Diabetes and Mental Health

By: Kathryn Brohl, MA, LMFT
Revised and edited by: Wade T. Lijewski, Ph.D.

Learning objectives

- Define diabetes mellitus (DM) and the difference between type 1 and type 2.
- Describe the complexity of diabetes.
- List the medical implications of diabetes and chronic health threats.
- List the treatment modalities of diabetes.
- Identify the multidisciplinary approach to treating diabetes and the importance of mental health in managing diabetes mellitus.
- List resources for diabetes mellitus patients.

Introduction

Diabetes is regarded as one of the largest health care problems in the United States because of its increasing prevalence, cost, associated health and mental health conditions and the burden on those with the illness and their caregivers. As our country begins to understand the importance between the mind-body connection in disease management and treatment, mental health practitioners are more frequently employed and utilized in medical settings.

Mental health providers are often embedded in primary care and specialty care clinics because of the mind-body connection and to help with adherence issues and the management or treatment of mental health disorders in chronic medical conditions. Therefore, it is important that as a mental health provider, you are able to speak the language of the physician and nurse so that providers will have confidence in your ability to help, and that you are able to understand the disease process for the patient’s benefit and confidence in you. This diabetes overview course is intended to help you become a knowledgeable advocate and an important piece of the treatment team in managing this chronic condition.

PART I: UNDERSTANDING DIABETES

Diabetes mellitus

Diabetes mellitus (DM) was initially described as a disease of “sweet urine,” because elevated levels of blood glucose (amount of sugar present in the blood that fuels cells’ ability to produce energy) led to a spillage of glucose into the urine. It is now understood as a chronic endocrinological/metabolic disorder, which is characterized by abnormalities in glucose metabolism because of a malfunction in the production or utilization of the hormone insulin. Insulin, produced by the beta cells in the pancreas (a deep-seated organ located behind the stomach), is important in the body’s ability to utilize and store nutrients and regulate the blood glucose.

Patients with diabetes have insulin difficulties in that the insulin is either absent, relatively insufficient for the body’s needs, or not used properly by the body. All of these factors cause elevated levels of blood glucose.

Glucose comes from carbohydrate foods and is a compact energy store and the primary energy source for the body. The total amount of fasting glucose normally in human blood is only about 3.9 - 6.9 mmol/ l. When the blood glucose level is outside the normal range, it is usually an indicator of a medical problem. When there is low blood sugar, it is referred to as hypoglycemia, or less than 3.0 mmol/ l. When high levels are noted, it is referred to as hyperglycemia or diabetes greater than 7.0 mmol/ l.

Classifications/types

There are three types of diabetes. Type 2 diabetes mellitus (type 2 DM) occurs in 90 percent of all cases. It is known as non-insulin-dependent diabetes, which is strongly associated with lifestyle, obesity and age. In the United States, 11 percent of individuals over the age of 65 have type 2 DM.

Another type of DM is called type 1 diabetes mellitus (type 1 DM). Once known as juvenile diabetes, this type is the most common chronic disease of childhood with more than 13,000 cases diagnosed each year. Type 1 DM develops when the person’s immune system attacks and destroys beta cells (which produce insulin) found in the pancreas. Beta cells are the body’s
only way of producing hormone insulin. To survive type 1 DM, individuals must receive regular doses of insulin. Insulin is delivered to individuals by either an injection or a pump.

In addition to the above types of chronic DM, there is also a form of diabetes that is not considered chronic, called gestational diabetes. Gestational diabetes usually occurs in the third trimester of pregnancy, and presents unique challenges to pregnant women because women must immediately learn to adapt to a very demanding treatment protocol to avoid complications to the fetus. Although gestational diabetes typically resolves postpartum, these women are at higher risk for later developing type 2 DM.

It is thought that the onset of both type 1 DM and type 2 DM are based on both heredity and environmental factors. In fact, it is estimated that more than two thirds of those diagnosed with type 2 DM have a first-degree relative also with type 2 DM. This is likely due to the way that families model healthy behaviors such as healthy eating, exercise and managing medical complications as well as the genetic makeup of individuals. Males and females alike are affected by DM. The risk for type 2 DM is much higher in minority groups and in the mental health population; the incidence of type 1 DM is much higher in white/Caucasians. Chinese individuals are the least likely to develop DM. Age certainly plays a factor as well, as increasing age is a significant risk factor for type 2 diabetes. Risk generally begins to rise at about age 45 years, and continues to rise considerably after the age of 65.

Additional risk factors associated for type 2 DM are: high blood pressure, high blood triglyceride levels, gestational diabetes or giving birth to a baby that weighs more than 9 pounds, consistently eating a high fat diet, alcoholism or consistently using a lot of alcohol, a sedentary lifestyle, and being overweight or obese.

In addition to diagnosable diabetes (i.e., type 1 diabetes mellitus, type 2 diabetes mellitus and gestational diabetes), there is also a classification for pre-diabetes mellitus. Pre-diabetes may also be called “impaired glucose tolerance.” It is a health condition that affects more than 50 million people in the United States alone and is almost always present before a person develops the more serious type 2 diabetes mellitus. Pre-diabetes is diagnosed when blood sugar levels are higher than the normal range (please see below for absolute values), but do not meet the higher range that is classified as diabetes mellitus. Within the past decade, more and more focus has been geared towards pre-diabetes by clinicians because early diagnosis can prevent the more serious type 2 DM as well as its serious complications.

**Diagnosing**

The diagnosis of diabetes is defined by the presence of abnormally high levels of glucose in the bloodstream, otherwise known as hyperglycemia. The American Diabetes Association (http://www.diabetes.org/) has set the following criteria for diagnosing diabetes mellitus:

- If a fasting blood glucose level measures in the range of 100 mg/ dL (5.6 mmol/ L) to 125 mg/ dL (6.9 mmol/ L), one is considered to have pre-diabetes (impaired fasting glucose). This person has a significantly elevated chance of developing DM.

For a formal diagnosis of diabetes mellitus to be made, the following criteria must be met and repeated on two different exams:

- A fasting blood glucose level is 126 mg/ dL (7.0 mmol/ L) or higher.
- A two-hour oral glucose tolerance test result is 200 mg/ dL (11.1 mmol/ L) or higher.
- Symptoms of diabetes are present, and a random blood glucose test is 200 mg/ dL (11.1 mmol/ L) or higher.

Symptoms include:

- **Increased or excessive thirst (polydipsia):** Individuals with DM develop high blood sugar levels, which overwhelms the kidney’s ability to reabsorb the sugar as the blood is filtered. Excessive urine is made as the kidney spills the excess sugar. The body then tries to counteract this by sending signals to the brain to dilute the blood, which causes increased or excessive thirst.
- **Frequent or excessive urination (especially at night; polyuria):** The body tries to get rid of the extra sugar in the blood by excreting it in the urine. This can lead to dehydration because excreting the sugar also carries a large amount of water out with it.
  - **Unexplained increase in appetite/ excessive eating (polyphagia):** With the lack of insulin, glucose then builds in the bloodstream instead of entering the cells. Because of this, the body is unable to use the glucose for energy. Therefore, the lack of insulin causes the cells to enter starvation mode, even though there is excess sugar in the blood.
  - **Unexplained weight loss:** Despite the increased caloric intake from the increased appetite, patients may actually lose weight because people with diabetes are unable to process many of the calories they eat. That, in turn, sends signals to the brain that they are hungry, causing the increased appetite. So while they seem to eat an excessive amount, they still lose weight. In addition, persons with DM lose sugar and water in the urine and the result, dehydration, also contributes to weight loss.
  - **Flu-like symptoms:** Diabetes can sometimes feel like a viral illness, with fatigue, weakness and loss of appetite. Sugar is the body’s main fuel, and when it doesn’t reach the cells, a person may feel tired and weak.
  - **Poor wound healing and increased infections:** Wounds take much longer to heal in persons with diabetes because the increased blood sugar prevents white blood cells from functioning normally. When white blood cells don’t function properly, wounds take longer to heal and can become infected more frequently.
  - **Fatigue:** This occurs in DM because the body is inefficient and often unable to use glucose for fuel. This therefore causes the body to feel more tired or fatigued.
  - **Erectile dysfunction (impotence):** This occurs in DM because of prolonged poor blood sugar control, which then damages nerves and blood vessels. Erectile dysfunction can also be...
linked to other conditions common in men with diabetes, such as high blood pressure and coronary artery disease.

- **Blurred vision:** While it is not a specific condition of diabetes patients, blurred vision is frequently present with high blood sugar levels.
- **Altered mental status:** Because of the high blood sugars in their bodies, individuals may become more agitated, more irritable, more lethargic or more confused. This serious symptom likely merits immediate medical attention.
- **Nerve damage or neuropathy:** Tingling or numbness in the hands or feet and burning pain in your legs, feet, arms and hands are caused by nerve damage or neuropathy. This symptom generally occurs because with DM, the high blood glucose levels damage the small blood vessels in the nerves, causing numbness, tingling and pain.

The complexity of diabetes

Diabetes mellitus is a chronic condition, which means that although the disease can be managed, it lasts a lifetime, and there is no known cure at this time. The World Health Organization predicts a 27 percent increase in DM in developed countries by the year 2025 and a 48 percent increase in developing countries. Diabetes is of major concern in the United States because within the last 10 years, the number of people with the disease has doubled. The numbers are projected to continue to grow in the United States and worldwide because of increases in obesity, more sedentary lifestyles and increasing life expectancies.

According to the National Diabetes Fact Sheet, 7.8 percent (23.6 million people total) of the population has diabetes, with 17.9 million people diagnosed with the disease and 5.7 million undiagnosed. Men (12.0 million) and women (11.5 million) have similar incidences of DM. Approximately 11.2 percent of men and 10.2 percent of women have diabetes.

Diabetes is a very expensive disease, with direct medical care cost estimates at five times that of individuals without the disease. The estimated cost of diabetes is $174 billion, broken down into $116 billion in direct medical costs (i.e., doctors visits, medications, complications), and $58 billion in indirect costs (i.e., disability, work loss, premature mortality and caregiver support). Recent advances have been made in the self-management of DM, which have reduced the cost of many costly complications.

Mental illness is frequently found in individuals with diabetes, and is also a chronic and costly medical condition. The U.S. surgeon general’s recent statistics indicate that 1 in 5 adults has a diagnosable mental health disorder. Within the last 15 years, the United States has seen an increase in these disorders. Nationally, the cost of managing a mental illness has increased.

Patients with DM frequently have other co-morbid conditions, complicating the disease course and treatment. In fact, it is estimated that only 1 of every 6 persons with DM does not have a co-morbid condition; the majority of DM patients have 3.5 co-morbid disorders. Regarding mental health, depression is the most common diagnosis, and those with both a diagnosis of diabetes and a mental health condition are at greater risk for complications.

Medical implication of diabetes

Diabetes is the third leading cause of death in the United States after heart disease and cancer. Many medical complications are known to occur in DM. Over time, DM can damage the blood vessels, the heart, the kidneys, the eyes, the circulatory system and the nerves.

Diabetes mellitus can predispose individuals to high blood pressure and high cholesterol, which together can increase the risk of heart disease, kidney disease and other conditions. DM is known to accelerate blockage of arteries, which can lead to heart attack, stroke or decreased blood flow to arms and legs. Diabetes increases the patient’s risk of developing dental issues, specifically early gum disease, known as gingivitis, and advanced gum disease, called periodontitis. DM can cause glaucoma and damage the retina (retinopathy), which is a leading cause of blindness. Diabetic retinopathy is damage to the eye’s retina, which occurs with long-term diabetes. It can lead to blindness and is the leading cause of blindness in adults, known as proliferative retinopathy. Another very significant complication of DM is the damage to the kidney (nephropathy), which is a leading cause for kidney failure and at times becomes so severe that individuals require dialysis or kidney transplant. Nerve damage can also occur from DM, which can eventually lead to ulcers, foot wounds, and frequently foot and leg amputations. Many infections are associated with DM as well. Infections are more serious in persons with DM because their ability to fight an infection is impaired.

Treatment modalities

This section is meant to give the mental health practitioner only a basic working knowledge of diabetes treatments and is not a physician’s guide. But as a collaborative member of a medical team and a respected mental health practitioner, you will need to have working knowledge of diabetes treatments, including name recognition of certain diabetes medications.

Although diabetes is a common chronic health condition, each individual is unique and requires a personalized treatment approach. The management of diabetes involves patients, their families and a team of specialist/experts who can provide them with the latest in medical therapies and approaches as well as healthy lifestyle choices. A treatment approach may include monitoring blood glucose levels, medication, insulin, a healthy diet, healthy amounts of exercise and a mental health practitioner to help the patient manage a new lifestyle. With the right team of specialists and a commitment from the patient
and his/her family or caregivers, people with diabetes can avoid dangerous complications and significantly improve their quality of life. The goal of contemporary diabetes treatment is to keep blood glucose levels in as close to a normal range as possible and to reduce the long-term complications of this disease.

Treatment of diabetes depends on the type of DM. For individuals with type 1 DM, insulin is almost always used, and without insulin treatment, type 1 DM can be fatal. Insulin, once given only as an injection by a syringe a patient had to load and then inject into the body at specific sites, is now available in easier-to-use forms for injection and delivery. Examples include the insulin pen (with dial-up amounts of insulin), and implantable insulin pumps (small, computerized devices that the person wears on a belt and that provide continuous flow of rapid-acting insulin through a catheter 24 hours a day). All of the above are subcutaneous injections, or directly below the outer layer of the skin. The most frequent areas for subcutaneous injections are the upper arm, a two-inch circle around the navel, waist, buttock, front of thigh and hipbone.

The first method of treatment for Type 2 DM is lifestyle change: diet, exercise and weight loss. Recommendations for diabetic diet include those high in fiber and protein and low in carbohydrates and fats. Patients ready to exercise should consult their physician first, but the U.S. surgeon general recommends aerobic exercise and strength training three to four times a week. If these measures fail to bring blood glucose to a normal range, the next step is taking an oral medication that lowers the blood glucose levels.

Oral medications fall into six classes of drugs that all work in different ways to lower blood glucose levels. The six classes are:

1. **Sulfonylureas**: Insulin is created in the beta cells of the pancreas, and so the drug class sulfonylureas stimulate the beta cells of the pancreas to release more insulin. An example of sulfonylureas is glipizide (Glucotrol and Glucotrol XL).

2. **Meglitinides**: The class meglitinides works to stimulate the beta cells to release insulin. Repaglinide (Prandin) and nateglinide (Starlix) are examples of meglitinides.

3. **Biguanides**: These work by lowering blood glucose levels, primarily by decreasing the amount of glucose produced by the liver. Metformin (Glucophage) is a biguanide.

4. **Thiazolidinediones**: These are a drug class that helps insulin work better in the fat and muscle and also reduces glucose production in the liver. Examples of this drug class are Rosiglitazone (Avandia) and pioglitazone (ACTOS).

5. **Alpha-glucosidase inhibitors**: Acarbose (Precose) and meglititol (Glyset) are alpha-glucosidase inhibitors. The purpose of this drug class, alpha-glucosidase inhibitors, is to block the breakdown of starches and sugars from the intestine and slow the rise in blood glucose after a meal.

6. **DPP-4 inhibitors**: These inhibitors help prevent the breakdown of a naturally occurring compound in the body, GLP-1, which reduces blood glucose levels in the body.

Many of the above medications may be given in combination because they act in different ways with different outcomes.

People with type 2 DM may never require insulin if they maintain healthy lifestyles; however, if they are unable to control their blood glucose levels through lifestyle changes, they may require oral medications. It is, in fact, estimated that more than half of individuals with type 2 DM will require insulin at some point to control their blood sugar levels.

Women with gestational diabetes must get their glucose levels under control in order to prevent serious complications to the developing fetus. It is important even before women try to get pregnant because they generally do not know whether they are pregnant for several weeks following conception, and a baby’s organs begin to form during the first six weeks of pregnancy. High blood sugars can cause birth defects in a baby. Further, with high blood glucose, the baby may be large. A large baby can suffer nerve damage while coming through the birth canal and is also more likely to become obese and develop type 2 diabetes when older. Treatment for gestational diabetes needs to occur quickly, upon diagnosis. Treatment for gestational diabetes includes special meal plans and physical activity. It may also include daily blood glucose testing and insulin injections.

Patients with all types of diabetes must learn to monitor their blood glucose levels to keep an eye on their disease process. The most accurate and effective way to monitor blood glucose level (if used correctly) is with a meter/glucometer, a medical device that can determine the approximate amount of glucose concentration in the blood. The meter works by pricking a finger with a lancet to obtain a small drop of blood, which is placed on a disposable test strip that the meter reads and uses to calculate the blood glucose level. The meter then displays the level in mg/dl or mmol/l on a screen. To avoid inaccurate readings, individuals should be properly trained by a medical professional on using the meters. They should measure their blood glucose levels as prescribed by their doctor and keep a log of the results.

One Touch Ultra or Accu-Chek Aviva are two brands, but many options are available and people should consider their needs and their doctor’s advice before purchasing a meter.

Some doctors’ offices now offer computer programs, such as e-health computerized medical records, which allow glucometer readings to be loaded onto a computer system and reported to the doctor’s office in real time. In instances such as this, home health nurses or doctor’s office nurses are notified when the meter readings report high blood glucose levels and can contact the patient if the blood glucose level is too high, or when the provider feels the patient is not properly managing his/her diabetes. If the doctor’s office does not have this program, the patient should keep a record of the readings and bring it to the health care provider at the time of appointment.

Checking a glucose level with a glucometer is a good way to measure blood glucose levels at any one time, but it does not give an overall indication of the disease process or how person is doing overall. Therefore, it is important to understand the HbA1c, a test that measures glycated hemoglobin in the blood, a form of hemoglobin used to identify the average plasma glucose concentration over a prolonged period. The HbA1c test provides a picture of the average blood glucose control for the past two to three months. This test is more accurate than the glucometer reading for confirming self-testing results, and it provides a picture of how well the diabetes treatment plan is...
working for the individual. Individuals should aim for HbA1c lower than 6 percent.

To more clearly help you understand the HbA1c test vs. the glucometer, here is an appropriate analogy: The HbA1c is that of a basketball player’s shooting average over the season; it tells you about the player’s overall success. Neither a single day’s blood test result (glucometer reading) nor a single game’s shooting average gives the same big picture as the average throughout (HbA1c). With the HbA1c, a health care provider can more readily understand the overall management of the disease and determine whether changes need to occur to the treatment plan.

PART II: IMPORTANCE OF MENTAL HEALTH IN MANAGING DM

As you have learned, diabetes is a common disease in America, likely due to the fact that we are a fast-paced, fast-food, super-sized culture that appreciates quickness with little effort and complication. This American value does not fit into the prevention or the treatment of diabetes. As mental health educators and providers, we need to be completely aware of this and work not only as educators but also as role models in the prevention and management of chronic diseases. It is all too clear that the greatest challenge in management of diabetes is overcoming the many psycho-behavioral, social and environmental barriers to the self-management and treatment of diabetes.

Diabetes is more prevalent in the mentally ill (14 percent) than in the general population (6 percent), with the affective disorders being the most prevalent of mental health disorders in the DM population. Specifically, the American Psychological Association suggests that depression is prevalent in 11 percent of those with DM, as compared to 2-5 percent in the general population. Other studies suggest that depression prevalence is as high as 15 percent in diabetes patients. Several studies suggest that diabetes doubles a person’s risk of depression versus those who do not have DM. In those who are not clinically diagnosed with depression but have diabetes, symptoms of depression are present in 31 percent. In this population, it is important to monitor and treat the depression because it will interfere with adequate self-treatment and glycemic control.

Treatment of depression within the context of DM must be managed closely by a mental health professional – a psychiatrist, psychologist or social worker – specifically one who is in close contact with the diabetes medical team, the patient, the family and caretakers. This is especially important when a psychotropic medication is used and when compliance issues are in question because of the depression. It is important to monitor the patient’s possible side-effect profile with any psychotropic medication to avoid complications and drug interactions.

Diabetes is a psychologically demanding chronic medical illness because it requires strict daily management of the treatment by patients themselves. The presence of mental health conditions can result in a more demanding and challenging disease process, and may affect the adherence to the medical and self-care regimen. In some instances, even patients not diagnosed with a mental health condition can benefit from a mental health provider on the diabetes team.

Mental health providers are important members of a diabetes team, either internal (residing within the diabetes clinic) or external (in close communication with the diabetes providers and clinic). There are many ways that mental health can/should be utilized. Here are six major categories:

1. Coping with the chronic illness.
2. Compliance.
3. Needle phobia.
4. Control over the disease.
5. Dealing with the needs of family and friends.
6. Managing pain from the disease.

Coping with diabetes and associated mental illnesses

Chronic illness can force many potentially stressful life changes and can have associated depression. Individuals may have to give up things, may have to adapt to new lifestyles and special needs, and may have expensive medical treatments and services. This may become stressful to individuals, and these stressors may rob individuals of emotional energy, causing depression. Acting quickly to address depression is essential because individuals with depression tend to have poor exercise and eating habits and become non-compliant. In addition, fears of what an individual’s life may become is important to address. Cognitive behavioral therapy (Aaron Beck) and dealing with cognitive distortions can be helpful in quelling those fears.

Another factor of concern in diabetes management, specifically in type 1 diabetes, is the presence of an eating disorder (either anorexia or bulimia). Eating disorders are far more prevalent in type 1 DM and in adolescents, and can wreak havoc on metabolic control. It is important as mental health practitioners to ask about specific eating plans, exercise output, laxative use and purging. Research suggests that this increase in eating disorders comes from lack of control and the increased emphasis placed on food and caloric intake by diabetic patients, and secondarily, on weight gain with insulin use.

Anxiety is common in patients with diabetes. They might be anxious over possible complications of unmanaged diabetes, or have a tendency to misattribute bodily symptoms to a diabetes reaction or hyperglycemia, which can lead to unnecessary treatment approaches, such as insulin use. In addition, needle phobia may exist in your patients. Because of the complexity of needle phobia, it is discussed below.

It is important to note that even when diabetes patients do not meet clinical diagnosis of depression or anxiety, they may still experience some form of diabetes-related psychological distress. This might include guilt over what they may have contributed to their diagnosis (e.g., unhealthy lifestyle choices); how this affects their family in the long-term; caregiver guilt; fear over long-term complications; and “falling off the diabetes bandwagon.”
Remember your basic knowledge regarding coping and mental illness: People with anxiety and depression have a more difficult time with healthy lifestyle choices than those who do not have those conditions. Thus, it is important to help people manage their depression and anxiety to help them cope and become healthier. Finally, it is important to teach patients that they didn’t give themselves diabetes, and therefore to let go of the guilt. Certainly, obesity and sedentary lifestyles contribute to the development of type 2 diabetes, but they do not cause diabetes. Diabetes is caused by a combination of lifestyle factors and genes. For type 1 diabetes, an individual’s own actions played no role at all. Control over diabetes requires control over thoughts, feelings, depression and other mental health conditions. With good care, individuals with diabetes can live long, healthy and functional lives.

Compliance with medical regimen

As noted, people with depression have a more difficult time complying with a medical regimen, which is why depression must be addressed. However, even those without depression often have a difficult time with the lifestyle changes that accompany diabetes. Behavioral therapy, compliance and monitoring are important in helping patients comply with a medical regimen. As mental health practitioners, we want to teach patients and family members long-term, attainable and realistic lifestyle changes. We want to teach healthy eating, healthy exercise regimens, blood glucose monitoring and daily medication/insulin control.

It is likely that patients will have a lapse in compliance, and mental health practitioners should be ready for this and the associated guilt that patients feel with this lapse. Be prepared to process their frustration or other emotions, and then try to help them get back on a healthy track. Teach positive reinforcement for positive lifestyle goals without criticizing the occasional lapse. Difficulty with compliance can change over time as individuals become either more or less motivated, sometimes because of diabetes burnout, which is common for people who have been dealing with the disease for many years. It is important as mental health practitioners to monitor the possibility of compliance burnout and to encourage patients to get their management back under control because of the serious adverse consequences of treatment non-compliance.

Needle phobia

Obviously, in some patients, controlling diabetes requires the ability to poke oneself daily, either through measuring blood glucose levels, insulin delivery or frequent doctor’s appointments in which an HbA1c blood work is taken. Because of this, patients must be OK with the needle pokes. If they are not, they have a much higher chance for non-compliance and failure to adhere to the medical protocol, which in turn, increases their risk for more complications. David Mohr, Darcy Cox and Arne Boudewyn from the University of California, San Francisco developed SIAC, or self-injection anxiety counseling, in which a mental health provider is taught how to counsel an individual who has needle phobia so that it does not affect his/her treatment regimen or outcome. If the behavioral regimen does not overcome the needle phobia, then psychotropic medications might be necessary. As a mental health professional, it is important to evaluate a true needle phobia or fear from non-compliance. For teaching purposes, the below are common injection sites:

Control over the disease

Teach patients that they have control over their own health and medical team, that they are not helpless or hopeless! Self-management is extremely important in diabetes control. Many patients fear the disease, and it is important to teach patients that it is not diabetes itself that causes complications; it is poorly controlled diabetes that causes serious complications. Help them understand that those who control their diabetes through lifestyle changes are typically healthy and that functional communication within a team of medical specialists will help them feel in control.

Self-management of diabetes is imperative, but very complex and difficult for patients. Some aspects of self-management, such as healthy lifestyle choices including healthy eating, healthy levels of exercise and physical activity, are much
more difficult for patients to follow than other methods of management, such as taking a medication or insulin in a rigid time frame and schedule.

Daily ongoing and active decision-making is integral in management (i.e., “Should I eat this cookie? Should I exercise? How can I help my diabetes?”). Patients need to know which answers to these questions support a healthy lifestyle. The research suggests that people who feel they have control over the situation, that it is their choice to stay healthy, and that it is their choice to make the healthy lifestyle changes, do much better than those who feel they have little control.

Stay informed about any education or new advances in the field of DM by subscribing to reputable magazines or newsletters.

Dealing with the needs of family and friends

Significant others come with their own set of needs and challenges, but can also be a major source of strength for the patient. A serious illness affects the entire family, not just the person with the disease. Therefore, it might be important to meet with the entire family. The involvement of a family in the treatment is much more powerful than simply teaching the patient. Families can have their own set of fears – the loss of a loved one, or the possibility the person may become an amputee or lose daily functioning skills, for example. Education and dispelling the stereotypes and fears is important for both the affected individual and his/her family members. Especially in the treatment of type 1 diabetes, research continues to demonstrate how important the support of family is, and how important it is to reduce levels of stress and conflict in the nuclear family.

It is also important to teach family members about the management of the disease, so they will comply with and encourage the lifestyle change by the affected individual. Diabetes, or any chronic illness, is much easier to manage when other significant people in a patient’s life is helping him/her along. A person with diabetes who feels alone in the challenge is less likely to follow through on treatment recommendations.

Examples of support from family members include:
- Cooking and eating healthier meals together.
- Reminding the patient and other family members about blood glucose level checks using a glucometer.

Pain management

Diabetic neuropathy (tingling or numbness in the hands or feet and/or burning pain in legs, feet, arms and hands) is a painful side effect of diabetes. Mental health professionals can help patients manage their pain in a number of ways, including providing the language to describe the pain, which the patient can use when speaking with a physician. We can help them process the emotions involved with the pain and can utilize many pain management techniques, including hypnosis, progressive muscle relaxation, diaphragmatic breathing and biofeedback, and can encourage physical therapy.

SPECIAL POPULATIONS

Pediatric and child population

The pediatric and child population must be distinguished from the adult population, because young patients generally have type I diabetes. It seems more and more important to get the family involved in the treatment of childhood diabetes. Family
stress, conflict, cohesion, organization and communication are all important to evaluate and manage/treat if applicable. Children tend to be much more successful at managing their illness if the family is in less chaos and is more communicative and more organized. It is also imperative in the treatment of children that patients not be given too much responsibility before they are mature enough and responsible enough to handle it. Children who are given too much responsibility tend to make more mistakes, are less adherent and have poorer metabolic control than those whose parents remain in more control of the treatment process.

Low social economic status (SES)

The low SES population is highly represented in type 2 diabetes, perhaps because they may not have the money to buy healthy food choices or can’t afford to join a gym.

Mental health practitioners can help patients find resources to help with medication costs and find ways to exercise and eat healthy on their budget.

Education

The majority of diabetes control occurs outside of the medical setting, meaning increased self-management skills are needed by diabetes patients. Mental health providers can be involved through education and teaching, including:

- **Education of individuals** – A focus and encouragement on diabetes self-management educational programs to assist with weight control, emotional regulation, regular physical activity, medication regimens and checking blood glucose levels.
- **Education of personal family and care assistants at nursing homes, residential and group care facilities** – Information on the basics of meal planning, self glucose monitoring, medication administration and appropriate physical activity, with a goal of reinforcing self-management behaviors.
- **Healthy workplace development** – Promotion of healthy lifestyle programs to improve employees’ overall health, leading to more endurance, longevity and fewer sick days. Healthy employees also may lower insurance premiums, because they use the doctor less frequently.

10 daily tips for everyday good diabetes care

1. Follow an eating plan that patient and doctor or dietician have designed.
2. Be physically active at least 30 minutes three to four times per week and plan an exercise regimen with a doctor and determine what activities are best for the patient.
3. Check blood glucose levels every day. Each time a level is checked, record the number in a record book.
4. Do not smoke or drink alcohol.
5. Take oral or insulin medications as directed.
6. Check feet every day for cuts, blisters, swelling, redness, sores or ingrown toenails.
7. Control blood pressure and cholesterol.
8. Brush and floss teeth daily.
9. Manage emotions.
10. Drink plenty of water.

In summary, having a mental health practitioner in the patient’s corner can be empowering. Too many times, a patient’s psychological needs throughout the process are not taken into account. Mental health professionals can help a patient build the emotional resilience necessary to navigate the difficult chronic disease and stick to the necessary treatment regimen, while also helping the person deal with any family dynamics or communication issues with providers. Educating both patients and medical providers alike about the importance of the mind-body process is vital. It is imperative that mental health providers speak the language of the medical profession to gain respect from the medical profession and the patient. Mental health providers must be able to be a part of treatment, the person who educates and empowers and not someone who needs education about what HbA1c is or what insulin is. The mental health provider can be a powerful part of the medical team if they are aware of the complicated disease process.

Glossary of terms

**Behavior therapy**: Behavior therapy, based upon the principles of classical conditioning developed by Ivan Pavlov and operant conditioning developed by B. F. Skinner, focuses on changing unwanted or negative behaviors and gaining control of a situation. These therapies include, goal-setting, education, group educational classes, teaching specific self-care options (i.e., blood glucose testing, shot administration, foot care, exercise management and others).

**Blood glucose**: The amount of sugar present in the blood that fuels cells’ ability to produce energy.

**Cognitive behavioral therapy**: initially developed by Aaron Beck, is a type of psychotherapy that involves problem-solving and is centered around dysfunctional thoughts/cognitions, behaviors and emotions.

**Diabetes mellitus (DM)**: Diabetes is a chronic endocrinological metabolic health condition defined by problems either using or producing the hormone insulin.

**Diabetic retinopathy**: Damage to the eye’s retina, which occurs with long-term diabetes. It can lead to blindness and is
the leading cause of blindness in adults, known as proliferative retinopathy.

**Gestational diabetes:** Not a chronic form of diabetes, it occurs in some pregnant women, typically in the third trimester. It can have serious consequences on a developing fetus and therefore is imperative to control during pregnancy. Although it resolves with both lifestyle changes and after pregnancy, these women and their babies are at increased risk for type 2 DM at a later age.

**Gingivitis:** An early gum disease that sometimes results from diabetes, which can then progress into periodontitis.

**Glucometer:** A medical device used to determine the approximate amount of glucose concentration in the blood. The meter works by pricking a finger with a lancet to obtain a small drop of blood that is placed on a disposable test strip that the meter reads and uses to calculate the blood glucose level.

**Glucose:** A compact energy store that is the primary energy source/fuel for the body and comes from carbohydrate foods.

**HbA1c:** A blood test that measures glycated hemoglobin in the blood, which is a form of hemoglobin used to identify the average plasma glucose concentration over a prolonged period. The HbA1c test gives an individual a picture of the average blood glucose control for the past two to three months.

**Hypoglycemia:** Abnormally high levels of glucose in the bloodstream.

**Insulin:** A hormone produced by the beta cells in the pancreas that helps break down food into blood glucose and is responsible for utilization and storage of nutrients in the body and to regulate blood glucose levels in the body.

**Insulin pump:** Small computerized devices worn on a belt or in a pocket, which allows for continuous flow of rapid acting insulin through a catheter to be released into the body, providing continuous insulin delivery 24 hours a day.

**Motivational interviewing:** Based on Mille and Rolnick’s work, this has recently been applied to health care settings and been successful in helping patients change unhealthy behaviors. In this approach, patients and therapists work together to elicit change by exploring the patient’s awareness of the problems, the potential risks and consequences, and ambivalence within the patient regarding their change. This method allows patients to control when and why they want to change, and focuses on helping the patient to have a better future and become more motivated to get there.

**Nephropathy:** Kidney damage due to diabetes and the leading cause of kidney failure.

**Neuropathy:** Tingling or numbness in the hands or feet and/or burning pain in the legs, feet, arms and hands. It is caused by high levels of blood glucose levels in the body, which damage the small blood vessels in the nerves.

**Pancreas:** A deep-seeded organ that produces insulin, located behind the stomach.

**Periodontitis:** Advanced gum disease.

**Pre-diabetes:** Also called “impaired glucose tolerance,” it is a health condition that is almost always present before a person develops the more serious type 2 diabetes mellitus. Pre-diabetes is diagnosed when blood sugar levels are higher than the normal range but do not meet the higher ranges that are classified as diabetes mellitus.

**Polydipsia:** A symptom of diabetes characterized by patients describing excessive thirst.

**Polyphagia:** A symptom of diabetes in which an individual eats too much or has excessive hunger, because the cells do not get enough glucose.

**Polyuria:** A symptom of diabetes characterized by passage of large volumes of urine.

**SIAC or self-injection anxiety counseling:** A behavioral based theory based on the work of David Mohr, Darcy Cox and Arne Boudewyn from the University of California, San Francisco. This protocol was developed to teach the mental health provider how to counsel an individual who has needle phobia so it does not affect their treatment regimen or outcome.

**Type 1 diabetes (Type 1 DM):** Once known as juvenile diabetes, type 1 DM is an inherited condition that usually starts in childhood and is the most common chronic disease of childhood. It develops when a person’s immune system attacks and destroys beta cells (which produce insulin) in the pancreas.

**Type 2 diabetes (Type 2 DM):** Known as non-insulin-dependent diabetes, it is strongly associated with lifestyle, obesity and age.

---

**Resources/References**

1. American Association of Diabetes Educators: AADE is an association of health care professionals dedicated to integrating successful self-management as a key outcome in the care of people with diabetes and related conditions. Contact information: http://www.diabeteseducator.org/; 1-800-338-3633.

2. American Diabetes Association: Committed to preventing and curing diabetes and improving the lives of all people affected by DM. It funds research to prevent, cure and manage DM, and delivers services to hundreds of communities, provides objective and credible information, and gives a voice to those denied their rights because of diabetes. Contact information: http://www.diabetes.org/; 1-800-DIABETES (1-800-342-2383).


4. Behavioral Diabetes Institute: BDI is an organization dedicated to helping people with diabetes live long, healthy and happy lives. BDI provides: Clinical services for people with diabetes (psychological support group and behavioral modification programs); professional services for health care professionals; and research opportunities. Contact information: http://behavioraldiabetesinstitute.org/; 1-858-336-8693.


6. Diabetes Professionals: A part of ADA, Diabetes Professionals is dedicated to providing professional resources for those involved in patient care with diabetes patients. This group has a special interest group in behavioral medicine and psychology at http://professional.diabetes.org/ResourcesForProfessionals.aspx?cid=71423.
1. Individuals that are the least likely to develop diabetes belong to what ethnic population?
   a. Chinese.
   b. Latino.
   d. Russian.

2. Risk factors associated with type 2 diabetes are:
   a. High blood pressure.
   b. High blood triglyceride levels.
   c. Giving birth to a child weighing more than 9 pounds.
   d. All of the above.

3. Which of the following is not a symptom of diabetes?
   a. Increased appetite.
   b. Unexplained weight gain.
   c. Flu-like symptoms.
   d. Fatigue.

4. According to the National Diabetes Fact Sheet, what percentage of the population has diabetes?
   a. 5.7 percent.
   b. 7.1 percent.
   c. 7.8 percent.
   d. 11.2 percent.

5. Diabetes is more prevalent in the mentally ill than in the general population. What percentage of those with mental illness, have diabetes?
   a. 6 percent.
   b. 9 percent.
   c. 11 percent
   d. 14 percent.