American Diabetes Association is developing materials that will help people understand their risks for pre-diabetes and what they can do to halt the progression to diabetes and even to, "turn back the clock". Tools to know pre-diabetic patients are as follows:



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From a public health stand point the only cost effective way of dealing with diabetes is to prevent it. Type-2 diabetes is associated with an affluent lifestyle that is likely to arise in genetically predisposed individuals who eat too much and exercise too little. The preventive measures are most effective for Type-2 diabetes than type-1; early treatment of impaired glucose tolerance could reduce the incidence of serious vascular disease in these patients.

In type-1 diabetes the islet insulin-secreting cells are destroyed slowly over several years before clinical presentation appears in such patients. But the prevention of Type 1 diabetes depends on predicative markers for the development of clinical diabetes in genetically predisposed individuals, an understanding of the precise sequence of events leading to pancreatic beta cell destruction, the development of methods of intervention which could be applied early in the pre-diabetic period before most of the insulin secreting cells have been destroyed.

Dietary Management Of Diabetes Mellitus

The preparation of a dietary regimen for a diabetic can be considered in three steps:

Step – 1

This involves the estimation of the total daily caloric requirement of the individual patient. It depends on age, sex, actual weight, desirable weight, activity and occupation of the patient. However an approximate total daily caloric requirement can be calculated as follows:

- Sedentary individuals: 30 kcal/kg/day
- Moderate active individuals: 35 kcal/kg/day
- Heavily active individuals: 40 kcal/kg/day

Step – 2

This involves allocation of the calories in a proper proportion to carbohydrate, protein and fat. The recommended proportion of calories to be derived from each of them is as follows:

- Carbohydrate: 50-60 %
- Protein: 10-15%
- Fat: 30-35%

Step – 3

This involves a distribution of the calories throughout the day. It is strictly maintained in IDDM to avoid hypoglycemia. This distribution varies according to different life-styles. However, a typical pattern of distribution of calories is given below:

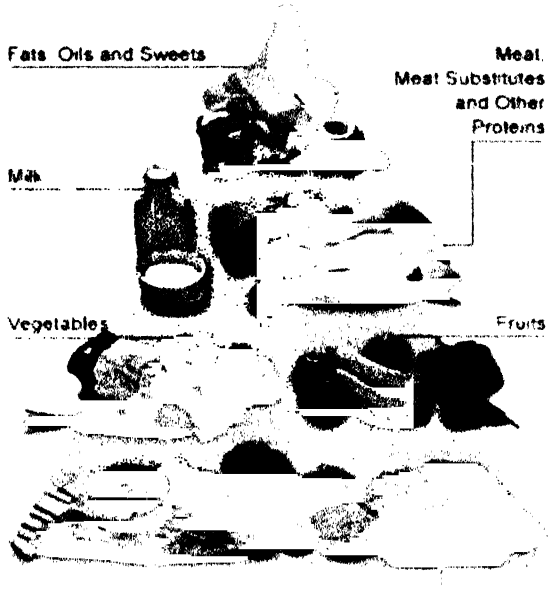
- Breakfast: 20% of the total calories
- Lunch: 35% of the total calories
- Dinner: 30% of the total calories
- Late-evening feed: 15% of the total calories

Diabetic Food Pyramid: *(American Diabetic Association)*

The Diabetes Food Pyramid divides food into six groups. These groups or sections on the pyramid vary in size. The largest group — grains, beans, and starchy vegetables — is on the bottom. This means that you should eat more servings of grains, beans, and starchy vegetables than of any of the other foods. The smallest group — fats, sweets, and alcohol — is at the top of the pyramid. This tells you to eat very few servings from these food groups.

The Diabetes Pyramid gives a range of servings. If you follow the minimum number of servings in each group, you would eat about 1600 calories and if you eat at the upper end of the range, it would be about 2800 calories. Most women would eat at the lower end of the range and many men would eat in the middle to high end of the range if they are very active. The exact number of servings you need depends on your diabetes goals, calorie and nutrition needs, your

lifestyle, and the foods you like to eat. Divide the number of servings you should eat among the meals and snacks you eat each day.



Following is a description of each group and the recommended range of servings of each group:

1. Grains and starch

At the base of the pyramid are bread, cereal, rice, and pasta. These foods contain mostly carbohydrates. The foods in this group are made mostly of grains, such as wheat, rye, and oats. Starchy vegetables like potatoes, peas, and corn also belong to this group, along with dry beans such as black eyed peas and pinto beans. Starchy vegetables and beans are in this group because they have about as much carbohydrate in one serving as a slice of bread. So, you should count them as carbohydrates for your meal plan.

Choose 6-11 servings per day:

Remember, not many people would eat the maximum number of servings. Most people are toward the lower end of the range.

Serving sizes are

1 slice of bread
½ an pita bread
¾ cup dry cereal
½ cup cooked cereal
½ cup potato, yam, peas, corn, or cooked beans
1 cup winter squash
1/3 cup of rice or pasta

2. Vegetables

All vegetables are naturally low in fat and good choices to include often in your meals or have them as a low calorie snack. Vegetables are full of vitamins, minerals and fiber. This group includes spinach, chicory, sorrel, Swiss chard, broccoli, cabbage, bok choy, brussels sprouts, cauliflower and kale, carrots, tomatoes, cucumbers, and lettuce. Starchy vegetables such as potatoes, corn, peas, and lima beans are counted in the starch and grain group for diabetes meal planning.

Choose at least 3-5 servings per day:

A serving is

1 cup raw
½ cup cooked

3. Fruit

The next layer of the pyramid is fruits, which also contain carbohydrates. They have plenty of vitamins, minerals, and fiber. This group includes blackberries, strawberries, oranges, apples, bananas, peaches, pears, and grapes.

Choose 2-4 servings per day

A serving is

½ cup canned fruit
1 small fresh fruit
2 tbs dried fruit
1 cup of melon or raspberries
1 ¼ cup of whole strawberries

4. Milk

Milk products contain a lot of protein and calcium as well as many other vitamins. Choose non-fat or low-fat dairy products for the great taste and nutrition without the saturated fat.

Choose 2-3 servings per day

A serving is:

1 cup non-fat or low-fat milk
1 cup of yogurt

5. Meat and Meat Substitutes

The meat group includes beef, chicken, fish, eggs, dried beans, cheese, cottage cheese and peanut butter. Meat and meat substitutes are great sources of protein and many vitamins and minerals.

Choose from lean meats, poultry and fish and cut all the visible fat off meat. Keep your portion sizes small. Three ounces is about the size of a deck of cards. You only need 4-6 ounces for the whole day

Choose 4-6 oz per day divided between meals

Equal to 1 oz of meat:

¼ cup cottage cheese
1 egg
1 Tbsp peanut butter
½ cup tofu

6. Fats, Sweets, and Alcohol

Things like potato chips, candy, cookies, cakes, crackers and fried foods contain a lot of fat or sugar. They aren't as nutritious as vegetables or grains.

Serving sizes include

½ cup ice cream
1 small cupcake or muffin
2 small cookies

The Diabetes Food Pyramid makes it easier to remember what to eat, for a healthy meal plan that is based on individual needs.

Homoeopathic Treatment For Diabetes Mellitus

There are considerable numbers of homoeopathic medicines which can be used successfully for the treatment of Diabetes Mellitus. There are several other constitutional medicines also (depending upon individual patients) which can also be used to treat the disease to root it out it from the organism.

1) *Acetic-acid*

- Urine: increased and light colored; with increased sweat.
- Intense, burning, insatiable thirst, even for large quantities in diabetes.
- Diabetes with great debility and weakness
- Tendency to develop oedema and dropsy.
- Patient is pale, lean, with lax, flabby muscles, face looks pale and waxy.

2) *Argentum-metallicum*

- Urine is turbid, sweetish, profuse at night.
- Polyuria, frequent urination at night.
- Great emaciation, patient looks tall, thin.
- Seminal loss without sexual excitement and with atrophy of penis.

3) *Arsenicum-bromatum*

- It is used successfully in diabetic patient who have tendency to develop cutaneous eruptions, particularly acne rosaceae.
- Patient belongs to either antipsoric or antisyphilitic background.
- In diabetes, 3-4 drops of tincture in a glass of water, three times a day is very efficacious (Dr Boericke)

4) *Arsenicum-album*

- Scanty, burning, involuntary urination.
- Urine; turbid, mixed with pus and blood.
- Scanty urine with brick dust sediment.
- After urinating, feeling of weakness in abdomen.
- Intense thirst but takes little amount at short intervals.
- Diabetes with great prostration, weakness which co-exists with great restlessness.

5) *Boricum-acidum*

- Pain in region of ureters, with frequent urging to urinate.
- Diabetes, tongue dry, red and cracked.
- Oedematous swelling of the face especially around the eyes.
- Frequent urination in female with burning and tenesmus.
- Free flow of cold saliva.

6) *Chimaphila-umbellate*

- Diabetes with prostatic enlargement.
- Scanty urine, and loaded with ropy, mucopurulent sediment; urine turbid and offensive.

- Burning and scalding during micturition, and straining afterwards; must strain before flow comes.
- Unable to urinate without standing with feet wide apart and body inclined forward.
- Feeling of a ball in perineum with acute prostates.

7) Codeinum

- Increased secretion of urine, lighter in color.
- Great thirst, with desire for bitter substance.
- Itching, with feeling of warmth, numbness and prickling; diabetes.
- Involuntary twitching of muscles of arms and lower limbs.

8) Curare

- Glycosuria with motor paralysis; nervous debility.
- Reflex action of body is diminished.
- Great debility especially in aged or from loss of fluids.
- Arms weak, heavy, cannot lift the fingers.
- 4th dilution is best to use in diabetes mellitus (Dr Barkhard)

9) Helonias

- Early stage of diabetes, with rapid progression and great emaciation.
- Urine profuse, clear, saccharine.
- Great thirst, lips dry, stick together.
- Diabetes with great restlessness of mind, irritability and melancholy.
- Burning, scalding while urinating; desire frequent and great urging.

10) Iris-versicolor

- Urine scanty, red, burning whole length of urethra after passing.
- Iris affects essentially the pancreas.
- Cutting and pricking pain in urethra while urinating.
- Nocturnal emissions with amorous dreams.

11) Kreosotum

- Frequent urging to urinate, with copius, pale discharge at night cannot get out of bed quick enough.
- Must hurry when desire comes to urinate.
- URINE: brownish, reddish with red sediment, very offensive.
- Diabetes with gangrenous tendency to ulcers.

12) Lactic-acid

- Diabetes with marked polyuria.
- Urine in large quantities passed frequently.
- Urine: deep brownish red, with red sediment.
- Tongue: dry, parched with excessive thirst.
- Copius salivation, nausea > by eating; voracious appetite.

13) Phosphoricum-acidum

- Urine clear as water, large in quantity than fluid taken internally; profuse urination at night.
- Diabetes mellitus, sugar and albumen in urine; constant urging to urinate.
- Diabetes with unquenchable thirst, dry skin, progressive emaciation and great debility and weakness.
- Sometimes milky urine, smelling like raw meat, containing bloody clots.
- Must often rise at night to pass large quantities of colorless urine.

14) Phosphorus

- Diabetes mellitus preceded or accompanied by disease of pancreas.
- Glycosuria with fatty or amyloid degeneration of kidneys.
- Urine: profuse, pale, watery, frequent.
- Diabetes with unquenchable thirst for cold water, great debility and burning sensation all over body.
- Tall, lean, thin, fair, blond patient with oversensitiveness to all impression, chilly patient.

15) Syzygium-jambolanum

- Most useful remedy in diabetes mellitus; no other remedy causes so marked diminution and disappearance of sugar in urine.
- Great thirst, weakness, emaciation in diabetes.
- Very large amount of urine, specific gravity

is high.
- Diabetes complicated with ulcerations
- Powdered seeds, ten grains three times a day, also in tincture. (Dr Boericke)

16) Uranium-nitricum
- Glycosuria with high blood pressure and dropsy.
- Copius urination; incontinence of urine.
- Burning in urethra with very acid urine; unable to retain urine without pain.
- Excessive thirst; ravenous appetite; eating followed by flatulence.
- Great emaciation, debility and tendency to ascites and general dropsy.
- Dryness of mucous membrane and skin.

17) Insulin

An aqueous solution of insulin affects sugar metabolism. If administered at suitable intervals in diabetes mellitus, the blood sugar is maintained at a normal level and the urine remains free of sugar.

18) Pancreatinum

Specifically used for diabetes mellitus where the patient is frequently suffering from gastric disorders.

Assessment Of Metabolic Control In Diabetes

There are various methods of assessing blood glucose control in diabetic patients. The commonly used methods are as follows:

1) **Urinary Glucose:** Measurements of urinary glucose and ketones can be obtained before breakfast and once or twice throughout the day. Patients should be instructed to void 30 min. before obtaining urine for glucose determination ('double voiding') particularly morning sample; glucose level thus obtained roughly corresponds to the blood glucose level. Periodic assessment of 24 hours urinary glucose excretion provides a better estimate of daylong control (less than 5 gm per day indicates excellent control).
2) **Blood Glucose:** Random blood glucose level has limited value, estimation of fasting and 2 hrs post-prandial blood glucose levels give more reliable information. Target glucose levels recommended by American Diabetic Association for NIDDM management are fasting blood glucose less than 140 mg/dl and 2hrs post-prandial blood glucose less than 200 mg/dl.
3) **Glycosylated Proteins:** Measurement of glycosylated haemoglobin level provides an excellent assessment of the overall state of glycaemic control during the preceeding 3 months
4) **Blood Lipids:** Concentration of serum cholesterol, triglyceride and HDL measured in the fasting state provides an index of overall metabolic control in diabetic patients.

Conclusion: The description about diabetes mellitus detailed here is mainly to prevent and to treat the uncomplicated cases Type 2 diabetes. The discussion made above may be helpful for our clinical practice. I have treated many cases of Diabetes Mellitus (Type – 2) with the help of above mentioned medicines with great success. The indications of each medicine described here are clinically verified by many stalwarts in homoeopathic world and can be considered as authentic guidance in our practice with a variable opinion.

References

1. *Allen, H C:* Keynote MM; B Jain Publishers (P) Ltd; New Delhi; Reprint Ed; 1998.
2. *Boericke, W:* H MM and Repertory; B Jain Pub (P) Ltd; New Delhi; Reprint Ed; 1998.
3. *Hering, C:* The Guiding symptoms of our MM; B Jain Pub (P) Ltd; New Delhi; Reprint Ed; 2000.
4. *Chaudhury, NM:* A study on MM; B Jain Pub (P) Ltd; New Delhi; Reprint Ed; 1994.
5. *Bernoville, F:* Diabetes Mellitus; B. Jain Pub (P) Ltd; New Delhi; Reprint Ed; 1997.
6. *Kent, J T:* Repertory of the HMM; B Jain Pub (P) Ltd; New Delhi; Reprint Ed; 1999.
7. *Davidson S:* Principles and Practice of Medicine; Churchill Livingston, New York & London; 19th Ed; 2002.
8. *Chaudhuri, S:* Concise Medical Physiology; Central Book Agency; Kolkata; Reprint 5th Ed; 2006
9. *Internet:* www.diabetes.org.
10. *Internet:* www.diabetes.org.uk