

Type 1 diabetes, recommended range of blood glucose levels

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Health tends to be the most important aspect of the daily lives of everyone. With good health, one is able to work, interact and live in a comfortable environment. Actually, health means everything to one's life. In understanding the role of good health, it is important to consider the various impediments to good health. The major threat has been disease. Amongst the numerous diseases affecting humans with each day, diabetes takes quite a significant proportion on the list (Spurlock 2010, p 93). Diabetes has over the years gradually developed into the main threat to the health of individuals globally.

Diabetes tends to be quite complicated when compared to other diseases. It has the capacity to affect an individual's whole body. It is essential for individuals to be able to comprehensively understand the complication because as it stands, an individual either has it or knows another one who has the complication such as a member of the family or even a friend. As a disease, diabetes comes in three forms, which are diabetes type 1; there is diabetes type 2 and gestational diabetes. As individuals living in a community, there is a need to embrace a culture where everyone understands the disease as well as the means of curbing it. In the country presently, it is among the fastest diseases in terms of growth with an estimated 2, 000, 000 citizens having been diagnosed with it. It is anticipated that 300 individuals in the country develop the disease and for each person who undergoes diagnosis, there is an equivalent number of persons having failed to undertake diagnosis of the complication. The two forms of diabetes, that is diabetes 2 and gestational diabetes if diagnosed at an early stage and well addressed can be cured unlike diabetes 1 which

requires extra attention (Anderson 2007, p 83). It is as a result of this concept that the study will focus on Diabetes 1. It will try to analyze its stages, the causes, symptoms and implications to the community as well as medication and prevention measures.

Pathophysiology

Diabetes type 1 develops due to the immune system of the body attacking all the entire cells that are in charge of the production of insulin in the pancreas. The absence of insulin in the human body implies that the body will lack glucose. The body cells will not be capable of taking in enough glucose that is responsible for the provision of energy to the body needed to help the cells in their normal metabolic activities (Yuwiler 2010, p 82). A result of the cells inability to take up the glucose, the effect would be an increase in the quantity of sugar in the blood. This leads to diabetes 1. As much as there is no definitive reason behind the actions leading to the complication, the following aspects have partly been attributed to the complication:

Viral infection: Different levels of research have emphasized the notion that the immune system might be stimulated as a result of the response to a specific viral infection. The studies have explained that since the cells responsible for the immunization process are activated from the different viruses such as coxsackie as well as rubella, they tend to have a similar effect on the beta cells in the pancreas (Peters 2013, p 172).

Genetic tendency: - Type 1 diabetes has a characteristic of running through certain family lines. This strongly indicates the possibility of its relation to genetics. Further research has also shown that there are certain types of HLA

genotypes that are known to have the ability to increase the chances of contracting this complication.

Antibody development: -Part of the cause behind Type 1 diabetes might be because of the development of certain antibodies specifically against proteins that are found in cow's milk. This could lead to an increase of antibodies, which end up attacking the beta cells in the pancreas.

Vitamin D deficiency: - Other studies have made speculation on the idea that lack of vitamin D in the body, especially in infants who are on their first year after birth, raises the chances of contracting the disease.

Certain chemicals as well as drugs: - There is evidence that certain types of chemicals and drugs contribute to the formation of type 1 diabetes through the destruction of the beta cells in the pancreas. Such chemicals include pyrinuron that has been used previously as rat poison but presently is no longer in use (Schatz 2010, p 228). There is also streptozotocin mainly known for treatment of cancer of the pancreas but also has the ability to be able to destroy the beta cells of the pancreas.

Holistic practice by Health care professionals

Living for today

Presently, suffering from the T1D complication is no longer a challenge anymore as it used to be in the earlier days (Bellenir 2010, p 25). There are numerous ways of safeguarding oneself from succumbing to the complication and other than the medical support provided by Health care professionals, there are also healthy living practices which they recommend the patients to adopt as they will also form part of the medication not only at zero costs but also are convenient and guarantee good health (Eisenbarth

2004, p 93).

Health care professionals recommend that the patients should be able to take charge of their personal diabetes health on a daily basis (Hanas 2004, p 40). They recommend them to be the first doctors for themselves. Four things have been recommended do be done on a daily basis, which will significantly contribute to maintaining the blood sugar levels at a reasonable and healthy level. These four components are:

1. Strict following of one's health plan of eating
2. Being active in a physical sense
3. Taking medication as the prescriptions
4. Monitoring of one's diabetes

As much as the above procedure may seem strenuous and complex, it is important for the patients to be able to adjust their normal schedule in order to allow these activities to be part of their everyday lives. These tasks can be explained as follows;

1. Following a healthy plan of eating

It is vital for the patient to consult with his or her doctor in order for them to be assigned to a specialist who will help in the creation of a healthy and reasonable eating plan. This may be obtained from an individual specialized in diets such as a dietician. This phase is referred to as medical nutritional therapy. It will entail frequent regulation as well as monitoring of the patient's diet by the dietician as well as the provision of knowledge and education on matters related to the methods of adjusting one's diet and eating habits. It is worth noting that this form of therapy (medical nutrition) is covered by either Medicare or at times insurance on condition that the

patient has been referred by a doctor. In this case, the patient's dietician could assist him in the planning of meals which contain food substances likeable by both the patient and his family members (Fox 2010, p 39). The most affordable and easy to abide by a healthy eating plan will include the following:

Whole grains, bread and cereals

Fresh fruits and vegetables

Meat products

Dairy products

Healthy fats

A patient's healthy food plan will aid him in learning how he can eat the correct portion as well as the quantity of food. Proper choices with reference to food are important to the patient in the sense that it will aid the patient in:

Helping the patient attain as well as maintain a proper weight

Maintain the levels of glucose, cholesterol as well as blood pressure at manageable levels

Curb diseases related to the heart and other blood vessels

For the patients who take insulin for instance, it is important for them to look at the boxes labeled in white for the following steps:

1. Following a proper eating plan
2. Avoidance of skipping meals
3. Understanding how to deal with low levels of glucose in the blood

For the patients who do not take insulin, they should follow the directions in the boxes marked in blue:

1. Following an individual's health plan of eating
2. Avoid skipping meals
3. Eating smaller food portions in between meals

Being Physically Active

A patient being physically active will greatly assist him in keeping fit and healthy as well. There is a need for physical activity particularly for diabetes patients since:

1. It allows one to attain the required weight levels
2. They allow insulin to be able to work properly to reduce the levels of glucose in the blood
3. It is healthy for the patient's lungs and heart as well
4. Provides the patients with more energy

The patients are reminded that even the least levels of physical exercises are important in the management of diabetes. These activities should not have to be track and field events, but may even be the normal house chores.

It is advisable that patients with diabetes are to strive for close to 30-60 minutes of physical exercise in the 7 days of the week (Eisenbarth 2005, p 183). Patients may also increase the levels of physical activity through a reduction of the time they spend watching television or behind the computer. Patients are advised to undertake the following physical exercises:

Seek doctors' advice at all times before changing from one physical exercise to another

Engage in aerobic activities, for instance, brisk walking in order to utilize the large muscles of the body which will help in enhancing the heartbeat to be

much faster.

Engage in activities that help in strengthening of muscles and flexibility as well. There are many activities that might be able to assist patients especially the children and the family as well to be able to have fun as a single unit. The following activities might be of help:

Playing basketball

Dancing

Long walks with colleagues and friends

The importance of being physically active is that it enables the glucose in the body to be utilized and hence reduce the blood sugar levels. Hence while exercising it is important to carry around glucose tablets or energy drinks and snacks. Fruits are also recommended just in case the levels of glucose in the blood reduce.

Taking Medication as the Prescriptions

Patients with type 1 diabetes are advised to use insulin shots in their bodies especially in the event that their bodies have reached a point where of not being able to manufacture insulin or not able to produce the required amounts.

Diabetes Medicine

Patients are advised to use diabetes medicine in the event that their bodies are unable to manufacture sufficient insulin. For those patients whose bodies have the ability to be able to make insulin yet the insulin has failed to reduce the glucose levels in the blood, it is advisable for them to take more than one drug.

Insulin shots

Patients should use these insulin shots only upon the doctor's prescription.

Monitoring their Diabetes

When the patient notices the variation in the sugar levels, that is either too high or rather too low, they are required to adjust their eating plan, the physical activities or the medicines that they take. Health care professionals are responsible for assisting the patients to be able to determine the levels of sugar in the blood by use of a glucose meter. The healthcare team teaches on:

Pricking of their fingers in order to obtain blood drops for testing purposes

Utilize the meter in establishing glucose levels in the blood

The patients are advised to seek the opinion of a doctor on the recommended and acceptable blood sugar levels as well as the frequency of checking. This may be either before or even after a meal or even either or before a given physical exercise.

Recommended range of blood glucose levels

Health practitioners have recommended that the patients are to try and maintain the amounts of glucose in the blood to levels between 70 and 130 (Bethesda 2005, p 20). It is important to note however that individual may react differently and hence all the patients should personally seek the advice of their doctors on the recommended amount as well as the expected from them and just generalizing on the recommended amount.

Understanding High and low levels of glucose in the blood

Most often diabetes patients really try to keep low the levels of glucose in their blood but however the levels keep on rising. High levels of glucose in the blood or very low amount of glucose in the blood have an effect of

making one feel sickly (Hook 2006, p 85). A long period, for instance, an hour or two with glucose levels at 180 reflects an extremely high amount of glucose in the body. This is often referred to as hyperglycemia. It simply means that the individual has insufficient levels of insulin in their body. These amounts of high levels of glucose may be achieved as a result of the following:

Skipping to take diabetic drugs

Overeating

Limited physical exercise

Infection

Being sick

Immense stress

Intake of drugs that cause hypertension

The following are the signs for too many levels of glucose in the patients' blood:

Extreme thirst

Fatigue

Constant headaches

Constant urination

Restlessness

Blood sugar levels below 70 may be referred to as low glucose levels or what is referred to as hypoglycemia. The following are the major causes:

Excessive use of medicine

Skipping a meal

Over-exercising

Alcoholism

The following are the clear cut signs that a patient has very low levels of blood sugar:

Hunger

Weakness

Pale complexion

Constant sweating

Confusion

Dizziness

Faster heartbeat

Anxiety

Prevention of Diabetes Problems

Constant check by a patient of his diabetes each and every day by focusing the glucose levels, his blood pressure as well as levels of cholesterol will greatly help them to maintain their required target levels. The following steps are recommended in the prevention of the problem:

Strictly abide by the healthy eating plan on a daily basis

Physical activity

Daily intake of medicine

Daily checking of levels of glucose in the blood

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Other three stages of the patient journey: (diagnosis, progression/ transition or end of life)

Diagnosis

Type 1 diabetes is mostly not curable but to some extent, it can be cured.

Since the condition is generally characterized by the absence of insulin or limited levels of insulin in the body, the main means of treating it would be through external insulin injection. This shall help to replenish the levels of insulin in the body (Vogt 2011, p 22).

An exact cure for the condition implies that there will be the elimination of the T1D's basic pathology cells as well as assisting the section of insulin by beta cells. Some of the approaches to treat it include the following:

Cell encapsulation, which seeks to replace the function of the pancreas by creating an artificial pancreas, developed from bioengineered materials and tissues containing pancreatic islet cells.

The other method is through organ transplant with the help of immunosuppressant to assist in restricting the body from developing an immune system from the tissues of the transplanted organ.

Progression/ transition

In this stage, the main areas of focus are as follows:

Understanding diabetes progression as well as the steps to be taken by the patient in case the immune system attack the beta cells in charge for production insulin helps to ensure the patient is safe and at ease. Upon this understanding, there is a possibility that mechanisms can be developed to aid in the treatment of the complication (Melkus 2006, p 281). Medical practitioners strongly advice that diabetes patients should at all costs avoid any forms of risky behaviors that will expose them to danger.

Most of the victims are youth and are strongly advised against the use of substances such as tobacco as well as recreational drugs and acts of unprotected sexual intercourse. All these behavior impede one's survival

with the complication and act as significant barriers to self-management of the complication (Galmer 2008, p 73). Health care professionals through counseling sessions strongly advise the patients to regularly test their amount of glucose in their blood especially before they drive, and are advised to stop immediately at the slightest symptoms of variations in their blood sugar levels. Patients are also provided with preconception counseling in order to enable them to be better managers of their condition on a first-hand basis.

End of life

After battling with the complication for long periods, some patients end up succumbing to diabetes. This is rather sad considering the level of advancement in terms of education, knowledge and treatment of the complication. However, medical practitioners always try to remain positive and encourage all the patients out there who are yet to be diagnosed yet they feel the signs to be able to come out at an early period in order to allow for early treatment of the problem.

Conclusion

Diabetes has emerged as one of the major killer chronic diseases in the world at the moment. In a bid to end this, it is vital for everyone to understand the significance of addressing this problem as one in order to reduce the number of lives that are lost today as a result of the complication (Hanas 2004, p 283). Medical practitioners have recommended individuals to use a four-step method of managing the complication, which will ensure that patients manage the amount of glucose in the blood.