

## A Case Study on Mrs E.C. with Diabetes Mellitus

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### ABSTRACT

*About 463 million people have diabetes in the world and more than 19 million people in the African region. It is estimated that by 2045, around 47 million Africans will be diabetic (International Diabetes Federation, 2019). Zambia one of the 48 countries of the International Diabetes Federation (IDF) African, is no exemption and Diabetes Mellitus (DM) is on the increase. (International Diabetes Federation, 2019).*

*Diabetes mellitus is a metabolic disorder characterized by high glucose level in the blood over a long period of time. It usually manifests with increased thirst, frequent micturition, unexplained weight loss, increased hunger, fatigue and blurred vision.*

*This is a family case study of Mrs E. C, a female adult aged 47 years with diabetes mellitus type two aims to prove that a combination of the right medication, diet, exercise and change of life style can improve the quality of life of people living with diabetes. She learnt of her condition in 2015 after experiencing extreme hunger, increased thirst and frequent micturition. The client's home environment, how the family is coping up with the condition was assessed. The process of several home visits enabled us to identify actual and potential problems for our patient in order to provide appropriate nursing interventions to sensitise, train patients and their families on aware of the signs and symptoms and treatment of DM at home. Four home visits were conducted.*

### Keywords

Diabetes Mellitus, Family Case Study, Home visits.

### Introduction

Zambia is one of the 48 countries of the International Diabetes Federation (IDF) African region. About 463 million people have diabetes in the world and more than 19 million people in the African region. By 2045, it will be around 47 million. Diabetes mellitus is on the increase in Zambia and this is the reason why it should be discussed, so that people are aware of the signs and symptoms and know what to do in case of such manifestations. This will also highlight this condition in order to avoid incorrect diagnosis [1].

### How We Met My Client

This case study is on Mrs E. C. who is a diabetic patient. She is 47 years old, married with six children, four boys and two girls. Mrs E. C learnt of her condition when she started experiencing

headaches on and off, frequent micturition and having excessive thirst.

We met client on 24th July, 2020 at the hospital when working on the ward and learnt that she was a diabetic patient who coming to collect drugs and spotted her as a client for the case study.

We explained to her that we wished to conduct a case study on a chronic condition just like hers and obtained permission from her. We exchanged numbers for easy communication and also for directions to her home explaining that we intended to visit her soon.

### Ethical Considerations

The aim of this study was to evaluate how the client and family were coping with the condition. It was also meant to help with any challenges noted during the study process. We explained to the client that her full name will be withheld and hence in this study

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the client was referred to as Mrs E. C. Further all information that gathered was kept strictly confidential though findings of the study would later be published. She provided us her consent.

### Personal History

Client was 47 years old at the time of conducting the study. She resided in Chikonkomene in Kafue Gorge about 50 KM from Lusaka, married with six children and she is a Christian by faith. She received medical attention at Chikonkomene Rural Health Centre and Kafue Gorge District Hospital.

### Client's Current Medical History

Mrs E.C is a marketer as well as a tailor. When she started feeling headaches on and off, passing urine frequently and feeling excessive thirst, she once filled a 2.5 litre bucket in one night with urine and again the following night she filled a 5-litre bucket that is when she decided to carry her own experiment as taught by her biology teacher. She urinated in a tin and poured some of the urine on the floor, and just after some few minutes when she touched the urine, it was sticky and there were many ants on it. So she knew that it could be diabetes as she had read somewhere and these are described in Ross and Wilson [2]. Then on 17th December 2015, she decided to go to the hospital and after lab results, her random blood sugar was 24mmol/l so she was told to go back after one week where the random blood sugar was repeated and the results were 15mmol/l that is when they decided to commence her on tablet Daonil one per day at the health center. When she went for review after one month, her blood sugar dropped to 11mmol/l. During subsequent visits, her sugar dropped even further to 9mmol/l, 7mmol/l, 6mmol/l and lastly to 5.3mmol/l.

Unfortunately, in 2016 she decided to stop taking her treatment for a year then in 2017, she started experiencing abdominal pains then she went to the hospital where they checked her random blood sugar and it was raised to 25mmol/l, so they re-commenced her on Daonil plus metformin.

### Investigations

Fasting blood sugar- Is a test done after an overnight fast. The patient does not eat anything and a sample is taken. Normal values are 5.6-6.9mmol/l. Following the client's first contact at the hospital, her fasting blood sugar was high.

Random blood sugar- This is a test done randomly regardless of what you ate and when. This shows the amount of serum glucose circulating in your blood, usually done on first contact.

Readings, which are above 11.1mmol/l with any signs and symptoms such as excessive thirst and urination, is suggestive of diabetes. On first contact, my client's random blood sugar was 24mmol/l.

### Treatment

Mrs E. C has so far been treated only with metformin and daonil from the time she was diagnosed with diabetes.

### Diet

Diet is a major factor in controlling diabetes. The treatment goal for clients with DM is to restore and maintain blood glucose and lipid levels to normal and to prevent wide fluctuations in blood glucose levels throughout the day. Mrs E.C was advised on the importance of diet by a nutritionist, and she was advised to maintain a desirable body weight.

### Activity

The goals of activity and exercise for the person with diabetes are to have a daily schedule of activities and exercise to promote metabolic control. The activities and exercise help in weight control and reduce the risk of cardiovascular and peripheral vascular complications. It improves and stimulates circulation. So my client was advised to exercise moderately as physical exercise also plays an important role in lowering blood glucose levels.

### 1ST Home Visit: 27TH July 2020

#### Objectives

1. To assess the home environment.
2. To check on how client was coping with her condition.
3. To get acquainted with other members of the family.

#### Findings and Interventions

Upon arrival at the home, we acquainted ourselves by greeting the family and introducing ourselves and explained the purpose of our visitation. We proved the history that she lived with her husband who goes for work every day and their last-born child who goes to school. The other older children had left to get married and live in their own homes. So she was normally left alone at home spending the whole day doing household chaos.

The house was well swept and the surroundings were clean. She has a backyard garden where she grows vegetables herself for sale as well as for consumption, so we cautioned her to be careful when working in her garden because if she were to hurt herself, the wound would take long to heal or it might get infected and not heal at all if it was poorly kept.

At this visit, we discovered that she was not checking her blood sugar levels, let alone going to the health facility for monitoring. She reported that she was taking some spices, which were helping her to control her blood sugar level.

We discussed with her on the importance of having her blood sugar checked daily or at least on alternate days, as this would help to determine the levels and the amount of medication that she should take in order to control her blood sugar levels.

I also cautioned her on the dangers of taking conventional medicine together with herbal medicines. That this may cause adverse drug interactions or may even hinder the drugs to work at an optimum level in her body. She understood and promised to minimise on her herbal treatments. After chatting, we concluded the visit by agreeing with her her of my next visit.

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## 2ND Visit 5TH August 2020

### Objectives

1. To check on client's progress.
2. To find out if she started having her blood sugar tested.
3. To check her vitals and blood sugar levels for the purpose of monitoring her disease progress.

### Findings and Interventions

Found her backyard garden harvesting vegetables to sell at the market. When asked how she was feeling, she said she was fine. I then checked her vital signs and RBS. Her blood pressure was 165/90mmHg, temperature was 36.5°C and random blood sugar was 11.5mmol/l. Since she is also a known hypertensive patient, hence her raised systolic pressure we advised her to take her medication and rest and not to go to the market. We also advised her to have her blood pressure checked regularly and that she should take a low salt, low fat and no sugar diet.

She had no glucometer of her own and depended on the glucometer at the clinic or hospital for testing her blood sugar, which were done monthly when she went for her reviews. Suggested that she buys her own glucometer to which she agreed. Concluded our visit for the day by ensuring that she took her medicine for hypertension and left her home to rest.

## 3RD Visit 12TH August 2020

### Objectives

1. To check on how she was taking her medication.
2. To observe how the family was coping with the condition.

### Findings and Interventions

Found her sewing on her machine and her husband was home this day. She was faring well and said that she had her blood sugar checked some days ago. I then checked her blood pressure, temperature and random blood sugar, which were 158/95mmHg, 36.8°C and 9.5mmol/l respectively. The husband and the children were supportive in terms of checking her diet, what she should not eat, they would remind her not to eat if tempted to do so.

It was during this visit through discussion with her husband that I discovered that was not taking her medication according to prescription. I then educated her client on the importance of taking her medication according to prescription that it is the only way to avoid worsening her condition and preventing illness. We discussed again the signs and symptoms of hyperglycaemia and hypoglycaemia and what to do if faced with any of the two. Concluded the day by repeating to her on the importance of her adhering to treatment as prescribed.

## 4TH Visit 21ST August 2020

### Objectives

1. To provide more information, education and communication (IEC) on the importance of adhering to medication, diet and reviews.
2. To close the family case study.

## Findings and Interventions

We arrived for the 4th home visit around 12.04 hours, we found in her backyard garden, she welcomed us and we went and sat under a tree just by her garden. She told us that she was not feeling very well. We checked her blood pressure and her blood sugar. Her blood pressure was very high at 231/121mmHg and equally her blood sugar was high at 15.9mmol/l. Asked if she took both her hypertensive and diabetic drugs to which she agreed.

Provided IEC on the importance of taking good diet, rest, medication and going for reviews. Discouraged her from taking a mixture of herbal and conventional medicine, because herbal medicines do not have dosages and that they might be a danger to her health as recommended in Harrison's book [3] and she appreciated. We took her to the nearby health centre where she was admitted to receive further treatment for both the raised blood pressure and sugar levels as well as to rest. Upon checking, she for malaria and the Rapid Diagnostic Test (RDT) was positive probably that was leading to the raised B/P and blood sugar levels. She was also given Malaria treatment, coartem. We then left her at the health centre for her to rest and stabilised. We told her that we had to leave for other duties but promised to check on her as often as we could and that whenever she was not feeling well, she should not hesitate to call us for help.

## How the Client Was Helped Through This Study

Mrs E.C learnt many things concerning her condition, which she never knew as we educated her on how DM comes about and why she was experiencing the symptoms. She understood that adhering to the correct treatment, eating healthy food, exercising and living a healthy life style was improving her health. She also learnt that it was necessary to visit the health centre whenever she was not feeling okay instead of treating herself with herbal medicines as she wouldn't even have known that why she was feeling unwell on the 4th visit was because she had Malaria which needed some other treatment. During the process of home visiting, she developed a positive attitude towards her health and made some changes in her lifestyle by regularly checking her blood pressure and sugar levels, taking her drugs as prescribed, avoiding herbal medicines and "unhealthy food" in line with Whatson's guideline [4]. After being provided with all the necessary information, she made an informed decision about her condition with the help of her husband.

## Challenges and Lessons Learnt

The challenges were that the client had no glucometer of her own, so she could not check her sugar more frequently and regularly. Transport to the hospital was a challenge so sometimes she failed to go for review as arranged leading to her condition deteriorating sometimes. We recommend that all government health institutions like rural health centres, health posts, should have readily available glucometers and blood pressure machines for easy access by the clients in rural areas especially those who cannot afford to go to hospitals just to have their blood sugar checked. Also these glucometers should be affordable, and accessible by the poor of poorest, as this condition can affect anyone regardless of socio-economic status.

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DM is on the increase, not only in Zambia but also in the world over and it is not only affecting the well to do but also the poor. The community health workers could be trained in making follow-ups for the chronically ill in their homes for monitoring their progress through frequently and regularly checking their blood pressure and sugar levels. This can enable early detection of complications to prevent further damage and sudden deaths in our communities.

This family case study proved useful as it provided nursing care by monitoring client's condition at home which can reduce health problems affecting families by holistic approach.

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