Gastrointestinal Function

Overview of Nutrition

Good nutritional intake and daily physical activity are vital for a healthy lifestyle. The client's age, gender, past and current medical history, physical activity, and body type all influence their required caloric intake for the day. A middle-aged person who has a chronic illness is going to have different daily caloric requirements than someone who is younger and healthy. Remember, energy needs may be greater during illnesses.

Carbohydrates

Carbohydrates are the body's primary source of energy and are classified as either simple or complex.
45%–65% of total calories should come from carbohydrates.

Fats

The two types of fats are potentially harmful (saturated fat/trans fat) and healthier dietary fats (monounsaturated and polyunsaturated fats). Diets high in excessive calories (usually due to high fat intake) contribute to the development of obesity.
Fats should be no more than 20%–35% of total calories.

Proteins

Proteins are required for tissue growth, repair and maintenance, body regulatory functions, and energy production.
10%–35% of daily caloric intake should be from protein.

Vitamins

Vitamins are organic compounds required in small amounts for normal metabolism.

Metabolic Syndrome

Metabolic syndrome is not a disease but a group of factors placing a client at risk for cardiac disease, hypertension, cerebral vascular accidents (CVA), and diabetes mellitus type 2.
Clients who have altered nutrition, as evidenced by overnutrition, have an increased risk for metabolic syndrome. Medical diagnosis by a healthcare professional consists of having a certain number of risk factors and leading to adverse health outcomes.

Diet

Some diets can put clients at an increased risk of vitamin or protein deficiencies, while others can provide too many nutrients, leading to overnutrition.

For example, some types of vegetarian diets exclude red meat, placing a client at higher risk of developing vitamin, iron, or protein deficiencies. Certain variations of vegetarianism, such as a client who excludes all meat and animal products, are at risk for developing cobalamin (vitamin B12) deficiencies as this vitamin is fortified or found in higher amounts in animal proteins.

Nutritional Assessment

Cultural preferences are important factors to consider when conducting a nutritional assessment. People have unique cultural values and beliefs regarding food and unique times to eat, which may affect eating habits. Culture and religion may also influence what foods are considered acceptable, how they are prepared, and how and who prepares them. For example:

- A client who follows the Hindu faith may follow vegetarian practices and require avoidance of certain meats and meat preparations.
- A client with ulcerative colitis who follows Jewish dietary practice may find comfort in knowing that enteral feeding preparations will be prepared kosher.

A thorough nutrition assessment can help clients trust in the care being provided and feel supported in their beliefs while they heal.

Obesity and Weight Classifications

In discussions about altered nutrition, it is important to discuss the concept of obesity or an excessively high amount of body fat or tissue. Obesity is a major risk factor for multiple disease processes and healing issues, including heart disease, stroke, diabetes mellitus, and more. Attitudes about obesity can create a bias or discrimination toward clients who are obese. Obesity must be viewed and treated as a chronic disease.

The most common measure of obesity is the body mass index (BMI). BMI is calculated by dividing a client's weight (in kilograms) by the square of their height (in meters).

While the BMI calculation is easy, cost-effective, and reliable, other factors must be taken into consideration, such as the client's age, gender, and body build. For example, a bodybuilder may have a BMI that is technically classified as obese but, because of their high muscle mass, the BMI may not be an accurate indicator. Other measures, such as waist circumference, are another tool to assess obesity. Health risks increase if a client has a waist circumference of greater than 40 inches in men or 35 inches in women.

With obesity, the client is at risk of developing metabolic syndrome. Metabolic syndrome is a group of risk factors that increase a client's chance of developing cardiovascular disease, stroke, and diabetes mellitus. Obesity is one of those risk factors, along with hypertension, abnormal lipid levels, and high blood glucose levels.

Health Risks and Obesity

Obesity is a disease that is categorized with other chronic diseases, such as hypertension or diabetes mellitus. The risk of secondary health issues is elevated in clients who are obese, so it is vital for healthcare providers to work on educating clients to prevent further risks.

The consequences of obesity are not only physical but psychosocial. Stigma and discrimination surrounding obesity occur in various environments, such as:

- employment
- education
- healthcare

Major depressive disorders, social withdrawal, and anxiety are common. As a nurse, it is important to understand potential mental health concerns.

Cardiovascular Disease

Obesity is a significant risk factor for cardiovascular disease. Android obesity (an "apple-shaped" body with fat primarily located in the abdominal area) is the best predictor of this risk. Hypertension, chronic inflammation of vessels, and poor perfusion can cause systemic issues for health and healing. The excessive weight on the client's chest can also increase the risk of developing sleep apnea.

Insulin Effectiveness

Excessive weight decreases the effectiveness of insulin, making obesity a major risk factor for type II diabetes mellitus. It also complicates the management of diabetes by increasing insulin resistance and glucose intolerance, making medications that would normally treat these processes less effective than in an individual of normal weight.

Osteoarthritis

Extra stress on the joints increases the incidence of osteoarthritis (OA) in clients who are obese, especially in the knees and hips. While joint replacements are an option for these clients, the recovery is more strenuous and complicated in the obese client.

Cancer

Obesity is the most important preventable cause of cancer. Cancers such as breast, endometrial, and kidney are all highly linked to excessive body fat. This is another reason why education for clients is vital to their long-term health goals.

Surgical Interventions

Surgical interventions involve a higher risk in clients with obesity. Laying completely supine may be difficult for some clients as the extra weight is directly over their chest area, making breathing difficult. A patent airway may be more difficult to obtain, and anesthesia may metabolize at a different rate due to the size of the client.

Nursing Management of Obesity

Goals

Like assessing a client who smokes, it is important to see if clients who are obese are ready to make a change in their lifestyle. Understanding any barriers to compliance with dietary, exercise, or medication changes will help the client be successful long-term. It can be an incredibly challenging healthcare problem to manage and overcome, but with thoughtful planning, implementation, and resources, clients can be prosperous.

Overall goals for plans of care are that the client who is obese will:

- modify eating patterns
- participate in regular physical activity
- achieve and maintain weight loss to a discussed level
- minimize or prevent health problems related to obesity

Acute-Care Setting

In the acute-care setting, some different equipment may be necessary to safely take care of clients who are obese. Larger blood pressure cuffs may be appropriate for the client to accurately assess vital signs. A bariatric bed (a hospital bed with a higher weight capacity and a larger bedframe) may also be appropriate. Shower chairs, scales, commodes, bedside chairs, and hospital gowns are all available in larger sizes if necessary. More staff members may be needed to assist in transferring or moving clients who are obese.

While these tools may be needed to help safely care for the client, it is also important not to draw any unnecessary attention to these changes as the client may already have mental health concerns related to their weight. It is also important to remember the changes that must occur with medication administration. Larger or longer needles may be required for subcutaneous or intramuscular (IM) injections in clients who are obese.

Planning Care

Planning care for clients who are obese centers around realistic goals. Are we setting the client up for success? Is the goal achievable? Is it appropriate for the individual? Exploring a client's motivation for weight loss can be beneficial in adhering to their plan of care. Ask the client what they like to do and incorporate that into a physical activity routine.

For example, a client with a dog can take them on walks around the block at least three times a day. The client who does not know how to swim should probably not be forced into a water aerobics class.

Diet Recommendations

While there is no "magic diet" to ensure consistent and safe weight loss, encouraging dietary intake with fewer calories than energy requirements is a cornerstone in weight reduction. It is best to recommend a diet that includes adequate amounts of fruits and vegetables, provides enough bulk/fiber to avoid constipation, and meets daily vitamin requirements. Very low-calorie