

RCS 6080
Medical and Psychosocial Aspects of
Rehabilitation Counseling

Diabetes and PVD

Diabetes Mellitus

- Diabetes is most accurately viewed as a family of diseases characterized by the body's inability to effectively metabolize glucose
- There are 15.7 million people or 5.9% of the US population who have diabetes
- Diabetes is considered the 7th leading cause of death in the US and the 6th leading cause of death by disease

Diabetes Mellitus

- Type 1
 - An autoimmune disease in which the body does not produce any insulin, most often occurring in children and young adults
 - People with Type 1 diabetes must take daily insulin injections
 - Accounts for 5-10% of diabetes cases

Diabetes Mellitus

- Type 2
 - A metabolic disorder resulting from the body's inability to make enough, or properly use, insulin
 - It is the most common form of the disease and accounts for 90-95% of diabetes
 - Type 2 diabetes is nearing epidemic proportions due to an increase number of older Americans and a greater prevalence of obesity and sedentary lifestyles

Diabetes Mellitus

- Gestational diabetes
 - Develops in 2-5% of all pregnancies but disappears when a pregnancy is over
 - Women who have had gestational diabetes are at an increased risk for developing Type 2 later in life
- Other specific types
 - Result from specific genetic syndromes, surgery, drugs, malnutrition, infections, and other illnesses

Blood Glucose Levels

	Normal	Goal	Abnormal
Fasting blood sugar (FBS)	Below 110 mg/dl	Below 120 mg/dl	Greater than 140 mg/dl
Bedtime blood sugar	Below 120 mg/dl	100 – 140 mg/dl	Greater than 160 mg/dl

Risk Factors for the Development of Diabetes

- Type 1
 - Sex, age, and race/ethnicity
 - Genetic
 - Environmental/Lifestyle
- Type 2
 - Sex, age, and race/ethnicity
 - Genetic
 - Environmental/Lifestyle

Functional Presentation of Diabetes

- Type 1 at Onset
 - Acute onset of symptoms
 - Polyuria
 - Polydipsia
 - Polyphagia
 - Weight loss
 - May reach a state of diabetic ketoacidosis (DKA), which reflects a high level of acid in the bloodstream and can lead to coma or death
- Type 2 at Onset
 - Insidious onset with similar symptoms or the beginnings of retinopathy or peripheral neuropathy

Long-Term Complications

- Microvascular complications
 - Retinopathy
 - After 20 years, most people with Type I and more than 60% with Type II
 - Leading cause of new blindness between 20 and 74
 - Nephropathy
 - Diabetes is the leading cause of end-stage renal disease and accounts for 40% of cases
 - Neuropathy
 - About 60-70% have some nervous system damage

Long-Term Complications

- Macrovascular complications
 - Large blood vessel disease
 - Cardiovascular disease
 - Peripheral vascular disease
 - Amputations
 - Stroke

Mortality and Diabetes

- Portuese & Orchard (1995): more than 15% of people diagnosed with Type 1 diabetes in childhood will be dead by age 40, reflecting a mortality rate 20 times greater than the general population
- Mortality in people with Type 2 diabetes is also elevated, but to a lesser degree
 - When Type 2 diabetes is diagnosed in middle age, the person loses about 5-10 years of life expectancy

Economic Costs of Diabetes

- An American Diabetes Association study found that the estimates of the direct and indirect costs attributable to diabetes in 1997 totaled \$98 billion
 - Direct medical expenditures = \$44.1 billion
 - Excess prevalence of general medical conditions
 - Excess prevalence of chronic complications
 - Acute glycemic care
 - Indirect costs = \$54.1 billion
 - Disability
 - Premature mortality

Treatment of Diabetes

- Medication
- Medical Nutritional Therapy
- Exercise
- Self-Monitoring of Blood Glucose

Disability and Employment

- If an individual maintains good blood glucose control and minimizes complications, there will be few work restrictions
- Considerations:
 - Work shifts – consistent as possible
 - Physical demands – consistent as possible
 - Source of sugar available for insulin reactions
 - Vision difficulties?
 - Lower extremity limitations?
 - Neuropathy?

Disability and Employment

- In a review of disability and diabetes, between 20-50% of people with diabetes report some form of disability
 - Activity limitations and restricted-activity days
 - Increasing age and minority-group status
 - Affect people with Type 2 more than Type 1
 - Individuals with Type 1 diabetes who are classified as disabled have higher rates of unemployment and absenteeism
 - Double the physician visits
 - Limited ADLs

Peripheral Vascular Disease

- PVD encompasses not only diseases of the arteries and veins, but also multiple underlying medical conditions such as coronary artery disease, diabetes, and renal insufficiency, which are associated with and are often the cause of the vascular pathology

Functional Presentation of Peripheral Vascular Disease

- Lower Extremity Peripheral Arterial Occlusive Disease
- Extracranial Cerebrovascular Disease
- Chronic Venous Insufficiency
- Acute Deep Venous Thrombosis
- Abdominal Aortic and Peripheral Arterial Aneurysmal Disease

Vocational Implications

- PVD can leave people with severe vocational impairment and psychological stress
- Ramifications of amputation and strokes
- Expeditious rehabilitation

Additional Resources and Information from the Web

- JAN's Web Page
(www.jan.wvu.edu/media/Diabetes.html)
- American Diabetes Association
(www.diabetes.org)
- National Institute of Diabetes & Digestive & Kidney Diseases (www.niddk.nih.gov)
- National Diabetes Information Clearinghouse
(<http://diabetes.niddk.nih.gov/>)

Additional Resources and Information from the Web

- On-Line Diabetes Resources
(www.mendosa.com/faq.htm)
- Diabetes Public Health Resource
(www.cdc.gov/diabetes)
- Starbright Foundation (www.starbright.org)
