

Care of a medical patient



**ASSIGN
BUSTER**

Nancy Nunn, a 60-year-old woman with a history of Diabetes Mellitus Type 2, has been admitted to hospital for stabilization of the chronic disease. She takes Diabinese 100 mgs, a medication to control her diabetes. However, Nancy was found non-compliant with her medication, diet and foot care and consequently could no longer control the diabetes.

Furthermore, she is obese and smokes. These factors are obstacles in the successful diabetes management and lead to complications, such as ulcer development, which Nancy now has to experience because of her non-compliance and unhealthy lifestyle. The aim of this assessment is to discuss the essential nursing interventions and education needs for Nancy that lead to successful management of her diabetes.

Immediate care that is required for Nancy

On admission, Nancy will be introduced to the nursing staff and an environmental orientation is performed to give her comfort and control over the new environment. After Nancy is orientated, a nursing assessment and a medical history will be obtained to establish baseline data (Smith, Duell, Martin, 2004). In the medical history, Nancy is asked about eating patterns, weight history, previous treatment, current treatment of her diabetes, exercise history, smoking habits and alcohol consumption, lifestyle and living arrangements (American Diabetes Association, 2004).

In the physical examination, Nancy's height and weight are measured, blood pressure is determined and cardiac, foot and skin examinations are performed. Blood is also tested to obtain a lipid profile, serum creatinin and hemoglobin A1C data. The lipid profile is important, because people with

diabetes have a higher risk of heart disease and the blood test can show abnormalities that contribute to the risk.

Abnormal ranges in serum creatinin can indicate nephropathy, a long-term diabetic complication. Hemoglobin A1C is a blood test that reflects Nancy's mean glycemia over the last 2 months and tells how well her blood glucose has been controlled. A urinalysis is performed as part of the physical examination to screen for ketons, proteins and microalbuminuria, which are triggers for nephropathy (American Diabetes Association, 2004).

Identifying risk factors and appropriate nursing interventions

The physical examination and the medical history can identify problems associated with Nancy. Her height and weight show a body mass index of 36, which is considered as obese. Because obesity is associated with diabetes and insulin resistance, it is important for Nancy to lose weight to keep her blood glucose level (BGL) in the optimal range (Smeltzer, Bare, 2004).

Another risk factor, identified with Nancy is her smoking. Although Nancy is contemplative about changing her lifestyle and trying to minimize smoking, she is now in the stage where she needs to be encouraged to stop smoking completely. The health care provider should discuss with Nancy the rationale for smoking cessation and consider options available to help her cease smoking. Nancy needs to know that smoking is associated with development of micro- and macrovascular complications, such as myocardial infarct, stroke, retinopathy or nephropathy (Joslin Diabetes Center, 2004).

However, Nancy should be congratulated on the effort she made to reduce her heavy smoking. It is a great change in her lifestyle and a sign of contemplation to cease smoking someday. In congratulating her and showing appreciation, it might encourage her to think more about smoking cessation.

Nancy's ulcer is a nursing problem, identified in the admission assessment, which requires specific care. A full wound assessment has to be obtained, which includes observation of colour (e. g. black for necrotic tissue), odor, moisture in wound, depth and size of wound, inflammation around the wound and extend of pain. All observations need to be documented for evaluation of the wound care plan and it determines the effectiveness of the treatment. .

After examination of the wound, an ulcer dressing is applied; this can be in form of a moisture retentive dressing. Hydrocolloids are used for noninfected ulcers, because they absorb exudates and prevent bacterial invasion (Smith, Duell, Martin, 2004).

Sometimes a systemic antibiotic therapy is considered to prevent infection that could lead to gangrene and later to amputation of the limb or parts of it. X-ray might be considered as well to make sure there has no osteomyelitis developed as consequence of the ulcer (Joslin Diabetes Center, 2004). Nancy was admitted to hospital because of her uncontrolled diabetes. This is a nursing problem and risk factor and the goal of care is to control the diabetes and to work out a plan for Nancy's diabetes management. Her BGL is hyperglycemic, which means there is an excess of glucose in her blood

(Hawley, King, Weller, 2003). Uncontrolled high BGL causes complications, such as neuropathy, nephropathy and retinopathy, and therefore euglycemia, a normal BGL, needs to be achieved to prevent such complications.

Nancy already shows complications of uncontrolled diabetes because of her ulcer development. She needs immediate care as well as long-term care to achieve the goals for diabetes management. Five points are considered in the diabetes management, which are Nutritional management, Exercise, Monitoring, Pharmacologic therapy and Education (Smeltzer, Bare, 2004). These five points are embraced in the immediate and long-term care that is required for Nancy.

Nutritional management

Nancy, as a diabetic, has an insulin resistance, which is associated with obesity (Smeltzer, Bare, 2004). Therefore, the most appropriate goal for her is weight loss. This can be achieved with meal planning and exercise. As part of her admission assessment, Nancy's food intake, metabolic status, lifestyle and readiness to make changes is evaluated to be able to begin with the important nutritional management (American Diabetes Association, 2004).

Because of the complexity of nutrition issues, a dietitian should be responsible for this part of Nancy's diabetes management. However, nurses need to be knowledgeable about nutrition to support Nancy's requirements and essential lifestyle changes. It is important for Nancy to work with a dietitian to determine which meal planning, such as carbohydrate and fat

counting or exchange lists will work best for her (American Diabetes Association, 2004).

Nancy needs to keep in mind that the dietitian can help her to develop a meal plan, but it is her responsibility to follow it.

Education is an important key component in nutritional management, which is also the dietitians responsibility, although the nurses role is to emphasize the patients understanding (Smeltzer, Bare, 2004). Nancy needs to be aware of the effects of alcohol in diabetes. Alcohol can have both hypoglycemic and hyperglycemic effects on her blood glucose. Therefore, it is recommended to consider alcohol as an addition to the meal plan and no meal should be left out (American Diabetes Association, 2004). Since Nancy takes Diabinese 100 mg, she should not consume alcohol at all, because the combination of Diabinese and alcohol can cause dizziness and sickness to the stomach as well as causing severe low blood sugar (Joslin Diabetes Center, 2004). The health care team needs to make sure, Nancy is aware of this issue.

Exercise

Exercise is very important, not only for weight loss, but also for lowering the BGL. It also improves risk factors for heart disease and decreases risks of heart complications, which are a major health concern for diabetics (Joslin Diabetes Center, 2004). Nancy should be encouraged to exercise on a regular daily basis and in a manner appropriate for her.

However, Nancy needs to have a detailed medical evaluation, which includes screening for existence of micro- and macrovascular complications. Such

complications, if worsened by exercise, could lead to stroke or heart attack (American Diabetes Association, 2004). Therefore, the health care professional should design an activity plan, individualized for Nancy.

Nancy needs to be taught some important issues on exercise to prevent complications. Those issues are blood glucose monitoring before and after exercise to prevent hypoglycemia, to wait one to two hours after eating before beginning exercise and to wear good foot wear that fits well to prevent foot problems (Joslin Diabetes Center, 2004).

Monitoring

Monitoring of blood glucose levels is crucial, because it can detect high and low BGL's fast and effectively. It is also used to estimate treatment efficiency and to provide feedback on the influence of nutritional intake and exercise. Nancy needs to monitor her BGL on a regular basis, at least two to three times a week (Smeltzer, Bare, 2004). This is only acceptable if her BGL is controlled and stable. If she experiences hyperglycemia or hypoglycemia, BGL needs to be monitored more frequently to see if treatment is appropriate. However, Nancy's current situation requires a frequent monitoring of her BGL, because she is hyperglycemic and her diabetes is uncontrolled. .

Because the accuracy of blood glucose monitoring is user dependent, it is important for Nancy to learn the monitoring technique and proper interpretation of the data (American Diabetes Association, 2004). She should be encouraged to use a blood glucose monitor that could help her to adjust to food intake, exercise and medication to achieve an optimal BGL. She

should also know about the benefit that it could help prevent hyperglycemia and hypoglycemia and thus avoid long-term diabetic complications.

Pharmacologic therapy

Nancy needs to be informed about the importance of diet, exercise and blood glucose testing because they are the key concepts of managing diabetes and of obtaining an optimal BGL. Her oral medication, Diabinese, is only an addition to her treatment, not a replacement (Smeltzer, Bare, 2004). She needs to understand that the medication only is not effective enough in diabetes treatment. Furthermore, the benefits and potential risks of Nancy's medication have to be clear to her. Diabinese has a potential risk of causing hypoglycemia when meals are being missed out or activities have been increased (Joslin Diabetic Center, 2004). Therefore, it is essential for Nancy to know about those risks and to be able to avoid them.

Some patients require insulin, because the oral medication does no longer control the BGL. In Nancy's case, insulin might be required if diet, exercise and oral medication are ineffective.

Smeltzer and Bare state that insulin might be required on a temporary basis if the patient is ill, injured or stressed (Smeltzer, Bare, 2004, p. 1163). Nancy could be a candidate for temporary insulin treatment until her BGL is in the normal range and stable and her ulcer is healing. However, for long-term treatment, her oral medication could be increased in the dosage or another antidiabetic agent could be included to keep her BGL in the optimal range.

Education

Nancy has to learn how to control a multitude of factors, such as diet, exercise and stress. Those factors can influence diabetic control greatly and it is the patient, which has the authority and responsibility to master them. Because diabetes is a chronic disease that cannot be cured, it is important for Nancy to learn and adopt a variety of self-management behaviours to prevent diabetic long-term complications. She needs to be aware of her disease and understand what it means to be a diabetic.

Therefore, specific diabetes education is required. Basic education can be given in the hospital setting and by nurses. Such education includes pathophysiology of diabetes, range of BGL's, diet information, how to monitor BGL and effects of exercise, food intake, stress and illness. Nancy should also be taught how to recognise, treat and prevent hyperglycemia and hypoglycemia and how to react in such a situation (Smeltzer, Bare, 2004).

The health care provider should educate Nancy about the risk and prevention of foot problems and emphasize self-care behaviour. Foot care, which is a crucial part of diabetes management, is important because diabetes can lead to complications of an impaired healing rate. Therefore, cuts and lesions can become infected very easily and need to be treated immediately (Smeltzer, Bare, 2004).

However, foot problems can be prevented by inspecting feet daily for cuts, blisters, sores, swelling or red areas. Wearing shoes that fit well, avoid going barefoot and cut toenails straight or have them trimmed by a podiatrist can contribute to healthy feet (Joslin Diabetes Center, 2004).

Nancy needs to be informed that if she has a cut or lesion on her skin, she should treat it immediately to prevent infection. These are procedures, Nancy can perform herself ones she has learned how to go about it.

In the hospital setting, Nancy's feet should also be assessed by a health care professional or podiatrist. Such an assessment can include evaluation of sensorimotor, skin and soft tissue integrity, pedal pulses and examination of footwear (Joslin Diabetes Center, 2004). Sensorimotor alterations can be a sign of neuropathy. Pedal pulses give information on blood circulation and good footwear is important to prevent pressure sores. Because of Nancy's smoking and her ulcer, she is an "At Risk Patient" and therefore it is recommended for her to see a podiatrist for routine care and evaluation and ongoing foot care education.

Risk factor management is another important teaching component for diabetes management. Risk factors are for example high blood pressure and high blood lipid levels. Diabetes is associated with those risk factors and they can contribute to heart and vascular problems (Smeltzer, Bare, 2004). Blood pressure should be controlled at all routine visits and blood lipids should be assessed annually.

Eyes should be examined annually to determine signs of retinopathy (American Diabetes Association, 2004).

Ongoing assessment

The nurse should include in Nancy's care plan an ongoing assessment. This means, Nancy needs to be re-evaluated to see if her care plan for home

management works well for her and if her diabetes remains controlled. It is important to review Nancy's self-management skills and self-monitoring of blood glucose. Her knowledge on diet, exercise and foot care needs also be re-assessed continually. Ongoing assessment also means making appointments with appropriate agencies, such as ophthalmologist, podiatrist, diabetes educator or endocrinologist and making sure, Nancy is able to keep the appointments.

Discharge planning

When Nancy's diabetes is controlled and her ulcer has healed, she can be discharged from hospital.

Before this is done, Nancy's knowledge and teaching is reviewed to make sure she understands all the requirements that are necessary to manage her diabetes successfully at home. Discharge planning evaluates needs of posthospital services and if such services are available, for example community care, dietician, exercise coordinator or podiatrist (Smith, Duell, Martin, 2004).

Discharge planning begins on admission to make sure there is enough time to make appropriate arrangements before discharge. Nancy's living arrangements are also considered to determine whether there is a relative or friend at home to help her or if she needs community based help. Addresses and telephone numbers from support groups and Diabetes Australia are given to Nancy for additional help with her diabetes self-management.

This assignment discussed the general and specific nursing care that is required for Nancy to promote an optimal BGL and prevent long-term diabetic complications. The five key points of diabetes management were discussed and it was outlined how they can effect the self-care management in a positive manner. Diabetes is a chronic disease that cannot be cured, therefore it is essential to assess, educate and evaluate the patient with diabetes to prevent complications that could lead to premature death.