Evidence-Based Practice for Fatigue

This analysis of fatigue (Tiesinga et al., 1996) was conducted to document how it is defined in the literature, and to distinguish dimensions and identify indicators. As defined in this analysis, fatigue is a nonspecific manifestation, often related to different chronic illnesses and their treatments. Fatigue has physical, psychological, and social dimensions.

Implications for Nursing

Although nurses both experience fatigue and assess fatigue in clients, little research has been conducted to clearly define and interpret the experience of fatigue. This is important, as the experience of fatigue may well be very different in the client with hyperthyroidism than in the client with fatigue-related radiation treatments. Continued research and the development of accurate assessment tools will increase the knowledge base necessary to holistic, individualized clinical practice.

Critical Thinking in Client Care

1. What specific pathophysiologic processes in clients with hyperthyroidism or hypothyroidism increase the risk of fatigue?
2. What defining characteristics of the nursing diagnosis Fatigue would make implementation of a teaching plan more difficult? How could you adapt your teaching to ensure client and family knowledge?
3. How could fatigue interfere with following a therapeutic regimen that is prescribed? Could fatigue be a major factor when the client is said to be noncompliant? Why or why not?

Home Care

Clients with hyperthyroidism primarily provide self-care at home. Teaching is individualized to meet the client’s needs. Address the following topics:

- The client taking oral medications must understand the need for lifelong treatment.
- The client who has a thyroidectomy requires information about postoperative wound care.
- The client having radioactive iodine therapy needs to know the symptoms of hypothyroidism.
- Depending on the age of the client and the support systems available, referral to community health care agencies may be necessary.
- In addition, suggest the following resources:
  - American Thyroid Association
  - Thyroid Foundation of Canada
  - Endocrine Society

Mrs. Juanita Manuel is a 33-year-old mother of four small children. She is a second-year student at the local community college, within one semester of completing the requirements for an associate degree in child care. For the past 3 months, Juanita has been constantly hungry and has eaten more than usual, but she has still lost 15 lb (6.8 kg). She has repeated bouts of diarrhea and often feels nauseated. Her hands shake, she can feel her heart beating rapidly, and she finds herself laughing or crying for no apparent reason.

Mrs. Manuel makes an appointment with her family physician. The nurse at the office completes a health history and physical assessment. When asked how she has been feeling, Mrs. Manuel replies, “Well, I don’t know what’s wrong with me—but I keep losing weight and I cry at the drop of a hat. I am also just so hot all the time, and I’ve never had that problem before. I hope I find out what’s wrong and it’s nothing serious.”

Assessment

The health history indicates that although her appetite has increased, Mrs. Manuel has lost 15 lb (6.8 kg). She states that she has had diarrhea, nausea, palpitations, heat intolerance, and mood changes. Physical assessment findings include the following: T 101°F (38.3°C), P 110, R 24, and BP 162/86. Her skin is moist and warm, her hair thin and fine. She has visible tremors in her hands. Her eyeballs protrude, and she is unable to close her eyelids completely. Her thyroid is enlarged and palpable. Diagnostic tests reveal the following abnormal results: T3 350 g/dL (normal range: 80 to 200 ng/dL), T4 15.1 mg/dL (normal range: 5 to 12 mg/dL). A thyroid scan demonstrates an enlarged thyroid with increased iodine uptake. After the medical diagnosis of Graves’ disease is made, Mrs. Manuel is started on the antithyroid medication propylthiouracil, 150 mg orally every 8 hours.

Diagnosis

- Risk for imbalanced nutrition: Less than body requirements, related to weight loss of 15 lb (6.8 kg), with present weight 10% less than normal for height
- Diarrhea, related to increased peristalsis as evidenced by 8 to 10 liquid stools per day
- Risk for disturbed sensory perception: Visual, related to an inability to close the eyelids completely
- Anxiety, related to a lack of knowledge about disease process

Expected Outcomes

- Gain at least 1 lb (0.45 kg) every 2 weeks.
- Regain normal bowel elimination patterns.
- Maintain normal vision (with no evidence of corneal damage) and verbalize measures to protect her eyes.
- Verbalize medical treatment and self-care needs.
- Verbalize a decrease in anxiety.

(continued)
Hypothyroidism is a disorder that results when the thyroid gland produces an insufficient amount of TH. Because a decrease in TH levels decreases metabolic rate and heat production, hypothyroidism affects all body systems (Figure 17–4 □). Hypothyroidism is more common in women between ages 30 and 60; the incidence rises after age 50. However, the disorder can occur at any stage of life. Careful evaluation of symptoms is important in the older adult because manifestations of hypothyroidism are often thought to be the result of aging instead of a pathologic process.

The hypothyroid state in adults is sometimes called myxedema. The term reflects the characteristic accumulation of nonpitting edema in the connective tissues throughout the body. The edema is the result of water retention in mucoprotein (hydrophilic proteoglycans) deposits in the interstitial spaces. The face of a client with myxedema appears puffy, and the tongue is enlarged (Porth, 2002).

PATHOPHYSIOLOGY AND MANIFESTATIONS

Hypothyroidism may be either primary or secondary. Primary hypothyroidism (which is more common) may be caused by congenital defects in the gland, loss of thyroid tissue following treatment for hyperthyroidism with surgery or radiation, antithyroid medications, thyroiditis, or endemic iodine deficiency. The cardiac drug, amiodarone (Cordarone), which contains 75 mg of iodine per 200 mg tablet, is increasingly being implicated in causing thyroid problems (Porth, 2002). Secondary hypothyroidism may result from pituitary TSH deficiency or peripheral resistance to thyroid hormones. Hypothyroidism has a slow onset, with manifestations occurring over months or even years. With treatment, the mental and physical symptoms rapidly reverse in clients of all ages.

When TH production decreases, the thyroid gland enlarges in a compensatory attempt to produce more hormone. The goiter that results is usually a simple or nontoxic form. People living in certain areas of the world where the soil is deficient in iodine, the substance necessary for TH synthesis and secretion, are more prone to become hypothyroid and develop simple goiter. (Iodine deficiency is discussed below.)

Hypothyroid clients characteristically have the manifestations of goiter, fluid retention and edema, decreased appetite, weight gain, constipation, dry skin, dyspnea, pallor, hoarseness, and muscle stiffness. Many clients have a decreased sense of taste and smell, menstrual disorders, anemias, and cardiac enlargement. The pulse is typically slow. Deficient amounts of TH cause abnormalities in lipid metabolism, with elevated serum cholesterol and triglyceride levels. As a result, the client is at increased risk for atherosclerosis and cardiac disorders. Decreased renal blood flow and glomerular filtration rate reduces the kidney’s ability to excrete water, which may cause hyponatremia. Sleep apnea is more common in clients with hypothyroidism. Factors that result in decreased TH (in addition to those described) include iodine deficiency and Hashimoto’s thyroiditis. A severe state of hypothyroidism is called myxedema coma.

Iodine Deficiency

Iodine is necessary for TH synthesis and secretion. Iodine deficiency may result from certain goitrogenic drugs (which block TH synthesis); lithium carbonate, used to treat bipolar mental disorders; and antithyroid drugs. Goitrogenic compounds in foods such as turnips, rutabagas, and soybeans may...