

**Diabetes – A New Global Threat****Gangrade Sandeep**

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Email- [gangrade.sandeep@rediffmail.com](mailto:gangrade.sandeep@rediffmail.com)**Abstract**

Now a days Diabetes is slowly becoming new threat for everyone worldwide. Diabetes, often referred to by doctors as “diabetes mellitus, describes a group of metabolic diseases in which the person has high blood glucose (blood sugar), either because insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both”. In India Diabetes is spreading enormously, as due to illiteracy majorly in eating habits and individual life style. The current research clearly demonstrates its prevalence globally and measures to treat it naturally, and remedial measures to be taken to prevent further spread of threat in society. The main concept behind the work is to educate society about what is diabetes and to discuss the myths associated with it. Diabetes is the fastest growing chronic condition in India; increasing at a faster rate than other chronic diseases such as heart disease and cancer. All types of diabetes are increasing in prevalence: Type 1 diabetes accounts for 10% of all diabetes and is increasing Type 2 diabetes accounts for 85% of all diabetes and is increasing Gestational diabetes in pregnancy is increasing. Diabetes is recognized as the world's fastest growing chronic condition. The number of people with type 2 diabetes is growing in each country. In 2015, diabetes caused 5.1 million deaths globally. World Diabetes Day is celebrated on November 14 each year. This day engages millions of people worldwide in diabetes advocacy and awareness activities in response to growing concerns about the escalating health threat that diabetes now poses globally. World Health Day on April 7 2016 will also be dedicated to raising awareness about diabetes.

**Keywords:** - Diabetes, type-1, type-2, A1C, FPG, PP.**1- INTRODUCTION**

Diabetes is a serious complex condition which can affect the entire body. Diabetes requires daily self care and if complications develop, diabetes can have a significant impact on quality of life and can reduce life expectancy. While there is currently no cure for diabetes, you can live an enjoyable life by learning about the condition and effectively managing it. There are different types of diabetes; all types are complex and serious. The three main types of diabetes are type 1, type 2 and gestational diabetes.

When someone has diabetes, their body can't maintain healthy levels of glucose in

the blood. Glucose is a form of sugar which is the main source of energy for our bodies. Unhealthy levels of glucose in the blood can lead to long term and short term health complications. For our bodies to work properly we need to convert glucose (sugar) from food into energy. A hormone called insulin is essential for the conversion of glucose into energy. In people with diabetes, insulin is no longer produced or not produced in sufficient amounts by the body. When people with diabetes eat glucose, which is in foods such as breads, cereals, fruit and starchy vegetables, legumes, milk,

yoghurt and sweets, it can't be converted into energy.

Instead of being turned into energy the glucose stays in the blood resulting in high blood glucose levels. After eating, the glucose is carried around your body in your blood. Your blood glucose level is called glycaemia. Blood glucose levels can be monitored and managed through self care and treatment.

Three things you need to know about diabetes: (a) It is not one condition- there are three main types of diabetes: type 1, type 2 and gestational diabetes (b) All types of diabetes are complex and require daily care and management (c) Diabetes does not discriminate, anyone can develop diabetes

## **2- UNDERSTANDING TYPE 1 AND TYPE 2 DIABETES**

### **2.1 TYPE 1 DIABETES**

Type 1 diabetes is an auto-immune condition in which the immune system is activated to destroy the cells in the pancreas which produce insulin. We do not know what causes this auto-immune reaction. Type 1 diabetes is not linked to modifiable lifestyle factors. There is no cure and it cannot be prevented. Type 1 diabetes Occurs when the pancreas does not produce insulin. Represents around 10% of all cases of diabetes and is one of the most common chronic childhood conditions. Onset is usually abrupt and the symptoms obvious, Symptoms can include excessive thirst and urination, unexplained weight loss, weakness and fatigue and blurred vision. Is managed with insulin injections several times a day or the use of an insulin pump.

### **WHAT HAPPENS TO THE PANCREAS?**

In type 1 diabetes, the pancreas, a large gland behind the stomach, stops making insulin because the cells that make the insulin have been destroyed by the body's immune system. Without insulin, the body's cells cannot turn glucose (sugar), into energy. People with type 1 diabetes depend on insulin every day of their lives to replace

the insulin the body cannot produce. They must test their blood glucose levels several times throughout the day. The onset of type 1 diabetes typically occurs in people under 30 years, but can occur at any age. About 10-15% of all cases of diabetes are type 1.

Without insulin the body burns its own fats as a substitute which releases chemical substances in the blood. Without ongoing injections of insulin, the dangerous chemical substances will accumulate and can be life threatening if it is not treated. This is a condition call ketoacidosis.

### **WHAT CAUSES TYPE 1 DIABETES?**

The exact cause of type 1 diabetes is not yet known, but we do know it has a strong family link and cannot be prevented. We also know that it has nothing to do with lifestyle, although maintaining a healthy lifestyle is very important in helping to manage type 1 diabetes. At this stage nothing can be done to prevent or cure type 1 diabetes. Symptoms Being excessively thirsty, Passing more urine, Feeling tired and lethargic, Always feeling hungry, Having cuts that heal slowly, Itching, skin infections, Blurred vision, Unexplained weight loss, Mood swings, Headaches, Feeling dizzy, Leg cramp.

These symptoms may occur suddenly. If they occur, see a doctor. Through a simple test, a doctor can find out if they're the result of type 1 diabetes.

### **MANAGEMENT, CARE AND TREATMENT**

Type 1 diabetes is managed with insulin injections several times a day or the use of an insulin pump. While your lifestyle choices didn't cause type 1 diabetes, the choices you make now can reduce the impact of diabetes-related complications including kidney disease, limb amputation and blindness. If you have recently been diagnosed with type 1 diabetes or have a family member with type 1 diabetes, view information on managing type 1 diabetes.

### **2.2 TYPE 2 DIABETES**

Type 2 diabetes is a progressive condition in which the body becomes resistant to the normal effects of insulin and/or gradually loses the capacity to produce enough insulin in the pancreas. We do not know what causes type 2 diabetes. Type 2 diabetes is associated with modifiable lifestyle risk factors. Type 2 diabetes also has strong genetic and family related risk factors.

Type 2 diabetes:

- Is diagnosed when the pancreas does not produce enough insulin (reduced insulin production) and/or the insulin does not work effectively and/or the cells of the body do not respond to insulin effectively (known as insulin resistance)
- Represents 85–90 per cent of all cases of diabetes
- Usually develops in adults over the age of 45 years but is increasingly occurring in younger age groups including children, adolescents and young adults
- Is more likely in people with a family history of type 2 diabetes or from particular ethnic backgrounds
- For some the first sign may be a complication of diabetes such as a heart attack, vision problems or a foot ulcer
- Is managed with a combination of regular physical activity, healthy eating and weight reduction. As type 2 diabetes is often progressive, most people will need oral medications and/or insulin injections in addition to lifestyle changes over time.

#### **WHAT HAPPENS WITH TYPE 2 DIABETES?**

Type 2 diabetes develops over a long period of time (years). During this period of time insulin resistance starts, this is where the insulin is increasingly ineffective at managing the blood glucose levels. As a result of this insulin resistance, the pancreas responds by producing greater and greater amounts of insulin, to try and achieve some

degree of management of the blood glucose levels. This as mentioned occurs over a very long period of time.

As this over production of insulin occurs over a very long period of time, the cells in the pancreas that produce insulin wear themselves out, so that by the time someone is told that they have type 2 diabetes, they have lost 50 – 70% of those cells that produce insulin. This means that type 2 diabetes is a combination of ineffective insulin and not enough insulin. Type 2 diabetes is a progressive condition and the progression is with the ongoing destruction of the cells in the pancreas that produce insulin.

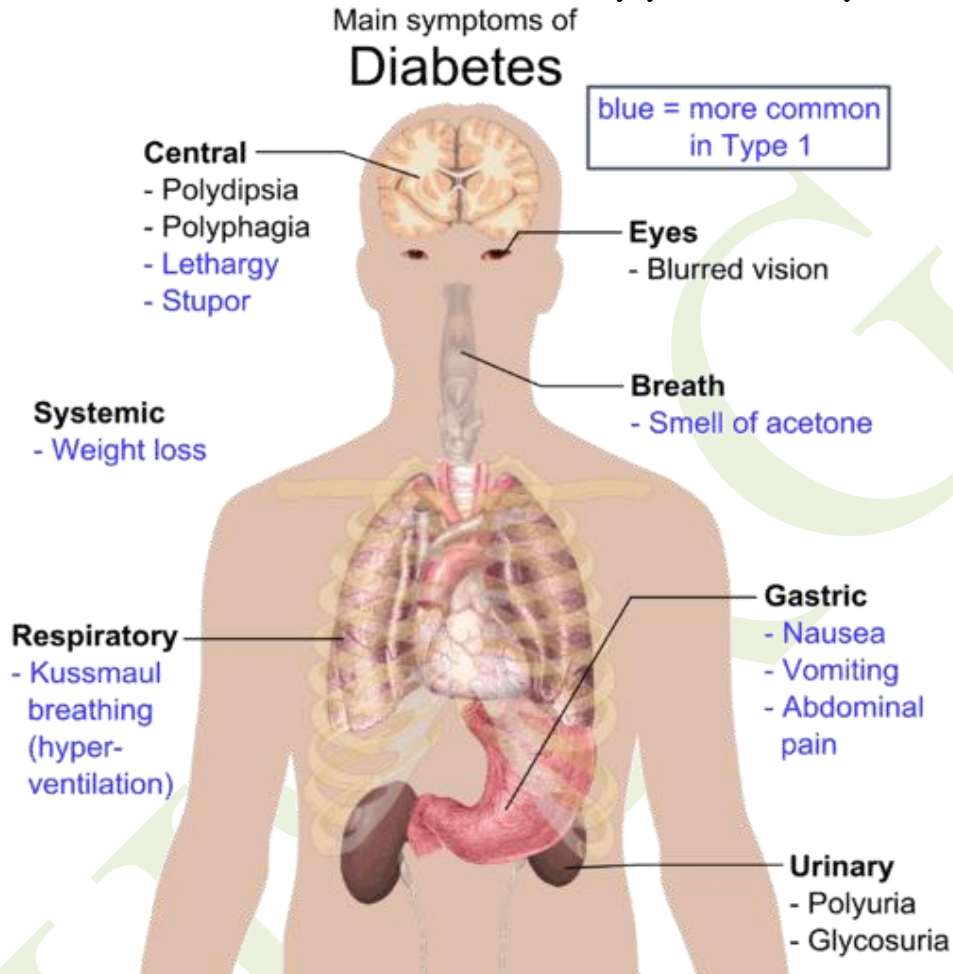
Type 2 diabetes can often initially be managed with healthy eating and regular physical activity. However, over time most people with type 2 diabetes will also need tablets and many will also need insulin. It is important to note that this is just the natural progression of the condition, and taking tablets or insulin as soon as they are required can result in fewer complications in the long-term.

#### **WHAT CAUSES TYPE 2 DIABETES?**

Diabetes runs in the family, if you have a family member with diabetes, you have a genetic disposition to have diabetes. You inherit a predisposition to the condition and then something in your environment triggers it. Although there is a strong genetic predisposition, the risk is greatly increased when associated with lifestyle factors such as high blood pressure, overweight or obesity, insufficient physical activity, poor diet and the classic ‘apple shape’ body where extra weight is carried around the waist. While there is no single cause of type 2 diabetes, there are well-established risk factors. Some risk factors can be controlled and others you are born with. You are at a higher risk of getting type 2 diabetes if you: (a) have a family history of diabetes (b) are older (over 55 years of age ) - the risk increases as we age (c) are over 45 years of age and are overweight (d) are over 45 years

of age and have high blood pressure (e) are over 35 years of age and are from an Aboriginal or Torres Strait Islander background (f) are over 35 years of age and are from Pacific Island, Indian subcontinent

or Chinese cultural background (g) are a woman who has given birth to a child over 4.5 kgs (9 lbs), or had gestational diabetes when pregnant, or had a condition known as Polycystic Ovarian Syndrome.



### **SYMPTOMS**

In type 2 diabetes, many people have no symptoms at all. As type 2 diabetes is commonly (but not always) diagnosed at a later age, sometimes signs are dismissed as a part of 'getting older'. In some cases, by the time type 2 diabetes is diagnosed, the complications of diabetes may already be present.

Symptoms include: Being excessively thirsty, Passing more urine, Feeling tired and lethargic, Always feeling hungry, Having cuts that heal slowly, Itching, skin infections, Blurred vision, Gradually putting on weight, Mood swings, Headaches, Feeling dizzy, Leg cramps.

### **MANAGING TYPE 2 DIABETES**

While there is currently no cure for type 2 diabetes, the condition can be managed through lifestyle modifications and medication. Type 2 diabetes is progressive and needs to be managed effectively to prevent complications. If you have recently been diagnosed with type 2 diabetes or have a family member with type 2 diabetes, view information on managing type 2 diabetes.

#### **3- PRE-DIABETES**

Pre-diabetes describes a condition in which blood glucose levels are higher than normal, although not high enough to be diagnosed with type 2 diabetes. Pre-diabetes has no



signs or symptoms. People with pre-diabetes have a higher risk of developing type 2 diabetes and cardiovascular (heart and circulation) disease. Two million Indians have pre-diabetes and are at high-risk of developing type 2 diabetes. Without sustained lifestyle changes, including healthy eating, increased activity and losing weight, approximately one in three people with pre-diabetes will go on to develop type 2 diabetes.

There are two pre-diabetes conditions: (a) Impaired glucose tolerance (IGT) is where blood glucose levels are higher than normal but not high enough to be classified as diabetes. (b) Impaired fasting glucose (IFG) is where blood glucose levels are escalated in the fasting state but not high enough to be classified as diabetes. It is possible to have both Impaired Fasting Glucose (IFG) and Impaired Glucose Tolerance (IGT)

How to determine whether you have diabetes, prediabetes or neither

Doctors can determine whether a patient has a normal metabolism, prediabetes or diabetes in one of three different ways - there are three possible tests:

- The A1C test
  - at least 6.5% means diabetes
  - between 5.7% and 5.99% means prediabetes
  - less than 5.7% means normal
- The FPG (fasting plasma glucose) test
  - at least 126 mg/dl means diabetes
  - between 100 mg/dl and 125.99 mg/dl means prediabetes
  - less than 100 mg/dl means normal

An abnormal reading following the FPG means the patient has impaired fasting glucose (IFG)
- The OGTT (oral glucose tolerance test)
  - at least 200 mg/dl means diabetes
  - between 140 and 199.9 mg/dl means prediabetes
  - less than 140 mg/dl means normal

An abnormal reading following the OGTT means the patient has impaired glucose tolerance (IGT)

### 3.1 RISK FACTORS

Risk factors for pre-diabetes are similar to those for type 2 diabetes which are: (a) Being overweight – especially those who have excess weight around the waistline (ie: more than 94cm for men and more than 80cm for women). (b) Being physically inactive. (c) Having high triglycerides and low HDL-C (good cholesterol) and/or high total cholesterol. (d) Having high blood pressure. (e) Having a family history of type 2 diabetes and/or heart disease. Other people at risk include: (a) Women with Polycystic Ovarian Syndrome\* (b) Women who have had diabetes in pregnancy (gestational diabetes) or given birth to a big baby (more than 4.5kgs). (c) Those from Aboriginal and Torres Strait Islander background. (d) Those from certain ethnic backgrounds such as the Pacific Islands, Asia and the Indian sub-continent.

### 3.2 TREATMENT

If you are diagnosed with pre-diabetes, the treatment involves the same lifestyle changes that are recommended for people diagnosed with diabetes. For most, this will include regular physical activity, healthy eating and if necessary losing weight. People with pre-diabetes are also at increased risk of heart disease, so controlling blood pressure and blood cholesterol and triglycerides is also important.

### 3.3 HEALTHY EATING

A healthy eating plan for losing weight and reducing the risk of type 2 diabetes should include a reduction in total energy (kilojoule) and fat intake, particularly saturated fat foods such as butter, full fat dairy products, fatty meats, takeaway foods, biscuits, cakes and pastries. Instead choose a wide range of high fibre, low GI carbohydrate foods such as wholegrain breads and cereals, legumes and fruit. To work out a meal plan that's right for you, visit an accredited practicing dietitian.

### 3.4 REGULAR PHYSICAL ACTIVITY

Regular physical activity helps your body to use insulin better and to feel fit and healthy. Aim to do at least 30 minutes of 'moderate intensity' physical activity (such as brisk walking or swimming) on most, if not all, days of the week or three 20-minute sessions of 'vigorous intensity' exercise per week (such as jogging, aerobics class, strenuous gardening).

Being diagnosed with impaired glucose metabolism doesn't mean that you will get type 2 diabetes but you are at a 10-20 times greater risk than those with normal blood glucose levels. Strong evidence shows that type 2 diabetes can be prevented in up to 58% of cases in the high risk (pre-diabetes) population by eating well and exercising.

#### **4- GESTATIONAL DIABETES**

Gestational diabetes mellitus (sometimes referred to as GDM) is a form of diabetes that occurs during pregnancy and usually goes away after the baby is born. It is diagnosed when higher than normal blood glucose levels first appear during pregnancy. Gestational diabetes is becoming more common in Australia, affecting thousands of pregnant women. Between 5% and 10% of pregnant women will develop gestational diabetes and this usually occurs around the 24th to 28th week of pregnancy. All women are tested for gestational diabetes as part of the 24-28 week routine examination with their GP. Women who have one or more of the risk factors are advised to have a diabetes test when pregnancy is confirmed then again at 24 weeks if diabetes was not detected in early pregnancy.

While there is no one reason for why women develop gestational diabetes, you are at risk of developing gestational diabetes if you: (a) Are over 25 years of age (b) Have a family history of type 2 diabetes (c) Are overweight (d) Are from an Indigenous Australian or Torres Strait Islander background (e) Are from a Vietnamese, Chinese, middle eastern, Polynesian or Melanesian background (f) Have had gestational diabetes during previous pregnancies (g) Have previously

had Polycystic Ovary Syndrome (h) Have previously given birth to a large baby (i) Have a family history of gestational diabetes Most women are diagnosed after special blood tests. A Glucose Challenge Test (GCT) is a screening test where blood is taken for a glucose measurement one hour after a glucose drink. If this test is abnormal then an Oral Glucose Tolerance Test (OGTT) is done. For an OGTT a blood sample is taken before and two hours after the drink.

What to do after being diagnosed?

For many people, being diagnosed with gestational diabetes can be upsetting. However, it is important to remember that the majority of women with gestational diabetes have a healthy pregnancy, normal delivery and a healthy baby. The treatment is healthy eating, physical activity and monitoring and maintaining a normal blood glucose level while you are pregnant. Read more about managing gestational diabetes.

Risks of developing type 2 diabetes

While maternal blood glucose levels usually return to normal after birth, there is an increased risk of developing type 2 diabetes in the future. The baby may also be at risk of developing type 2 diabetes later in life.

What causes gestational diabetes?

In pregnancy, the placenta produces hormones that help the baby grow and develop. These hormones also block the action of the mother's insulin. This is called insulin resistance. Because of this insulin resistance, the need for insulin in pregnancy is 2 to 3 times higher than normal. If you already have insulin resistance, then your body may not be able to cope with the extra demand for insulin production and the blood glucose (sugar) levels will be higher resulting in gestational diabetes being diagnosed.

When the pregnancy is over and blood glucose levels return to normal the diabetes disappears, however this insulin resistance increases the risk of developing type 2 diabetes in later life.

## Management, care and treatment

Gestational diabetes can often initially be managed with healthy eating and regular physical activity. However, for some women with gestational diabetes, insulin injections will be necessary for the rest of the pregnancy. If you have recently been diagnosed with gestational diabetes or have a family member with gestational diabetes, view information on managing gestational diabetes.

### Are you at Risk? (Type 2)

While there is no single cause of type 2 diabetes, there are well-established risk factors. Some risk factors can be controlled and others you are born with. An estimated 2 million Indians are at high risk of developing type 2 diabetes and there are also large numbers of people with silent, undiagnosed type 2 diabetes which may be damaging their bodies.

## 5- PREVENTION

There are different types of diabetes; the three main types of diabetes are type 1, type 2 and gestational diabetes. At this stage, it is estimated that 58% of type 2 diabetes can be prevented. You can do a lot to reduce your risk of type 2 diabetes, read our tips below.

Type 1 - Currently type 1 diabetes cannot be prevented. However, researchers are looking into the autoimmune process and environmental factors that lead to developing type 1 diabetes so that we may be able to prevent type 1 diabetes in the future.

Type 2 - Many cases of type 2 diabetes can be prevented, or the onset delayed, through positive lifestyle changes. It is estimated that the risk of developing type 2 diabetes can be reduced by up to 58% by maintaining a healthy weight, being physically active and following a healthy eating plan. People at risk of type 2 diabetes can delay and even prevent the condition by: (a) Maintaining a healthy weight (b) Regular physical activity (c) Making healthy food choices (d) Managing blood pressure (e) Managing cholesterol levels (f) Not smoking. Many

people don't know they are at risk of developing type 2 diabetes. Assess your risk using the Diabetes Australia risk calculator. Preventing type 2 diabetes is important and is about being healthier. State organisations provide a range of programs and services for people at high risk of diabetes.

## 6- MYTHS & FACTS

There are many myths about diabetes which may make it hard to understand. To cut through the confusion, we've broken down some of the common misconceptions:

**Myth- Diabetes is not serious -**

**Fact-** There is no such thing as "mild" diabetes. All types of diabetes are serious and can lead to complications if not well managed. Diabetes can affect quality of life and can reduce life expectancy.

**Myth- All types of diabetes are the same**

**Fact-** There is many different types of diabetes. The main types of diabetes are type 1, type 2 and gestational diabetes. There are also other forms of diabetes but they are less common. Each type of diabetes has different causes and may be managed in different ways but once someone has diabetes, it will need to be managed every day, except gestational diabetes which goes away once the baby is born. All types of diabetes are complex and serious.

**Myth- Diabetes can be prevented**

**Fact-** Not all types of diabetes can be prevented. Type 1 is an autoimmune condition; there is no cure and no prevention. We do not know what causes type 1 diabetes.

For type 2 diabetes, it is estimated that up to 58 percent of type 2 diabetes can be prevented or delayed by exercise and healthy eating. There is no single cause of type 2 diabetes, but there are well-established risk factors. Your risk of developing diabetes is also affected by things you cannot change such as family history, where you were born or your ethnicity.

**Myth- You have to be overweight or obese to develop diabetes.**

Fact- Being overweight or obese is one risk factor for type 2 diabetes, it is not a direct cause. Some people who are overweight may not develop type 2 diabetes while some people who are of a healthy weight will develop type 2 diabetes.

Type 1 diabetes is not preventable and not associated with lifestyle factors.

**Myth- You only get type 1 diabetes when you're young.**

Fact- Type 1 diabetes can occur at any age but it often occurs in children and young adults.

**Myth- You only get type 2 diabetes when you're old.**

Fact- Type 2 diabetes usually develops in adults over the age of 45 years but is increasingly occurring in younger age groups including children, adolescents and young adults.

**Myth- People with diabetes can't eat dessert.**

Fact- Because diabetes is a condition where your blood glucose level is too high, many people think they need to avoid sugars and foods containing sugar. However, if eaten as part of a healthy meal plan, or combined with exercise, sweets and desserts can be eaten by people with diabetes. The key is to eat everything in moderation. The Indian Dietary Guidelines are recommended for people with all types of diabetes as well as the rest of the population. For your individual dietary needs, we recommend seeing an Accredited Practicing Dietitian and talking to your diabetes healthcare team about the right approach to help you live well with your diabetes.

**Myth- No one in my family has diabetes so I don't have to worry.**

Fact- Family history is only one of the risk factors for type 2 diabetes.

**Myth- People with diabetes are unsafe drivers.**

Fact- the vast majority of drivers who use insulin can safely drive, [learn more](#).

**Myth- Only people with type 1 diabetes need insulin.**

Fact- Type 2 diabetes is a progressive condition. 50 percent of people with type 2 diabetes will need insulin after 6-10 years of being diagnosed with diabetes because the pancreas produces less insulin over time. Taking medication when required can result in fewer complications in the long-term and is part of managing type 2 diabetes. People with type 1 diabetes depend on insulin replacements every day of their lives. They must test their blood glucose levels several times throughout the day.

## **7- DIABETES IN INDIA**

Diabetes mellitus is a kind of metabolic ailment wherein either the body is incapable of producing [insulin](#) or the cells are not able to respond to insulin efficiently, leading to high [blood](#) glucose in the body. [Obesity](#) is one of the main causes of diabetes apart from other lifestyle factors. What was once majorly perceived as a western phenomenon has now crept deep into Asian lifestyles. "[Diabetes](#), perhaps more than any other disease, is strongly associated with the western diet, as it was uncommon in cultures consuming a 'primitive diet'. However as cultures switch from their native diets, to the foods of commerce; their rate of diabetes increases eventually reaching the proportions seen in the western societies. However, what's alarming is the fact that India is home to 63 million diabetics and the number is estimated to be 100 million by 2030," noted weight management, fitness and nutrition expert, Shilpa Arora.

According to the official WHO estimates, the total global diabetic population in the year 2000 stood at 171,000,000 which is estimated to spike up to a whopping 366,000,000. India had an estimated 31,705,000 diabetics in the millennium year which is estimated to grow by over 100% to 79,441,000 by 2030. According to the International Diabetes Federation Atlas 2015, an estimated 69.2 million Indians are diabetic, which as per the WHO assessment,



stood at 63 million in the year 2013. The estimates depict that diabetes prevalence has alarmingly doubled and so far has grown by over 100% in the past 15 years.

Ahead of the [World Health Day](#), WHO has urged all South Asian countries to take "vigorous and concerted" actions to battle the ever increasing prevalence of diabetes in the region. According to the global health organization, [diabetes](#) has the potential to become one of the largest killer diseases by the year 2030. "Diabetes is of particular concern in the region. More than one out of every four of the 3.7 million diabetes-related deaths globally occur in the Region, while its prevalence exacerbates difficulties in the control of major infectious diseases such as tuberculosis," noted Regional Director, WHO South-East Asia, Ms. Poonam Khetrupal.

Number of diabetes deaths in India between the age of ages 30-69 is 79,500 in males and 51,700 in females. Henk Bekadam, WHO representative to India recently shared his

opinion on how India could prevent or delay diabetes through "population-based interventions such as regular physical activity and maintaining a normal body weight."

"Simple lifestyle measures have been shown to be effective in preventing or delaying the onset of type 2 [diabetes](#); achieve and maintain healthy body weight; be physically active; eat a healthy diet; and avoid tobacco use." He also suggested that there is a need to help people step up and get them screened for diabetes as close 96 million people who suffer from it, don't know they have it. "Early screening, increased access to health care services, affordable diagnosis and treatment and patient empowerment for self-management are also vital components of the control of diabetes," concluded Bekadam. This year World Health Day will be celebrated across the globe on Thursday, 7th April, the central theme being 'Beat Diabetes'.

Blood Sugar Chart

Category	Fasting Value (mg/dl)		Post Prandial (mg/dl)
	Minimum Value	Maximum Value	Value 2 hours after consuming glucose
Normal	70	100	Less than 140
Early Diabetes	101	126	140 to 200
Established Diabetes	More than 126	-	More than 200

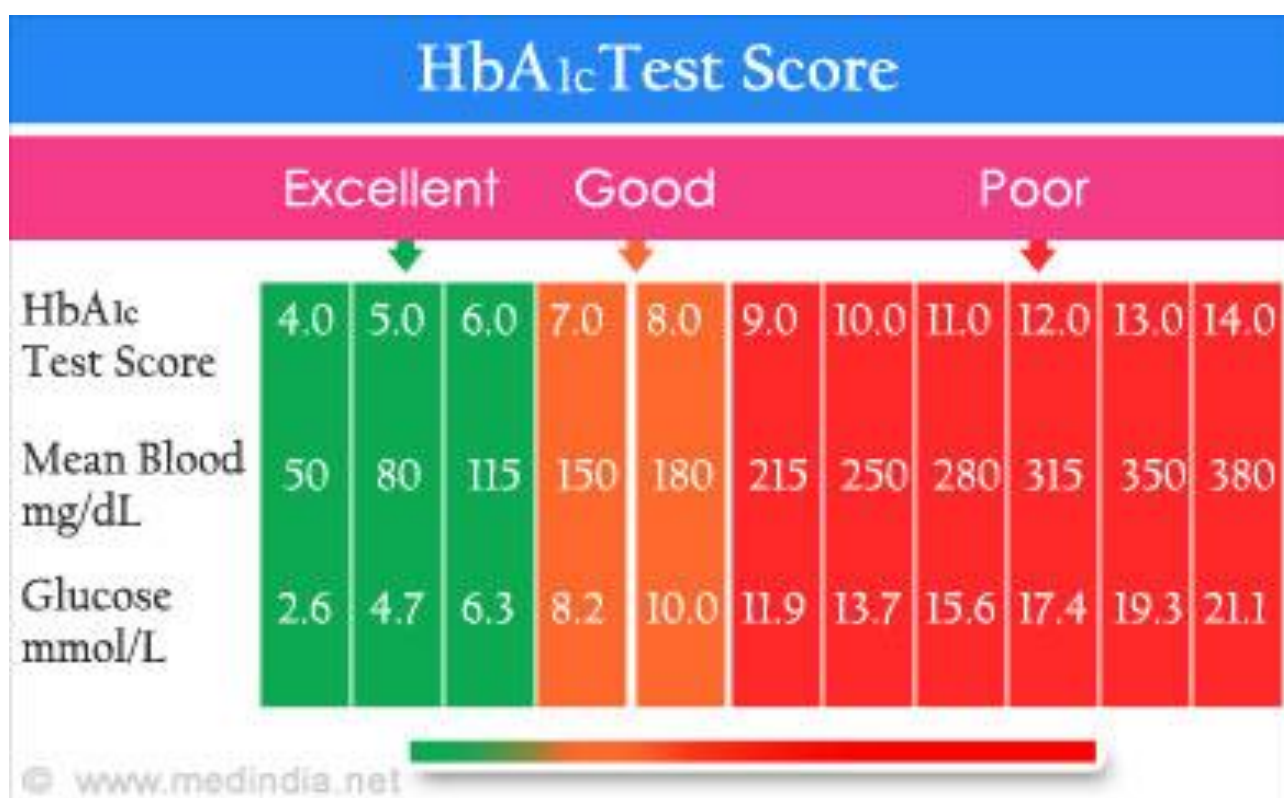
Conversion Table for Blood Glucose Monitoring

mmol/L	mg/dl	mmol/L	mg/dl	mmol/L	mg/dl
0.06	1	6.7	120	16.0	288
0.28	5	7.0	126	16.6	300
0.55	10	7.2	130	17.0	306
1.0	18	7.5	135	18.0	325
1.5	27	7.8	140	19.0	342
2.0	36	8.0	145	20.0	360
2.2	40	8.3	150	20.8	375
2.5	45	8.9	160	22.2	400
2.8	50	9.0	162	23.0	414
3.0	54	9.4	170	24.0	432
3.3	60	10.0	180	25.0	450
3.9	70	10.5	190	26.4	475
4.0	72	11.0	196	27.7	500

4.4	80
4.7	85
5.0	90
5.5	100
6.0	106
6.1	110

11.1	200
12.0	216
12.5	225
13.9	250
14.4	260
15.0	270

30.0	540
33.3	600
38.8	700
40.0	720
44.4	800
50.0	900



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