

# Nursing interventions for type 2 diabetes mellitus

[Health & Medicine](#), [Disease](#)



## **Introduction**

Type 2 diabetes mellitus is a condition in which the body does not use insulin properly. At first, the pancreas makes extra insulin to compensate for this but, over time the body cannot keep up and doesn't make enough insulin to keep blood glucose at normal levels. High levels of insulin in the body cause the body to store fat and prevent fat from being utilized by the body.

Diabetes Mellitus is a global problem affecting roughly 415 million adults (Moloughney, 2017).

Numbers are expected to increase significantly over the next twenty years.

Type 2 diabetes is the form that is most common. Not only do patients have to worry about the disease itself but all the other complications that go along with it if not controlled properly. Treatment is life-long which can create fluctuations in compliance in many people. The purpose of this paper is to explain nursing interventions that can be utilized for patients affected with type 2 diabetes mellitus. The interventions will include increased awareness of the role of uncontrolled diabetes, signs and symptoms of hyperglycemia, strategies to improve nutrition, and the role of exercise in controlling diabetes.

## **Explaining the Complications to the Patient**

The first intervention is to educate the patient on the role of uncontrolled diabetes in the development of complications. By knowing the risks associated with uncontrolled diabetes, it can help the patient to stay motivated and on track with their care. Acute complications of type 2 diabetes mellitus can cause hypoglycemia, hyperglycemia, and a

hyperosmolar hyperglycemia state. Chronic complications can cause coronary artery disease, peripheral vascular disease, retinopathy, neuropathy, and nephropathy. The rationale behind this intervention is to stress the importance of personal self-management and the responsibility of the individual to control their care. These exacerbations of the condition can cause patients to lose their toes, feet, or legs, it can cause blindness, and it can lead to serious heart conditions such as congestive heart failure or a myocardial infarction. Explaining these serious complications to the patient can hopefully lead to an eye-opening experience for them and can help them to take control of their health.

### **Teaching the Patient the Symptoms**

The second intervention includes teaching the patient the signs and symptoms of hyperglycemia. Hyperglycemia can occur in a patient with type 2 diabetes mellitus if they have increased food intake, if they omit their oral medications, if they decrease their insulin dosing, decrease exercise, and if they have infection, illness, or dehydration. The signs and symptoms of hyperglycemia are a blood glucose level greater than 200 mg/dL, polyuria, polydipsia, polyphagia, fatigue, blurred vision, and weight loss. Polyuria is increased urination, polydipsia is excessive thirst, and polyphagia is excessive hunger. The rationale behind this intervention is elevated blood glucose causes dehydration from osmotic diuresis, potassium is elevated because of hemoconcentration, and because carbohydrates are not metabolized, the client loses weight. The patient should be aware of these symptoms so they know when to increase their insulin or seek medical attention.

## **Discussing Strategies to Improve Nutrition**

The third intervention is to discuss strategies with the patient to improve nutrition. Provide information regarding food groups such as carbohydrates which include starches, starchy vegetables, milk, fruits, a protein group, and a vegetable group. Instruct on the use of the “ plate method” as an easy way of meal planning and maintaining healthy nutrition.

This includes showing the client and family a paper plate that is divided into quarter sections. Fill half of the plate with non-starchy vegetables (lettuce, tomatoes, and broccoli), fill a quarter with protein (meat, beans, fish, and eggs), and fill a quarter with starches (rice, potatoes, pasta, and bread). Add one cup of skim milk, and one piece of fruit. Teach the client to lower fat intake by trimming fat off meat, avoiding fried foods, limiting salad dressings, and selecting low fat. Advise the client to drink water, limit diet soda, coffee, and tea. Avoid all sugar drinks (juice, soda, and power drinks). Eat breakfast every day (high-fiber cereal, low-fat milk), do not skip meals, make an effort to eat the same amount at each meal, avoid seconds, and watch portion sizes. The rationale behind this intervention is that balanced nutrition helps to maintain normal blood glucose levels.

The American Diabetes Association recommends an individualized meal plan based on a client assessment. The “ plate method,” carbohydrate counting, and portion control are easy and acceptable methods of meal planning. Low-fat foods, water as a beverage, and portion controls of carbohydrates and protein can reduce weight and lower blood glucose. Poor glucose control and insulin resistance are two of the most pervasive bio-markers associated with

chronic diseases affecting over 80% of Americans (Moloughney, 2017). Carbohydrate counting and controlling their diet can help the patient to manage their type 2 diabetes mellitus and can keep exacerbations from occurring.

## **Explaining the Importance of Exercise**

The fourth intervention is to explain the role of exercise in controlling type 2 diabetes mellitus. Exercise intervention is considered a cornerstone. It improves glycemic control significantly in patients with type 2 diabetes. Considering the significant relationship between blood glucose content and the risk of cardiovascular disease and premature death, such a decline in blood glucose content would lead to a reduction in the risk of microvascular and macrovascular disease and premature death.

Besides lowering blood glucose content in these patients, exercise interventions lead to improvements in exercise capacity, decreases in adipose tissue mass, increases in lean tissue mass, improvements in blood lipid profile and quality of life, and reductions in blood inflammatory markers and blood pressure. Exercise interventions substantially reduce cardiovascular disease risk. Explain to the patient that the goal is to engage in a total of thirty minutes of moderate-intensity physical activity every day. Wear a pedometer to monitor and motivate. Instruct the client to seek the advice of a health care provider before beginning an exercise program. Exercise may be contraindicated with certain complications (severe nephropathy and proliferative retinopathy). Teach the client to avoid injecting insulin into a body part that is about to be exercised. Encourage the

client to exercise with others or where other informed persons are nearby, always wear diabetes identification, and always carry a fast-acting carbohydrate. Explain how to reduce serious hypoglycemic episodes related to exercise, monitor blood glucose before and after exercise, and exercise when blood glucose level tends to be higher, such as shortly after a meal. Always carry a source of fast-acting sugar for emergency.

The rationale behind this intervention is insulin absorption increases in a body part that is exercised, which alters the insulin's absorption. Exercising with others ensures that assistance is available should hypoglycemia occur. Proper timing of exercise, monitoring blood glucose, and adjusting food or insulin decreases the risk of exercise induced hypoglycemia. In the event of a severe reaction, a semiconscious or unconscious client may require glucagon. Exercise is one of the major factors in controlling type 2 diabetes mellitus so encouraging the patient to avoid a sedentary lifestyle is very important.

## **Conclusion**

Diabetes is a worldwide epidemic that can be easily controlled with diet and exercise. Consumers face many challenges when it comes to managing this health condition, as it requires life-long commitments that often lead to physical and mental struggles. There are several interventions that can be used for patients with type 2 diabetes mellitus. These include increased awareness of the role of uncontrolled diabetes, signs and symptoms of hyperglycemia, strategies to improve nutrition, and the role of exercise in controlling diabetes. All of these interventions play a role in keeping the

client on track and focused on their health. The many complications that diabetes can cause are severe and can lead to a shortened life. Explaining the importance of the improvement and maintenance of health is imperative to the patient. Perhaps through these interventions, type 2 diabetes mellitus patients can avoid exacerbations and can control or even improve their condition.

## References

- Carpenito, L. J. (2014). Nursing Care Plans: Transitional Patient & Family Centered Care (pp. 417-419). Retrieved from <https://ebookcentral.proquest.com>
- Hansen, D., Peeters, S., Zwaenepoel, B., Verleyen, D., Wittebrood, C., & Timmerman, N. (2013). Exercise Assessment and Prescription in Patients With Type 2 Diabetes in the Private and Home Care Setting: Clinical Recommendations From AXXON (Belgian Physical Therapy Association). *Physical Therapy*, 93(5), 597-610. doi: 10.2522/ptj.20120400
- Moloughney, S. (2017, October). Blood Sugar Under Threat: Developing Effective Management Strategies: Along with diet and lifestyle changes, nutraceuticals can help consumers achieve better metabolic health. *Nutraceuticals World*, 20(8), 46+. Retrieved from <http://libproxy.ecpi.edu:2374/apps/doc/A510183400/HWRC?u=lirn55593&sid=HWRC&d=98326e65>