Diabetes Case Study

[Name of the Writer]

[Name of the Institution]

**Diabetes Case Study**

**Patient Outline**

The individual that I decided to interview was John Reynolds, the neighbour who lives next door. He has been living next to our house for as long as I can remember. He is 47 years old and has three children. His youngest daughter is seven, the middle son is ten and the eldest son is thirteen years old. He works as a jeweller and his wife is a housewife. He is the source of the main income for the family of five inclusive of him. He was diagnosed with type 2 mellitus diabetes two years ago. Other than that he has been suffering from high cholesterol. His wife has been helping him manage that issue. He was already diagnosed of being pre-diabetic many years ago. He said that it was inevitable, type two diabetes runs in the family, it was something that he inherited. Two years ago he went through a bowel obstruction, due to which he had to be hospitalized. That is when the hospital did some tests and carried out glucose tests as well and told John that he was officially a diabetic now (Marso et al., 2016). He also told that prior to being diagnosed with type 2 diabetes he was doing a job as a mailman. That job was very physically demanding. The shift in the job has brought his physical movement to zero, the only time John walks is when he goes to his car from the office. His social life is pretty good, he seems much attached to his children and wife. Further, he is good friends with my father and another man in the neighbourhood. They get together often and go out for fishing trips. The medication he is currently on is a double combination; Metformin 500mg and Glipizide 500mg.

**Patient Concerns**

John has a few issues that he talked about, the first one being high cholesterol. Now there is something that should be kept in mind, there are a few aspects of cholesterol. The first kind being Low-density-lipoprotein LDL cholesterol, which is bad for the body. The second one being High-density-lipoprotein LDL cholesterol which is good for the body. Lastly, Triglycerides, which is the common type of fat present in the body. A high level of triglyceride in a combination of low HDL or high LDL has an association with atherosclerosis. This buildup of fatty acids in the artery wall can put a high risk of heart attack, stroke or Peripheral artery disease. Now diabetes has a substantial impact on cholesterol, what it does is lower down the good cholesterol and bring a rise in the bad cholesterol and triglyceride. This increases the risk of a heart attack and heart disease. This condition is known by the name of diabetic dyslipidemia. So it is necessary that John's cholesterol and sugar levels are managed. Further, he has been suffering from depressing ever since he was told that he is officially diabetic. He believes that not being able to consume certain foods is restricting and affecting his quality of life. What depresses him more is the fact that he cannot compromise it like the rest of the people in his family who were nonchalant about the precautionary measures. They would eat whatever they wanted to then would take insulin, which is simply not the way. He cannot deviate from his healthcare whatsoever as he has three young children and that would be unfair to them. However, this block and restriction on food consumption are depressing him. John like most of the people who get diagnosed with diabetes cannot make terms with the fact that they have to limit their diet, but lucky for him there are many alternatives that can be taken in order to please his sweet tooth. We will help John manage his cholesterol and help him deal with his depression so his mental health is in a good state. Anxiety and depression only make diabetes worse.

**Pathophysiology of Diabetes**

John has a non-medical background but the fact that he was pre-diabetic and has had this condition in his family from generations has made him a little aware. He has an idea that if he does not manage his condition he will suffer. First, I ask him how aware he is regarded to the condition then I will tell him about the basics. There is one thing that he already knows that diabetes is a condition, not a disease. He is just worried about the fact that he will have a compromised quality of life. I will educate him about the concept of insulin. The thing that I will first tell him is that his pancreas already produces insulin in a certain amount. It is released in his body and it helps in regulating the amount of glucose in the blood. The main purpose of insulin is to remove the blood sugar from the blood which reduces the amount of sugar in the blood. When the amount of glucose fluctuates then the normal rate issues like fainting, palpations, nausea, being short of breath and sweating are caused (Zheng, Ley & Hu, 2018). The main thing that the diabetic patient requires is the regulation of blood sugar to the normal range. Once that is managed the people with diabetes can live a normal healthy life like anyone else. This insight on diabetes will enlighten John about his condition.

**Key Management Principles of Diabetes Mellitus**

From all the people who get diagnosed with diabetes, the most common is diabetes mellitus. The best way to manage this condition is that John does exercise on a regular basis, this is one of the most vital key principles to bring a change in his health. As mentioned above that prior to him getting diagnosed he had a different job which required physical activity. The activity was helping manage diabetes as the insulin that was being released was being put to use and the sugar level in the blood was staying balanced. Secondly, it is key that he takes care of his diet. A healthy and well-balanced diet will help him stay and fit and active. There are certain foods mostly processed one that can bring a rise in the blood sugar and they should be avoided. Thirdly, A1C at least twice a year will help keep a check on the average blood glucose. This test can be done by keeping in coordination with the doctor. John also needs to take care of the ABC's of diabetes. A stand for A1C that has already been talked about, B being blood pressure and lastly a check on cholesterol. The last and the fourth thing to be kept in mind is that every diabetic patient needs to be regular with their medication. They should never skip out the prescribed medication. John should have these principles on the tip if his hand for the best management of his condition and health (Inzucchi et al., 2015).

**Information Regarding Diet**

A healthy diet is key to manage diabetes. When John was being interviewed he talked about not being given enough awareness when it came to the diet plan that he should have. Hence, it is necessary that he gets the awareness that he needs to get by. The first thing to be kept in mind is the fact that no food is ideal, anything, if consumed in high proportions, can cause an issue. So, there are four things that he needs to keep in mind; portion control, plate method, reading labels and counting calories. John can use either of the methods to keep a balance. Portion control is when one controls the amount of protein, vegetables and carbohydrates that they consume. They should all be in sizes that the body can easily process. Then there is the plate method, distributing the food in quadrants of four in a medium sized plate. Third, eating in regards to the amount of calories each food has and distributing accordingly. It is essential that one always read the label of the food that they consume to know about the nutritional and dietary value and also about the calories that the food contains. Lastly, John also needs to avoid certain things like fried food, processed food, ice cream or any food that contains a huge amount of sugar.

**Importance of Exercise for Diabetic People**

Exercise is essential in order to maintain a good life when one has diabetes. Around 25-30 minutes of physical activity is essential for diabetic patients on a daily basis. John at the moment does not do any exercise or physical activity, he needs to make sure that he starts a routine of doing exercise before or after work on a regular basis. Since his home is near his workplace, he can switch from using a car to walking or cycling. He does not have to do exercise longer initially, he can build back his stamina that he had two years ago over the course of time.

**Benefits of Exercise**

Exercise helps in controlling the blood sugar levels, this is the most important benefit that it provides along with many more. It also helps with the muscle mass it also helps regulate and reduce the amount of glucose in the blood. Physical activity helps build up stamina. Lastly, exercise helps strengthen the bones and help strengthen up every muscle in the body. It also helps with the B and C of diabetes, in short, the blood pressure and cholesterol levels will stay in balance. This will also help in reducing the chance of a heart attack. Once a person starts exercising their sleeping patterns also improve and the best thing is that their weight stays in check (Contreras, Sanchez, Martínez, Castillo & Mindiola, 2017). A lean and healthy body is always thing as it helps one stay fit and the body stays manageable.

**Benefits of Blood Glucose Monitoring**

It is essential to manage diabetes as a whole and as well as help regulate the blood sugar and keep it balanced. It is very helpful to reduce the risk of hypoglycemia. In John's case, he has constantly talked about the fact that he feels like he is dying when the blood sugar is very high. He feels disoriented and cannot function properly when the blood sugar is very high and eventually leads to a severe hypo. Since his physical activity is also minimal at the moment. Blood glucose monitoring is key to manage his blood sugar levels.

**Medication information**

|  |  |  |  |
| --- | --- | --- | --- |
| Name of medication | Action mechanism | Side effects | Education for self-management |
| **Glipizide**  (Class: sulfonylurea) | Glipizide lowers the blood sugar by stimulating them and aids in preventing dangerous effects of high blood sugar levels by protecting the organs and blood vessels. | Indigestion  Diarrhea, constipation, nausea, vomiting, upset stomach, loss of appetite, headache, weight gain, skin changes, gas, drowsiness and dizziness | Can be taken in case of severe kidney or liver damage.  Older than 60 years: do not exceed 20mg orally once/day  Take thirty minutes before the first meal of the day. |

**Microvascular complications**

The first that I will be talking about is Diabetic Retinopathy. It is one of the most common causes of loss of vision. At first, the vision gets weak and then it can lead to complete loss of the vision. It is one of the leading causes of blindness in working-age adults. DME is also a side-effect of diabetic retinopathy which is a cause of swelling in the retina which is referred to as macula. The other complication that I will be talking about is diabetic nephropathy. This is a kidney related complication that can be caused in people who are suffering from both type 1 and type 2 diabetes. In this condition, the kidney's ability to work as usual and remove waste products is compromised. It also impacts the extraction of extra fluid from the body (Domingueti et al., 2016). The worst thing about both the complications is the fact that the damage that is caused is permanent and cannot be reverted. Other complications are also inclusive of a heart attack due to cholesterol, that John is most worried about.

**Sick Day Management**

This term stands for making a strategy in regards to how the present condition that the individual is suffering from can be managed and controlled.

**Sick Day Management for John**

The first that John needs to keep in mind is that he has to manage his cholesterol. For that, he needs to add a good amount of physical activity in his life. Secondly, he needs to make sure that his diet is healthy in accordance with his body need. Thirdly, I would advise him to reach out to a doctor as soon as possible if he sees new symptoms surfacing or problems arising. Lastly, he needs to make sure that he takes all his medications regularly and timely.

**Peak Advisory Body**

In Australia, one of the most known and influential body would be the Australian Diabetes Educators Association ADEA (King, Nancarrow, Grace & Borthwick, 2017). This organization constantly promotes the best practice diabetes education to make sure that everyone has the optimal health and all the people impacted by diabetes or are at risk of diabetes are well managed. ADEA will be really helpful for John as they will provide him and his family the knowledge and information they require to manage his diabetes (Lea-Henry, Baird-Gunning, Petzel & Roberts, 2017).

**Nursing care plan**

|  |  |
| --- | --- |
| Person | John Reynolds, age 47. Lives with his wife and kids. |
| Information about person | John has type 2 diabetes and has a high cholesterol problem. |
| Processing of information | He is afraid that he might get a stroke because of high cholesterol. |
| Identify issues/problems | A high level of triglyceride in a combination of low HDL. |
| Goals | Lowering down the cholesterol levels. |
| Action | Make sure that he is following a good diet plan.  He is exercising regularly.  Keeping a check on his blood sugar and managing it well.  Reducing his weight. |
| Evaluate outcomes | Stamina is building with exercise, the cholesterol is decreasing via good diet, weight reduction and blood sugar management. |
| Reflection | By following this process, I learned a lot about how diabetes can bring a rise in the cholesterol of a patient and further the lifestyle of the patient can make things worse if not changed. In the future, I will also consult a dietician when making a plan to achieve my goal. |

**References**

Marso, S. P., Daniels, G. H., Brown-Frandsen, K., Kristensen, P., Mann, J. F., Nauck, M. A., ... & Steinberg, W. M. (2016). Liraglutide and cardiovascular outcomes in type 2 diabetes. *New England Journal of Medicine*, *375*(4), 311-322.

Zheng, Y., Ley, S. H., & Hu, F. B. (2018). Global aetiology and epidemiology of type 2 diabetes mellitus and its complications. *Nature Reviews Endocrinology*, *14*(2), 88.

Inzucchi, S. E., Bergenstal, R. M., Buse, J. B., Diamant, M., Ferrannini, E., Nauck, M., ... & Matthews, D. R. (2015). Management of hyperglycemia in type 2 diabetes, 2015: a patient-centered approach: update to a position statement of the American Diabetes Association and the European Association for the Study of Diabetes. *Diabetes care*, *38*(1), 140-149.

Contreras, F., Sanchez, M., Martínez, M. S., Castillo, M. C., & Mindiola, A. (2017). Management and education in patients with diabetes mellitus. *Medical and clinical reviews*, *19*, 3-12.

Domingueti, C. P., Dusse, L. M. S. A., das Graças Carvalho, M., de Sousa, L. P., Gomes, K. B., & Fernandes, A. P. (2016). Diabetes mellitus: the linkage between oxidative stress, inflammation, hypercoagulability and vascular complications. *Journal of Diabetes and its Complications*, *30*(4), 738-745.

Lea-Henry, T. N., Baird-Gunning, J., Petzel, E., & Roberts, D. M. (2017). Medication management on sick days. *Australian prescriber*, *40*(5), 168.

King, O., Nancarrow, S., Grace, S., & Borthwick, A. (2017). Diabetes educator role boundaries in Australia: a documentary analysis. *Journal of foot and ankle research*, *10*(1), 28.