Managing Obesity in Adults: A Role for Occupational Therapy

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This CE Article was developed in collaboration with AOTA’s Rehabilitation & Disability Special Interest Section.

ABSTRACT

Occupational therapy practitioners commonly encounter clients diagnosed with or who are at risk for obesity across all populations and settings. Because obesity can affect participation in occupation, occupational therapy practitioners can treat obesity as the primary condition or reason for referral, as well as in conjunction with various conditions and disabilities. This article focuses on the effects of obesity on occupational performance and participation and discusses occupational therapy lifestyle interventions for treating obesity with adults who are or who are at risk for obesity, including primary, secondary, and tertiary prevention and bariatric surgery. The article focuses on intervention in the context of outpatient lifestyle modification, although much of the material discussed is useful in most settings.

LEARNING OBJECTIVES

After reading this article, you should be able to:
1. Identify the various client factors, performance patterns, contexts, and environments that contribute to obesity
2. Describe the effects of obesity on occupation and participation
3. Articulate occupational therapy’s role in treating obesity
4. Describe evidence-based occupational therapy lifestyle modification interventions for reducing weight and preventing weight gain

INTRODUCTION

More than 70% of American adults are either overweight or obese. Adult obesity rates have been rising steadily since the 1970s. In 2015 and 2016, 39.8% of adults in the United States were categorized as obese (Hales et al., 2017). Another 32.8% of adults were categorized as overweight (Centers for Disease Control and Prevention [CDC], 2017b). Black and Hispanic adults have a higher rate of obesity than white or Asian adults (Hales et al., 2017). Overweight and obesity are defined by body mass index (BMI), which is the ratio of weight to height. BMI is calculated in a clinical setting by measuring overall weight and height and then using a chart or online calculator to calculate BMI. A BMI of 25 to 30 is considered overweight. A BMI 30 or higher is considered obese (Centers for Disease Control and Prevention [CDC], 2016). Obesity is divided into further categories: class 1 (BMI 30–35), class 2 (35–40), and class 3 (40 or higher). BMI is a useful screening tool, but it has limitations. For example, it does not indicate how much body fat a person has, and people with high muscle mass and low fat mass may have a high BMI. Waist circumference is another measure used. In adults, a waist circumference greater than 35 inches for females and 40 inches for males indicates a higher risk for obesity-related conditions (Jensen et al., 2013).

Not all people with high BMI experience poor health, but people who are obese are at an increased risk for all causes of death (mortality); hypertension; high LDL and low HDL cholesterol; high levels of triglycerides (dyslipidemia); Type 2 diabetes; metabolic syndrome; coronary heart disease; stroke; gallbladder disease; osteoarthritis (especially both knees); sleep apnea and breathing problems; some cancers (endometrial, breast, colon, kidney, gallbladder, and liver); breast cancer relapse; fatty liver disease; kidney disease; pregnancy problems; low quality of life; mental illness, such as clinical depression, anxiety, and other mental disorders; body pain; and difficulty with physical functioning (CDC, 2017a; Dieli-Conwright et al., 2018; National Institute of Diabetes and Digestive and Kidney Diseases, 2015). Additionally, social stigma and discrimination based on weight can affect mental health, especially in the form of mood disorders and decreased quality of life (Barclay & Forwell, 2018). Stigma and discrimination from within the health care system and from society at large can contribute to decreased engagement in self-care and decreased access to health care, which can lead to additional health problems (Tylka et al., 2014).
Etiology

The most common causes of weight gain, which leads to obesity, include genetics, environmental influences, medical conditions, disabilities, medications, food choices, meal timing, chronic sleep deprivation, long-term stress (elevated cortisol), and aging. Some of these causes are modifiable and some are not. A tendency for obesity can be passed down through genetics (Tylka et al., 2014). Environmental causes for weight gain can start in utero with maternal nutrition (Parlee & MacDougald, 2014), and physical and social environments can have significant effects on weight gain throughout the life span. Elements of an “obesogenic” environment include unhealthy food choices/energy intake, poverty, sleep deprivation, sedentary lifestyle, and inactive work (Bellisari, 2013; Kuo et al., 2013). Lack of access to healthy food, opportunities for physical activities, and access to green spaces are also identified causes, as is an increase in sedentary leisure activities (González et al., 2017; Kuo et al., 2013). Drieling and colleagues (2014) found that community resources that provide health education are associated with more physical activity and better diet, which can be an asset for obesity-reduction strategies. However, there is a need for better resource promotion, given the low utilization of these affordable educational community resources (Drieling et al., 2014). Exposure to obesogenic chemicals, such as nicotine, flame retardants, bisphenol A, some pesticides, and polychlorinated biphenyls may increase the risk for weight gain and are thought to be most hazardous in utero and in early childhood, when the body’s weight control mechanisms are being formed (Kelishadi et al., 2013).

Medical conditions that commonly cause weight gain include underactive thyroid; polycystic ovarian syndrome; Cushing’s syndrome; and mental illnesses, such as depression, anxiety, posttraumatic stress disorder, binge eating disorder, and night eating syndrome (Assari, 2014; National Health System, 2017). Conditions that limit mobility and engagement in occupation can also increase the likelihood of weight gain, including physical disabilities and mental illness (Saliman Reingold & Jordan, 2013). Menopause, perimenopause, and aging can cause weight gain as well (Porter, 2016). Medications that commonly cause weight gain include steroid therapies; diabetes medications (e.g., insulin, thiazolidinediones, sulfonlureas); psychiatric/neurologic therapies (e.g., tricyclic antidepressants, selective serotonin reuptake inhibitors); antipsychotics, which are the most likely to cause weight gain; antiseizure/anticonvulsants; antihistamines; and beta-adrenergic blockers, used to lower blood pressure (Kyle & Kuehl, 2018). Medical treatment may also cause weight gain. Chemotherapy can cause weight gain and the development of metabolic syndrome, which is a combination of high blood pressure, high cholesterol, and excessive body fat (Dieli-Conwright et al., 2018).

Chronic sleep deprivation and long-term stress both cause weight gain by elevating cortisol levels. Chronically elevated cortisol raises blood sugar, which raises insulin levels, which causes fat storage. Consistently getting fewer than 6 hours of sleep per night is associated with weight gain, and about 30% of American adults aged 30 to 64 years get fewer than 6 hours of sleep per night (Bahrami-Nejad et al., 2018). With regard to food, most nutrition research indicates that excessive consumption of sugar and refined carbohydrates contribute to the most weight gain (Astley et al., 2018). In a long-term study of more than 120,000 American adults, potato chips, French fries, sugar-sweetened beverages, and processed meats were the foods found to be most associated with weight gain (Bahrami-Nejad et al., 2018). The timing of eating is another factor that can affect weight gain. Nighttime eating is associated with weight gain and maintaining higher weight (Allison & Goelb, 2018). Increased intake of high-calorie foods and decreased physical activity are considered the two main causes of obesity worldwide, and a growing body of evidence also indicates that a history of childhood trauma, especially sexual abuse, may increase the risk for severe obesity in adulthood (Bhurosy & Jeewon, 2014; Richardson et al., 2013). There is also evidence that the social environment can also affect weight. For example, in a recent study of military families who relocate, families who moved to communities with a higher average weight gained weight themselves (Datar & Nicosia, 2018). Poverty and lower education levels are also associated with higher weight (Saliman Reingold & Jordan, 2013). Weight gain is usually caused by a combination of multiple factors. Most often the combination includes reduced physical activity, unhealthy diet, decreased physical function, mental distress, social isolation, the presence of obesity-associated diseases, and perceived physical and psychological barriers (Nossum et al., 2018). As body mass increases, the degree of disability increases. The risk for occupational performance problems increases significantly with moderate and severe obesity (Nossum et al., 2018). Clients seeking occupational therapy may be more likely to be obese than the general public because of decreased mobility, additional conditions, medications, and other contextual factors. Obesity is considered a chronic condition and losing weight often requires lifelong maintenance. Obesity is often preventable.

Effect on Occupation

Obesity increases the risk for decreased physical function, reduced ability to perform everyday activities, social isolation, and mental distress (Nossum et al., 2018). People who are obese can experience functional impairments such as difficulty with mobility, less tolerance of physical activity, and decreased quality of life, and they may avoid activities until losing weight (Forhan et al., 2011, 2012). Obesity increases fall risk and can create difficulty with walking, and it may affect safety in the home and community (Gill, 2016). The presence of obesity with large waist circumference is associated with slower walking speed and inability to walk 400 meters, a measure associated with community independence (Gill, 2017). The presence of comorbidities and pain, for example from osteoarthritis in the knees caused by obesity, can further restrict participation in occupation (Gill, 2017; Forhan et al., 2011, 2012). A study of Canadian adults found that participants with a BMI over 40 and over 50
were somewhat dissatisfied with their participation in daily occupations. A BMI over 50 showed a greater negative effect on participants’ ability to perform ADLs. Several personal factors contributed to obese participants being labeled with a disability, including difficulty with standing and walking tolerance, washing the whole body, and getting dressed (Forhan et al., 2012). In a study of 63 Norwegian adults with a BMI over 35, the most common occupational performance problems reported were playing with grandchildren; buying clothes; having regular meals; avoiding unhealthy food; and doing active recreation, including swimming. Barriers to participation in the community included dyspnea, poor pacing and exhaustion during physical activity, musculoskeletal disorders, narrow chairs and seats, fear of glances and comments from others, and social anxiety. Limitations in fashion were also frequently cited by participants as a barrier to social activity (Nossum et al., 2018). Similar limitations were found in a qualitative study of 10 adults with a BMI over 40. All participants described restricted choices in activities, such as shopping for clothes, joining a social club, planning a vacation, and looking for employment and volunteer work (Forhan et al., 2012). Pain, fatigue, limited tolerance for mobility, and urinary incontinence were cited as creating limitations for employment and leisure activities (Forhan et al., 2012). Environmental barriers—such as inadequate seating in theaters, restaurants, airplanes, cars, and public transportation—were described as problematic, and participants also stated that they avoided medical care for fear of being reprimanded for their weight (Forhan et al., 2012). Being overweight or obese can limit a person’s ability to participate in meaningful, satisfying occupations, which is not only important to health and wellness promotion but also is an issue of social and occupational justice (Kuo et al., 2013).

Unlike the previously cited studies, in a larger study with a sample size of 241 bariatric surgery candidates, Barclay and Forwell (2018) found that BMI did not correlate with occupational performance, but several psychosocial factors did. Self-esteem; affective and cognitive issues, such as being preoccupied with thoughts about food and what others think; and depression and anxiety significantly affected occupational performance. For example, the most commonly identified barriers to exercise were predominantly psychosocial and included physical discomfort, intimidation, embarrassment, and environmental restrictions (Barclay & Forwell, 2018). This study is consistent with other findings that portray extensive stigmatization, discrimination, and bullying related to obesity, which limit access to participation (Saliman Reingold & Jor- dan, 2013).

**Occupational Therapy Models**

Several occupational therapy models have been used to help understand obesity and guide treatment, including the Ecology of Human Performance, Occupational Adaptation, the Person-Occupation-Environment Model, and the Person-Task-Environment Model (Forhan et al., 2010; Nossum et al., 2018). In addition, although not created by an occupational therapist, the Transtheoretical, or Stages of Change Model, is commonly used in obesity and lifestyle modification treatment (Ceccarini et al., 2015).

**Medical Treatment for Obesity**

Recent obesity guidelines published in the *Journal of the American Medical Association* and designed for primary care physicians include the following: identifying clients who are overweight and obese, providing education and counseling on the benefits of weight loss and nutrition/dietary therapy, facilitating lifestyle intervention, and electing bariatric surgery (Jensen & Ryan, 2014). Lifestyle intervention is described as the gold standard and the approach with the most far reaching effects. It is recommended to be onsite, be high-intensity, last for at least 6 months with more than 14 sessions, and continue for at least a year (Jensen & Ryan, 2014). The most successful lifestyle interventions include exercise and diet and behavior modification and are delivered by a multidisciplinary team. Occupational therapists can be the team member that delivers the lifestyle intervention (Jensen & Ryan, 2014).

Medical treatment often starts with the goal of losing 5% to 10% of body weight, because this initial change can create significant health benefits in blood pressure, cholesterol, blood sugar control, sleep apnea, and inflammation in the blood, which can decrease the risk for stroke and heart attack (Pietrzykowska, 2018). Bariatric surgery typically produces greater weight loss and maintenance than all other methods and is recommended for clients with BMI over 40 or a BMI over 35 with obesity-related comorbidities. Weight loss efficacy depends on initial weight and type of surgical procedure (Jensen et al., 2013). Bariatric surgery has a greater effect on obesity-related comorbidities like Type 2 diabetes than do other forms of treatment, but, as is usually the case with surgery, there are short- and long-term risks involved (Jensen et al., 2013). Bariatric procedures can also significantly affect occupations after surgery and require behavior modification for long-term success (Kanerva et al, 2017).

**OCCUPATIONAL THERAPY INTERVENTION FOR ADULTS**

Occupational therapy practitioners have an ideal background and skill set to address obesity in multiple contexts. Practitioners can provide treatment to prevent (primary, secondary, and tertiary) and manage obesity, including helping with weight loss and providing adaptations for occupational challenges caused by obesity (American Occupational Therapy Association [AOTA], 2012). All of the approaches to occupational therapy intervention listed in Table 8 of the Occupational Therapy Practice Framework: Domain and Process (3rd ed.; AOTA, 2014) apply to this client population: create and promote (health promotion to prevent obesity or to promote weight loss), establish, restore (remediation and restoration of function despite obesity and related comorbidities), maintain, modify (compensation and adaptation to increase function and participation despite obesity), and prevent (obesity and disability prevention). As a profession that delivers client-cen-
tered care, occupational therapy also respects a client's desire to refuse treatment for weight loss.

**Evaluation**

As with all occupational therapy evaluations, the occupational profile is used to determine the client's history, patterns of daily living, interests, values, and needs (AOTA, 2017). Further evaluation of a client's occupational performance includes contextual factors, activity demands, and client factors, and it may include occupational therapy evaluation and assessment tools for ADLs, IADLs, and any deficits, as needed. With obesity, it may be necessary to evaluate the client's ability to reach and bend, body mobility, endurance, posture, stabilization, ambulation, pace, and ability to adjust and problem solve in response to challenges. ADLs and IADLs, such as bathing, community mobility, mobility in limited spaces, clothes management, and household chores, may need to be evaluated as well.

**Assessment**

Another client factor to assess is a client's readiness and motivation to make changes for weight loss. The Trantheoretical Model of Change (TTM) is a useful model for evaluating motivation for change and has been used extensively in clinical settings with clients who are trying to lose weight (Ceccarini et al., 2015). This model describes five stages of behavior change, including precontemplation, contemplation, preparation, action, and maintenance. Most people do not progress through the stages in a linear fashion. It is difficult to predict exactly how and when someone will move through the stages, but the TTM provides suggestions as to how to communicate to clients who are in each stage. The most widely used (although not necessarily by occupational therapists) readiness-for-change formal assessment tool is the University of Rhode Island Change Assessment Scale, a 32-item questionnaire (Ceccarini et al., 2015). A shorter assessment of readiness to change for weight loss (5 items) is the S Weight (Andres et al., 2009). In the absence of a formal questionnaire, an occupational therapist can ask questions to gauge readiness for change, such as, “Have you tried to lose weight before?” “What has made it difficult to lose weight in the past?” “On a scale of 1 to 10, how likely are you to start implementing a behavior change this week?”

The Canadian Occupational Performance Measure (COPM) is an ideal occupational therapy assessment tool for obesity. The COPM has been used for obesity-related occupational performance problems and is especially useful for capturing the specific occupational problems that vary among individuals, as well as how important each problem is to the client (Nossum et al., 2018).

As a part of interdisciplinary care, and for the purpose of communicating with referring physicians and promoting occupational therapy’s role in obesity care, it is useful to track additional relevant measures, such as body composition, BMI, waist circumference, and additional biometrics relevant to the client’s goals, such as blood pressure; hemoglobin A1C, which is a measure of blood sugar levels over the past 2 to 3 months; and cholesterol. These measures can be tracked via a facility’s electronic medical record (if available), or via a client’s report, and can be used to demonstrate the outcomes of occupational therapy treatment to other professionals and administrators to increase referrals.

Body composition measurements typically include overall weight, water mass, lean mass, and fat mass. For occupational therapy weight loss interventions, it is especially useful to measure water, lean mass, and fat mass at each visit to determine whether the client’s efforts are resulting in the desired outcomes. The overall weight measurement alone can be misleading. For example, when a client exercises more and gains lean mass (muscle) and water, their overall weight may increase. Without body composition data, the client may be misled and disappointed, despite an actual improvement. This level of precision helps to pinpoint more quickly whether the lifestyle changes a client is making are effective and helps the occupational therapist build the client’s self-efficacy. There are multiple ways to measure body composition. In clinical settings, a practical method is a body composition analyzer scale that uses bioelectric impedance. Professional models of these scales are far more accurate than consumer models. For clients with pacemakers or other electronic implants, which are contraindicated for the bioelectric impedance, measuring BMI and waist circumference is the next best alternative.

Because mental health and self-esteem are commonly affected by obesity, using assessments such as the Beck Depression Inventory II, the Beck Anxiety Inventory, the Rosenberg Self-Esteem Scale, and the Eating Disorder Evaluation Questionnaire are useful and important in this population (Barclay & Forwell, 2018).

**Goal Setting**

Occupational therapy intervention for managing obesity must focus on occupational goals; in fact some clients may not be interested in tracking weight. Many clients are more motivated by occupational goals, such as being able to do a specific task or occupation; increasing their endurance to make mobility and ADLs/IADLs easier; participating in enjoyable past occupations or a desired new occupation; fitting into previously worn clothes; and improving other health/biometrics, such as HbA1c, blood pressure, and cholesterol. Concrete biometrics can be especially motivating when they have meaning for a client. For example, breast cancer survivors have an increased risk for heart disease, so a survivor may become especially motivated to lower their risk factors for heart disease, such as blood pressure and cholesterol (Daher et al., 2012). For setting weight loss goals, consider the rate of healthy weight loss (1–2 pounds per week) and the treatment duration (CDC, 2018). Weight loss as little as 3% to 5% of initial body weight sustained over time can create clinically meaningful reductions in triglycerides and blood sugar. Greater levels, like 5% to 10% of initial weight, can improve cholesterol and reduce the need for medications for blood pressure and blood sugar (Jensen & Ryan, 2014).
Managing Obesity and Obesity-Related Disability
To improve occupational performance and participation, treatment may include adaptive equipment, home modifications, and compensatory approaches to ADLs and IADLs. Occupational therapy practitioners can address challenges such as fear of falling, mental health challenges, and mobility and independence, with interventions including home modifications, adaptive equipment, and caregiver training. Rehabilitation after surgery (bariatric or otherwise) may include increasing physical activity, problem-solving daily tasks, addressing ADLs and IADLs, doing environmental modifications, and increasing engagement in occupation.

Lifestyle Modification for Weight Loss
In addition to the benefit of reducing the risk for comorbidities, weight loss can improve functional limitations and lessen pain and perceived disability in clients who are obese. An occupational therapy lifestyle modification intervention for obesity and the prevention of obesity and related conditions includes education, performance patterns (habits, routines, roles) and behavior modification strategies, problem-solving, and reflection.

Lifestyle Redesign™ is an occupational therapy lifestyle modification intervention that has been shown to help clients change habits and routines in order to meet health-related goals (Clark et al., 2015). Education is a common and critical component of occupational therapy treatment for obesity because clients have often been misinformed by the many conflicting and confusing messages about food and weight loss circulating throughout culture, the media, and advertising (Haracz et al., 2013). Education topics may include basic nutritional information and food preparation techniques tailored to the client's level of knowledge, culture, preferences, healthy eating routines for weight loss, physical activity, time management, stress management, sleep hygiene, and their expectations about the weight loss process. Because of the high prevalence of fad diets and misinformation about quick weight loss, which can be harmful, it is important to educate clients about healthy expectations for weight loss (about 1-2 pounds per week).

Occupational therapy practitioners can distinguish themselves by providing education that is individualized, highly relevant, occupation focused, and delivered in a highly engaging and motivating format, such as while engaging in occupation. Targeting performance patterns is another distinct part of occupational therapy treatment for obesity.

Occupational self-analysis is a method for analyzing performance patterns, including habits, routines, rituals and roles, and the client and environmental factors that affect engagement in health-promoting activities. Originally created as part of the Lifestyle Redesign™ intervention process, occupational self-analysis is a process in which occupational therapist trains clients to analyze their occupations to determine what contributes to obesity and what they would like to change (Clark, et al., 2015). Clients have time to discuss their needs, desires, barriers, supports, and lived experience of making lifestyle changes over time. One of occupational therapy's strengths is understanding the need for customized, client-centered analysis of the many complex factors that contribute to each client's weight gain and barriers to weight loss.

Lifestyle Modification Strategies
Changing behaviors for weight loss can be overwhelming, require a high amount of effort, and typically do not create significant results quickly. Occupational therapy treatment helps clients go slowly, find the just-right challenge, and stay motivated despite setbacks. In addition to the occupational self-analysis process, techniques occupational therapy practitioners can use include education about related occupations, such as meal planning and physical activity; stress management/relaxation; motivational interviewing; and creating accountability structures and continual goal setting. Often in behavior modification treatment sessions, occupational therapy practitioners help clients get organized, make specific plans, and problem solve through anticipated barriers. Practitioners are particularly well suited to address obesity because of their ability to learn the unique needs and interests of their clients and to find what is most motivating for them. A common weight management lifestyle intervention is to help clients find one or more physical activities they enjoy and find convenient to incorporate into their existing routines.

Lifestyle Modification Before and After Bariatric Surgery
Occupational therapy practitioners can be part of the care team before and after bariatric surgery. A lifestyle modification intervention to reduce weight before surgery can improve surgical outcomes and is often required by payers (Barclay & Forwell, 2018). Occupational therapy prepares also prepares clients for the occupational changes that will take place after surgery, such as new habits and routines when eating much smaller meals, taking supplements, building and maintaining strength through physical activity, and social eating. Lifestyle interventions after surgery typically occur if a client experiences weight gain after the initial loss.

Outcomes
Occupational outcomes often include increased participation, increased ease during ADLs and IADLs that require physical activity and endurance, improved self-esteem, and decreased symptoms of depression and anxiety. Biomeasures such as blood pressure, cholesterol, A1c, and weight loss also often improve. Some clients significantly change their body composition to increase muscle and decrease fat, and their overall weight does not change. Occupational therapy interventions for obesity occur individually and in groups, and there is some evidence that weight management groups are slightly more effective. This difference is thought to be a result of increased social support when in groups (Duttom et al., 2014).

Reimbursement and Program Development
Occupational therapy practitioners can treat obesity as the primary reason for referral or as a secondary condition. Medicare,
Medicaid, and private health insurance may cover occupational therapy services for obesity and related conditions (Salman Reingold & Jordan, 2013). Tracking individual client biomarkers and functional participation, and communicating these changes to the referring physician, is strongly recommended for program development. Clear communication about the role of occupational therapy with everyone on the care team, as well as anyone in a facility or network who treats clients who are obese and might refer to occupational therapy, is critical.

CONCLUSION

Occupational therapy is an ideal fit to conduct lifestyle interventions for treating obesity with adults who have or are at risk for obesity, including supports for primary, secondary, and tertiary prevention and bariatric surgery. The profession’s client-centered and individualized approach, which trains clients in problem solving the daily occupational challenges of obesity and weight loss, is especially valuable in the current health care system.  

REFERENCES


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Learning Level: Intermediate

Target Audience: Occupational Therapists and Occupational Therapy Assistants

Content Focus: Professional Issues; Occupational Therapy Interventions

1. Occupational causes of weight gain/obesity include all of the following except:
   - A. Coping with chronic stress through poor eating habits
   - B. Consistently getting less than 6 hours of sleep per night
   - C. Decreasing engagement in sedentary leisure activities
   - D. Reducing activity because of increased pain

2. Common barriers to exercise/physical activity with this population include:
   - A. Lack of physical discomfort and pain
   - B. Embarrassment or intimidation
   - C. Nonsupportive family members
   - D. Lack of time

3. When clients experience stigma and discrimination based on weight:
   - A. They may experience decreased access to adequate health care.
   - B. Mood and mental health is not typically affected.
   - C. Engagement in self-care occupations tends to increase.
   - D. It does not affect their health outcomes overall.

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4. The effect of obesity on occupation:
   - A. Typically does not involve safety
   - B. Usually does not involve social occupations
   - C. Is multifactorial and can involve many aspects of occupation
   - D. Is not considered a disability

5. Mental health effects of obesity on occupation and participation include all of the following except:
   - A. Self-esteem
   - B. Depression
   - C. Psychosis
   - D. Anxiety

6. Occupational therapy treatment for bariatric surgery involves all of the following except:
   - A. Modifying lifestyle for weight loss to improve surgical outcomes
   - B. Preparing for occupational changes post surgery
   - C. Beginning treatment after bariatric surgery
   - D. Assessing readiness for change

7. Which of the following is not recommended? Education, when provided by an occupational therapist:
   - A. Is individualized and highly relevant to the client
   - B. Covers standardized information and topics determined by the physician or medical director
   - C. Is engaging and often includes engagement in activity
   - D. Is responsive to the client’s culture and preferences

8. Models commonly used with obesity include all of the following except:
   - A. Ecology of Human Performance
   - B. Model of Human Occupation (MOHO)
   - C. Occupational Adaptation
   - D. The Person, Occupation, Environment (PEO) Model

9. Which of the following is not true? Assessing readiness for change:
   - A. Is informed by the Transtheoretical or Stages of Change Model
   - B. Informs which approach to take when designing treatment activities
   - C. Requires a formal assessment tool
   - D. Is common in treatment for obesity

10. A weight loss goal for lifestyle modification treatment should:
    - A. Be 5% to 10% of the client’s original weight
    - B. Be 3% to 5% of the client’s original weight
    - C. Be based on how long the intervention will last
    - D. Always be determined by the physician

11. Occupational goals for a client with obesity who is receiving lifestyle modification treatment:
    - A. Are often motivating
    - B. Are not recommended for lifestyle modification treatment
    - C. Should always include a mental health goal
    - D. Should always include a physical activity goal

12. Occupational self-analysis
    - A. Is when the occupational therapist analyzes the client’s occupations to determine what is contributing to obesity
    - B. Emphasizes achieving occupational balance
    - C. Is a standardized and predictable process
    - D. Supports clients in identifying and changing lifestyle and performance patterns to meet their goals

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