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Using Evidence to Address Psychosocial Impairments Post-Stroke: A Guide for Occupational Therapy

Michael Thurn
University of North Dakota

Emilee Rath
University of North Dakota

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USING EVIDENCE TO ADDRESS PSYCHOSOCIAL IMPAIRMENTS POST-
STROKE: A GUIDE FOR OCCUPATIONAL THERAPY

by

Michael Thurn, MOTS, & Emilee Rath, MOTS

Advisor: Sonia Zimmerman, PhD, OTR/L, FAOTA

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This Scholarly Project Paper, submitted by Michael Thurn and Emilee Rath in partial fulfillment of the requirements for the Degree of Masters of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been completed and its hereby approved.

Sonia Zimmerman, Ph.D., OTR/L
Faculty Advisor

April 19, 2019
Date

PERMISSION

Title Using Evidence to Address Psychosocial Impairments Post Stroke:
 A Guide For Occupational Therapy

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Degree Master's of Occupational Therapy

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ABSTRACT

Introduction: Following a stroke, individuals experience a wide variety of physical and psychosocial impairments. While physical impairments are commonly given attention by medical practitioners, psychosocial impairments are often overlooked or undiagnosed. (Hildebrand, 2015). Unfortunately, the same is true in occupational therapy, where physical and psychosocial issues have not been receiving the same amount of attention, physical issues being addressed far more than psychosocial issues (Gillen, 2014). The purpose of this scholarly project is to provide occupational therapists a guide to use of current evidence-based assessments and interventions to address psychosocial impairments following stroke. The guide focuses on evidence-based assessments, and interventions appropriate to a wide variety of occupational therapy settings.

Methodology: The review of the literature supported the need for a therapy guide translating current research literature for occupational therapists to address interventions and assessments specific to psychosocial impairments post-stroke. The Model of Human Occupation's six steps of therapeutic reasoning were selected to structure the guide and emphasize the need to consider the individual as a collaborator in the intervention process.

Results: The product includes assessments and evidence based interventions that therapists can use throughout the therapeutic reasoning process. The guide focuses on evidence based assessments that can be used by occupational therapists to assess common psychosocial issues that occur after a patient experiences a stroke. The interventions

included in this guide have been published in the Occupational Therapy Practice Guidelines for Adults with Stroke (Wolf & Nilsen, 2015). These interventions came from the work of Mary Hildebrand's (2014), Effectiveness of Interventions for Adults With Psychosocial or Emotional Impairment After Stroke: An Evidence-Based Review. This guide, including assessment and interventions, is guided by the Model of Human Occupation (MOHO), specifically, MOHO's 6 steps of therapeutic reasoning.

Conclusions & Significance: A product has been created to guide occupational therapists through the therapeutic process in order to encourage treatment of not only physical but also psychosocial impairments that accompany a stroke. A potential limitation for this product is that the interventions included are evidence based and have been tested by researchers in the past outside of the profession of occupational therapy. The product does not offer interventions that may be effective but just have not yet been tested in research. Future improvements to this product could include testing the specific evidence-based interventions in the profession of occupational therapy. Further, other intervention options that are not yet considered evidence-based can be tested and added to the product in order to increase options for clients and therapists.

CHAPTER I

INTRODUCTION

Each year in the United States it is estimated that 795,000 people experience a new or recurrent cerebrovascular accident (CVA). There are an estimated three million CVA survivors, which is double the number of survivors 25 years ago (Bartels, Duffy, & Beland, 2016). Over the last 50 years, those who survive a CVA has increased overall due to public health and medical advances. (Lackland et al., 2013). Yet, while mortality has declined in the past 50 years, CVAs are still considered to be the fifth leading cause of death in the United States behind heart disease, cancer, chronic lower respiratory diseases, and unintentional injuries (Lackland et al., 2013).

Stroke is defined as a cerebrovascular accident (CVA) or a cerebrovascular disease that affects the arteries leading to and within the brain. It typically occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or burst (American Heart Association, 2012). Strokes are often grossly categorized by two types: ischemic strokes and hemorrhagic strokes. In an ischemic stroke, blood supply to the brain is suddenly interrupted causing blood flow to decrease or suddenly stop (infarction) leading to subsequent death of tissue in the area surrounding the infarction. The interruption of blood flow is most commonly caused by a blood clot originating in the area of the brain or from another major vessel. While blood clots are the most common mechanism, stenosis, or narrowing of blood vessels can also play a role in ischemic stroke incidence (National Institute of Neurological Disorders and Stroke [NINDS], 2016).

The impairments that occur post-stroke depend on two main factors. These main factors are the location of the brain in which the stroke occurred and how much of the brain area was affected (American Heart Association, 2012). Effects from a stroke may include but are not limited to: paralysis on either side or both sides of the body, vision problems, memory loss, speech and language problems. Other complications may include dysphagia, concerns with balance, foot drop, muscle spasticity, and fatigue (American Heart Association, 2012). Along with these physical impairments, there are a variety of psychosocial impairments that affect someone who has had a stroke (Falk-Kessler, 2016).

Psychosocial impairments often go undiagnosed and therefore untreated in individuals who have suffered a stroke. Psychosocial impairments reduce participation in activities of daily living (ADLs), which results in poorer physical and social outcomes (Hildebrand, 2015). A depressed mood after stroke is associated with impaired functional recovery and poorer outcome during rehabilitation therapy. Depressed, anxious, or psychologically distressed patients have greater difficulty in returning to their prior social activities compared to those without psychosocial impairments (Bilge, Kocer, Kocer, & Boru, 2008).

Occupational therapists are uniquely qualified healthcare professional who have the skills to address both the physical and psychosocial impairments that accompany stroke (Hildebrand, 2015). Occupational therapists have been working with physical, social, and psychosocial problems since the early days of the profession, showing that they are appropriately qualified to address psychosocial problems experienced by persons post-stroke (Terry & Westcott, 2012).

Occupational therapists should be supporting holistic care to help ensure that people admitted to hospitals benefit from optimal outcomes, while still developing skills to manage their physical and psychosocial well being in the most independent manner. Even though occupational therapy is built from a holistic foundation, the professional workforce within the medical model has a limited amount of experience and understanding of psychosocial problems (Terry & Westcott, 2012).

In order to ensure that psychosocial impairments along with physical impairments are being addressed in patients who have had a stroke, a guide to encourage occupational therapists to address the common psychosocial impairments that people who have experienced a stroke may encounter was developed. This guide describes common psychosocial impairments, screening options, and evidence-based intervention strategies. This guide will serve as a toolkit for occupational therapists to reference in order to approach stroke care in a holistic manner. This will be accomplished by offering structure to address psychosocial impairments alongside physical impairments.

This product was developed based on the Model of Human Occupation (MOHO). MOHO was chosen to guide this manual due to its ability to prioritize individual needs, provide a holistic view of individuals, provide a client-centered approach, supply rationale for intervention, and guide the therapeutic process (Kielhofner, 2008). The model conceptualizes three interrelated components of the person as volition, habituation, and performance capacity. These components can also be impacted by the physical and social environment, which can impact the individual's ability to form a personal identity. These concepts seek out to offer explanations about an individual's circumstances, the physical as well as the emotional and psychosocial limitations, motivations, and how to implement

occupational therapy interventions (Forsyth, et al. 2014). MOHO is used as a framework to organize the individual's motivations, roles and routines, as well as the physical, cognitive, and psychosocial abilities of the individual.

The first of the components, *volition*, refers to the motivation an individual has to perform the occupations (Kielhofner, 2008). For individuals who have psychosocial issues due to experiencing a stroke, volition is greatly impacted due to changes, both physically and psychosocially, in an individual's ability to complete desired occupations. Next, *habituation* refers to the process of how an occupation is organized into patterns or routines (Kielhofner, 2008). Through roles, interaction, and social expectations, individuals internalize and develop a sense of identity (Forsyth et al., 2014). People have previously established roles and routines before experiencing a stroke. An event such as a stroke may require an individual to initiate new roles and routines with both their physical and psychosocial deficits. Finally, *Performance capacity* is the mental and physical abilities that the individual needs in order to complete the occupation (Kielhofner, 2008). The performance capacity aspect has both subjective and objective approaches. The objective approach is addressed first when learning a new task. The subjective approach is utilized once an individual is able to complete a task with more of his/her focus being on the personal experience with completing the task (Kielhofner, 2008).

In Chapter II, a literature review examines the needs of patients who have had a stroke and current trends regarding this population. It describes what current being care of those who have experienced a stroke, gaps in treatment, and a justification of the role of occupational therapists to participate as members of the treatment team. A description of the overall product, a guide of occupational therapy, is presented as well as the plan of how the

product was established followed in Chapter III. Chapter IV further introduces and contains the guide itself. A summary is provided in Chapter V, including recommendations for future, limitations, and justifications for the rational of this treatment in occupational therapy.

CHAPTER II

LITERATURE REVIEW

General Stroke Statistics

Each year in the United States it is estimated that 795,000 people experience a new or recurrent cerebrovascular accident. Approximately 610,000 of them are first attacks and 185,000 are recurrent attacks. There are an estimated three million stroke survivors, which is double the number of survivors 25 years ago (Bartels, Duffy, & Beland, 2016). Stroke survivorship has increased overall due to public health and medical advances in the last 50 years (Lackland et al., 2013). Stroke prevention interventions such as treating high blood pressure earlier, encouragement of healthy behaviors, and the establishment of dedicated stroke units has prevented acute death and the development of life-threatening complications (Bartels, Duffy, & Beland, 2016). Due to these advances, stroke is considered a leading cause of long-term disability in the United States (Mozaffarian et al., 2016).

Yet, while mortality due to stroke has declined in the past 50 years, strokes are considered the fifth leading cause of death in the United States behind heart disease, cancer, chronic lower respiratory diseases, and unintentional injuries (Lackland et al., 2013). Regionally, researchers have identified substantial geographic disparities in stroke mortality in the southeastern United States. An area known as the ‘stroke belt’ which includes the states of North Carolina, South Carolina, Georgia, Tennessee, Mississippi, Alabama, and Louisiana, has a higher overall stroke mortality rate than the rest of the nation. (Lackland et

al., 2013). The overall average stroke mortality rate is approximately 20 percent higher in the stroke belt compared to other regions in the United States (Mozaffarian et al., 2016).

According to a World Health Organization study on the global burden of diseases, the worldwide prevalence of stroke was estimated at 33 million in 2010, with 16.9 million of these strokes being a first-time occurrence. Among the total cases, 5.2 million of the first strokes happened among those who were less than 65 years of age (Feigin et al., 2014). Worldwide, deaths due to stroke accounted for 11.8% of all deaths (6.5 million cases worldwide) in 2013, making stroke the second-leading global cause of death behind heart disease (Naghavi et al., 2015).

Risk Factors

Stroke is considered a preventable disease with risk factors that are often categorized as well-known and modifiable, less well-known and potentially modifiable, and non-modifiable (Bartels, Duffy, & Beland, 2016). Well-known and modifiable risk factors (factors that are preventable and can be changed) established by the American Heart Association and American Stroke Association include hypertension, cigarette smoking, diabetes, other cardiac conditions, poor diet and nutrition, physical inactivity and obesity. Risk factors that are less well-known or potentially modifiable risk factors include alcohol consumption, inflammation and infection, drug abuse, sleep-disordered breathing and migraines (Goldstein et al., 2011).

Non-modifiable risk factors include age, sex, low birth weight, race/ethnicity and genetic factors. The incidence of stroke increases with age, with men's stroke incidence rates greater than women's at younger ages, but not at older ages. Because women have a higher overall life expectancy, more women die of stroke than men. African Americans and some

Hispanic/Latino Americans have a higher incidence of all stroke types and higher mortality rates when compared to other races and ethnic backgrounds (Goldstein et al., 2011). Further, blood pressure is considered a high determinant of stroke risk with approximately 77% of persons having a first stroke also had a blood pressure considered higher than normal (Mozaffarian et al., 2016). While less documented, these should be taken into consideration for continued research in the area of stroke (Bartels, Duffy, & Beland, 2016).

Description

A stroke or cerebrovascular accident (CVA) is considered a cerebrovascular disease. Cerebrovascular diseases encompass a number of disorders that involve vessels in the cerebral circulation, with stroke being the most common (Bautista, 2014). Strokes are often grossly categorized by two types, ischemic and hemorrhagic. In an ischemic stroke, blood supply to the brain is suddenly interrupted causing blood flow to decrease or suddenly stop (infarction) leading to subsequent death of tissue in the area surrounding the infarction. The interruption of blood flow is most commonly caused by a blood clot originating in the area of the brain or from another major vessel. While blood clots are the most common mechanism, stenosis, or narrowing of blood vessels can also play a role in ischemic stroke incidence (National Institute of Neurological Disorders and Stroke [NINDS], 2016). In total according to the American Stroke Association ischemic stroke cases make up 87% of all stroke cases that occur (Mozaffarian et al., 2016).

According to Bautista (2014), transient ischemic attacks (TIAs) also fall into the ischemic category of strokes. TIAs consist of temporary infarction of blood flow to the brain, which reverses before total blockage occurs. Symptoms caused by TIAs usually resolve

within minutes, sometimes going unnoticed. The causes and risk factors of TIAs are the same as ischemic stroke and may provide warning sign of impending larger stroke.

According to the National Institute of Neurological Disorders and Stroke (2016), when a hemorrhagic stroke occurs, a blood vessel in the brain bursts causing blood to spill into the surrounding area of the brain. The spread of blood in the brain not only compresses tissues in the brain but also upsets the chemical balance need for neurons to function. Rupture of the blood vessel is commonly caused by an aneurysm, arteriovenous malformation or when blood vessel walls weaken and break open due to lack of strength. High blood pressure is often a precursor to vessel rupture. Overall, cases of hemorrhagic stroke are considered more fatal, however, they have a lower likelihood of occurring (Mozaffarian et al., 2016).

Stages of Care

“Rehabilitation services are the primary mechanism by which functional recovery and the achievement of independence are promoted in patients with acute stroke.” (Weinstein et al., 2016). Just as symptoms and deficits may differ, rehabilitation after stroke may vary. Stroke rehabilitation options will depend on several factors, including ability to tolerate intensity of rehabilitation (hours), degree of disability, available funding, insurance coverage, and geographical location (Ahmad et al., 2010). Because stroke is fundamentally a chronic condition, rehabilitation takes its course through early actions in a hospital and continues throughout reintegration into the community (Weinstein et al., 2016).

Ideally, rehabilitation services are delivered by a multidisciplinary team of health care providers with training in areas such as neurology, rehabilitation nursing, occupational therapy (OT), physical therapy (PT) and speech and language pathology (SLP). These teams

are usually under the leadership of physicians or neurologists trained and certified in physical rehabilitation medicine (Weinstein et al., 2016). Other health professionals who play a significant role include social workers, psychologists, psychiatrists, and counselors (Miller et al., 2010).

Upon hospital admission, medical management, stabilization, and prevention of a recurrent stroke are of primary importance in the acute care setting. Overall, medical testing and procedures take precedence over any other treatment (Bartels, Duffy & Beland, 2016; Wolf & Nilson, 2015). While benefits varies due to facility resources and procedures, researchers suggest that there are benefits to OT, PT, and SLP rehabilitation as soon as the patient is ready and can tolerate it (Miller et al., 2010). It is recommended that all patients undergo formal assessment of rehabilitation needs before transitioning to a different care system (Bettger, et al., 2013). The cardinal feature of acute care is brevity; the median length of stay ranges between 2 and 4 days (Weinstein et al., 2016).

Rehabilitation services provided after acute care discharge may be referred to as post acute or subacute services. Rehabilitation can take place in the hospital or rehabilitation facility, nursing home or at the affected person's home (NINDS, 2016). These services vary in intensity depending on the setting. The most intensive care is provided by inpatient rehabilitation facilities and the least intensive being home health services (Weinstein et al., 2016). Inpatient rehabilitation facilities provide hospital-level interdisciplinary rehabilitation, with at least three hours of OT, PT, and SLT services, five days a week. Skilled nursing facilities provide rehabilitation care to stroke survivors who need daily nursing or skilled rehabilitation services, for one to two hours a day (Weinstein et al., 2016). Nursing homes provide care to those who are unable to live in the community due to lack of assistance,

independence or other complex needs. Patients in this setting generally receive 24-hour care, however, may not be able to tolerate a higher intensity of therapy (Ahmad et al., 2010). In some cases, home health is suitable following an acute care stay. Services are provided by an outpatient clinic or a home health care agency. Services are provided to patients who live at home but are unable to travel to treatment. Treatment may vary in intensity but is typically two to three days a week or as needed (Ahmad et al., 2010).

Members of OT, PT, SLP or nursing may provide treatment in all of the aforementioned settings, with management of services provided by a social worker or case manager (NINDS, 2016). Care encompasses medical and social needs and services that are designed to assist the patient while living in his or her own home. As the number of persons surviving stroke increase, rehabilitation is of utmost importance in a changing health care system (Weinstein et al., 2016).

Occupational Impairments

The impairments that accompany stroke depend on several factors. The location of the brain in which the stroke occurred and how much of that area was affected (American Heart Association, 2012). Effects from a stroke may have include but are not limited to: paralysis on either side or both sides of the body, vision problems, memory loss, speech and language problems. Other complications may include dysphagia, concerns with balance, foot drop, muscle spasticity, and fatigue (American Heart Association, 2012). Along with these physical impairments, there are a variety of psychosocial impairments that affect someone who has had a stroke (Falk-Kessler, 2016).

Dysphagia is a common complication that happens post stroke. According to Archer, Wellwood, Smith, and Newham (2013), dysphagia, difficulty or discomfort swallowing,

affects up to 50% of stroke patients, and it increases the risk of pneumonia by three and the risk of common aspiration by eleven times (Archer, Wellwood, Smith, & Newham, 2013).

Difficulty with balance is a large concern for many of those who have suffered a stroke. According to Jalayondeja, Sullivan, and Pichaiyongwongdee (2014), 40% of stroke survivors have serious falls within a year of their stroke. Overall balance problems, dizziness, and spinning sensations post-stroke have a five times increase (Jalayondeja, Sullivan, & Pichaiyongwongdee, 2014).

Foot drop is a physical issue that often accompanies stroke and is one of the most common walking challenges caused by stroke (Feld, 2012). Foot drop hinders those who have had stroke from raising the front part of their foot due to weakness or paralysis of the muscles that normally lift the foot. Foot drop can be temporary or permanent, depending on the cause and extent of the muscle weakness (Feld, 2012).

Spasticity is a common effect of stroke. Stroke is considered a brain injury and can cause muscles to involuntarily contract when the stroke survivor is trying to move their limbs. Spasticity in the arms can cause tightness in the hand, elbow, and forearm. This can seriously interfere with a someone's ability to perform activities of daily living, such as dressing. Spasticity can also occur in the lower body, causing curling toes (Opheim, Danielsson, Alt Murphy Persson, Sunnerhagen, 2015).

Post-Stroke fatigue is a physical complication that accompanies stroke. Fatigue is a symptom that affects up to 75% of stroke survivors, and has been described as one of the most distressing symptoms after a stroke (Muina-Lopez & Guidon, 2013). A stroke leaves emotional and physical drainage by taking energy, leaving fatigue, and causing overwhelming physical and/or mental tiredness. Those who have had a stroke have reported

that they feel tired when they perform tasks requiring physical or mental focus, and that fatigue occurs often without warning, making it difficult to do daily, routine activities as well as social or work activities (American Heart Association, 2012).

Psychosocial impairments often go undiagnosed and therefore untreated in individuals who have suffered a stroke. Psychosocial impairments reduce participation in activities of daily living (ADLs), which results in poorer physical and social outcomes (Hildebrand, 2015). A depressed mood after stroke is associated with impaired functional recovery and poorer outcome during rehabilitation therapy. Depressed, anxious, or psychologically distressed patients have greater difficulty in returning to their prior social activities compared to those without psychosocial impairments (Bilge, Kocer, Kocer, & Boru, 2008).

Psychological distress after stroke leads to other poor outcomes, including longer hospital stays, reduced participation in rehabilitation, increased physical impairment and handicap, as well as increased mortality (Kneebone, Neffgen, & Pettyfer, 2012). Poor outcomes can also include but are not limited to: social function, limited quality of life, increased physical complications, and increased mortality (Terry & Westcott, 2012). Bilge et al., (2008) found that patients who had a remission from their post-stroke depression over the first few months after stroke also showed significantly greater improvement in their overall functioning.

Psychosocial Impairments

As many as 50% of those who have had a stroke experience stroke-related psychosocial or emotional disorders. Disorders may include but are not limited to; 1) affective and mood disorders such as depression, post-stroke emotionalism, and generalized

anxiety; 2) behavioral and personality changes such as anger, irritability, apathy, sexual changes, and obsessive compulsive disorder; 3) cognitive and behavioral disintegration such acute confusional state and delirium; 4) perception identity disorders of the self or of other people and places (Hildebrand, 2015). Despite a debate regarding the primary cause of psychological conditions, there is no leading theory to explain the origin of psychological impairments with stroke (Falk-Kessler, 2016). At least one third of those who have a stroke experience depression, nearly 30% experience negative cognitions such as feelings of worthlessness, and between 20% and 38% experience some degree of anxiety (Falk-Kessler, 2016).

Worldwide, depression and anxiety are common after stroke and are associated with increased mortality and poor functional outcomes (Winstein et al., 2016). Predictors of post stroke depression include a history of depression, severe disability, cognitive impairment, previous stroke, a positive family history of psychiatric disorder, and the female gender (Winstein et al., 2016). A second group of risk factors that have been found to predict depression are the absence of close relationships or social support and personality characteristics such as neuroticism. Knowledge about the risk factors can help healthcare professionals identify high-risks groups more likely to experience depressive symptoms post-stroke (Beekman, 1998).

Depression following stroke has its highest prevalence between the first 3 to 6 months post stroke. However, the risk remains high for up to 3 years (Hildebrand, 2015). The distress that the experience of post stroke depression can cause is emphasized by the fact that those who have had a stroke are at approximately a double risk for suicide (Kneebone, Neffgen, & Pettyfer, 2012). Post stroke depression impedes rehabilitation, impairs physical and

cognitive function, increases stress on caregivers, increases use of drugs and alcohol, and predicts poor compliance with treatment comorbidities (Hildebrand, 2015).

Up to 50% of those who have experienced a stroke develop depression making it the most common psychosocial sequelae of stroke (Hildebrand, 2015). One of the main impairments in post-stroke depression depends on whether it is organic or reactive in nature (Ng, Chan, & Straughan, 1995). Some researchers feel that post-stroke depression is a directly related disorders of the neuronal injury from the cerebral accident, while others have thought that depression is reactive in nature and correlates with physical impairment (Ng, Chan, & Straughan, 1995). Ng, Chan, & Straughan (1995), found that those who were depressed did not have lower cognitive scores than those who were non-depressed patients, demonstrating that depression is not linked to lower cognition and increased impairment of the brain from the cerebral accident.

Anxiety in particular is found to coexist with depression in the post stroke patient population as it frequently goes undiagnosed and the causes may vary (Mozaffarian et al., 2016). Even though evidence suggests that anxiety is often a reaction to loss of anticipated or actual functional ability, other evidence argues that early onset is linked to a previous history of psychiatric conditions (Falk-Kessler, 2016). Anxiety can create uncomfortable feelings of worry/fear accompanied by disabling physical symptoms (Winstein et al., 2016). According to Falk-Kessler (2016), anxiety occurs in 18% to 24% of those who have had a stroke and persists in 38% to 76% of those who have experienced it. Approximately 23% of patients who have experienced stroke with early anxiety had recovered after one year. Long-term follow up has found that prevalence rate increased to 31-38% in ten years post stroke, with anxiety leading to lower quality of life (Astrom, 1996).

Post Traumatic Stress Disorder is an anxiety disorder that can occur in those who have had a stroke. It has been estimated that Post Traumatic Stress Disorder occurs in up to 23% of those who have had a stroke, usually within the first year of post-stroke (Edmondson, Richardson, Fausett, Falzon, Howard, & Kronish, 2013). Anxiety and depression are not predictive of Post Traumatic Stress Disorder, although there is an association between number and severity of Post Traumatic Stress Disorder symptoms (Merriman, Norman, & Barton, 2007).

Although rare, psychotic conditions can occur as a consequence of stroke (Falk-Kessler, 2016). Studies have found delusions, hallucinations, and mania in stroke survivors (Lampl, Lorberboym, Gilad, Boaz, & Sadeh, 2005). Delusions occur in fewer than 2% of those who have had a stroke, and hallucinations are also rare occurring in fewer than 3% of those who have had a stroke. Psychotic conditions can restrict recovery, reduce quality of life, and can reduce participation in meaningful occupations (Falk-Kessler, 2016).

Current Screens for Psychosocial Impairments

From the literature, it is evident that psychosocial impairments after stroke can have a large effect on the person. Early detection of individuals at risk for psychosocial disorders is critical. It has been suggested that all patients should be screened for depression, anxiety, and apathy within the first 2 weeks after stroke (Falk-Kessler, 2016). Even though the literature shows the large impact that psychosocial impairments can have on those post-stroke, the routine screening that has been recommended occurs approximately half of the time (Kneebone, Neffgen, & Pettyfer, 2012). The reasons are not fully clear, however, recent research has suggested that barriers may include time pressure, lack of knowledge and ability to screen provider's role expectations (feelings about who should be screening), poor

awareness of guidelines, and that screenings have not been established as a routine part of practice (Kneebone, Neffgen, & Pettyfer, 2012).

Four common screening tools currently used include the Patient Health Questionnaire-9, the Patient Health Questionnaire-2, the Hospital Anxiety and Depression Scale, and the Geriatric Depression Scale (Aben, Verhey, Lousberg, Lodder, & Honig, 2002). The Patient Health Questionnaire-9 is a multipurpose instrument for screening, diagnosing, monitoring, and measuring the severity of depression (Graves & Bombardier, 2008; Kroenke, Spitzer, & Williams, 2001). The Patient Health Questionnaire-2 investigates the frequency of depressed mood and anhedonia over a two-week span. This questionnaire includes items from the Patient Health Questionnaire-9, but it tailored towards screening for depression in a “first step” approach and those who screen positive should be further evaluated with the Patient Health Questionnaire-9 (Arroll et al., 2010; Kroenke, Spitzer, & Williams, 2001).

The Hospital Anxiety and Depression Scale measures anxiety and depression in the general medical population of patients, including seven questions for anxiety and seven questions for depression. This scale focuses on the non-physical symptoms so that is can be used to diagnose depression in people with significant physical ill-health (Stern, 2014). The Geriatric Depression Scale is a screening tool used to identify depression in older adults. This tool is used with healthy people, medically ill patients, and mild or moderately cognitively impaired adults. This scale can be used in community, acute, and long-term care settings (Brink, Yesavage, Lum, Heersema, Adey, & Rose, 1982).

A study by Aben, Verhey, Lousberg, Lodder, & Honig (2002) assessed the diagnostic accuracy of the above four current psychosocial screening tools. The depressive screening

abilities of 202 consecutive patients were evaluated one month after they experienced a stroke. From the analysis of the four depression screening tools, Aben, Verhey, Lousberg, Lodder, & Honig (2002), concluded that the Patient Health Questionnaire-9 and the Patient Health Questionnaire-2 were both suitable tools to use in screening for post stroke psychosocial distress. In addition, the Geriatric Depression Scale could not be recommended due to its very low sensitivity in their population (Aben, Verhey, Lousberg, Lodder, & Honig, 2002).

However, not all studies agree that the Geriatric Depression Scale cannot be recommended for the post-stroke population. Cinamon, Finch, Miller, Higgins, & Mayo (2011), argue that the Geriatric Depression Scale, with its “yes or no” options and fewer items assessing somatic symptoms, is more useful and recommended for post stroke depression symptoms than its counterparts.

The Beck Depression Inventory is one of the most widely used instruments for depression screening among post-stroke patients (Lerdal, Kottorp, Gay, Grov, and Lee, 2014). The Beck Depression Inventory’s psychometric properties were assessed in a sample of first-ever stroke patients to confirm or deny effectiveness in identifying depression in stroke survivors. The findings of the study raise concern about the Beck Depression Inventory’s validity among the population of stroke survivors (Lerdal, Kottorp, Gay, Grov, and Lee, 2014). However, Healy, Kneebone, Carroll, & Anderson (2008), found that the Beck Depression Inventory was found to have acceptable internal consistency and test-retest reliability in a sample of older stroke survivors in an inpatient rehabilitation setting.

Screening for psychosocial impairments post-stroke are only taking place half of the time, and the reason for this is somewhat unknown. A need exists for improved training and

inclusion in policies and relevant stroke care protocols, that clearly state when screens should occur and who should administer them (Kneebone, Baker, & O'Malley, 2010).

Occupational Therapy Interventions Addressing Psychosocial Impairments

With the increasing number of people who have had a stroke and may develop psychosocial impairments as a consequence, addressing these impairments is critical to holistic care. In an evidence-based review, Hildebrand (2015) evaluated the effectiveness of occupational therapy interventions used to prevent the effects of psychosocial or emotional impairments after stroke. She found that exercises or movement based therapy, behavioral therapy and stroke education, behavioral education only, stroke education only, care support and coordination, and community based interventions were successful in addressing psychosocial impairments post stroke. While the aforementioned interventions were successful, only behavioral therapy, multicomponent exercise programs, care support and coordination and community based rehabilitation were found to have moderate research backing use as routine intervention to improve occupational performance of persons with psychosocial or emotional impairments (Nilson & Wolf, 2015). Single component exercise programs, behavior therapy combined with stroke education, and stroke education were successful; yet, they did not have enough evidence to support routine use as an intervention (Nilson & Wolf, 2015). Results of this evidenced based review were published in the American Occupational Therapy Association's Occupational Therapy Practice Guidelines for Adults with Stroke (2015).

In Hildebrand's (2015) review, behavior therapy interventions included: emphasizing problem solving techniques; therapist use of motivational interviewing, and life review therapy. Multiple component exercise interventions included therapist-led hospital and home

exercise programs, exercise program combined with an educational discussion group, and community based exercise. All multiple component exercise interventions included strength, balance, coordination, upper extremity function and/or an educational wellness component. Care support and coordination interventions were described as face-to-face, home, or telephone communication/visits immediately after acute discharge up to one-year post stroke. Lastly, community based rehabilitation interventions included interventions in home health, a community program addressing leisure, and community programming within nursing homes. While all the interventions with moderate research evidence were successful, Wolf and Nilsen (2015) report all of the interventions in the review by Hildebrand focus on patients diagnosed with depression.

While Hildebrand's (2015) review provides insight into many of the interventions being used, she reports a firm position that more research needs to be done to solidify and strengthen treatment that addresses psychosocial and emotional impairment. Outside of occupational therapy literature, there is a lack of research beyond medicinal intervention and caregiver support that specifically looks at individual intervention of this specific area of stroke recovery (Mozaffarian et al., 2016). According to Falk-Kessler (2016) barriers to addressing and treating psychosocial impairments include lack of time, lack of clear roles in a treatment facility, and a strong focus on other impairments. While many healthcare providers are comfortable referring those diagnosed with psychosocial impairments to other members of the healthcare team, there is plenty of room for occupational therapy to provide effective interventions in this area.

Occupational Therapy's Unique Role in Treatment

Occupational therapists are uniquely qualified healthcare professionals who have the skills to address both the physical and psychosocial impairments that accompany stroke (Hildebrand, 2015). Occupational therapists have been working with physical, social, and psychosocial problems since the early days of the profession, showing that they are appropriately qualified to address psychosocial problems experienced by persons post-stroke (Terry & Westcott, 2012).

Occupational therapists should be supporting holistic care to help ensure that people admitted to hospitals benefit from optimal outcomes, while still developing skills to manage their physical and psychosocial well being in the most independent manner. Even though occupational therapy is built from a holistic foundation, the professional workforce within the medical model has limited experience and understanding of psychosocial problems (Terry & Westcott, 2012).

Throughout the past decade, prompt progress has been made in generating evidence that supports occupational therapy intervention for patients who have had stroke. Unfortunately, the areas receiving attention through treatment are not balanced, with physical impairments being addressed far more than psychosocial impairments (Gillen, 2014). The areas that make occupational therapy a unique profession are the areas that have received the least attention in the literature throughout the past decade, social participation and interventions for people with emotional impairments (Gillen, 2014).

The gaps that exist between the devastating effects that emotional impairments have on those who have experienced a stroke and the lack of research on emotional interventions is alarming. It is narrowing the scope of occupational therapy practice and is troubling if this

gap is carried into practice settings (Gillen, 2014). Without sufficient time for interventions within certain practice areas, occupational therapists may feel that they have little choice over the limited evidence based interventions regarding psychosocial impairments (Terry & Westcott, 2012).

Occupational therapists can no longer afford to be selective in what areas they address with post-stroke patients, as the literature shows that emotional impairments are impairing occupational needs (Terry & Westcott, 2012). Differing, occupational therapists should refocus their practice on a holistic approach, managing psychosocial issue even within medical settings, specifically with patients who have suffered from a stroke. This would offer a clear potential advantage in terms of reducing future admission, improving quality of life and decreasing morbidity. These positive consequences highlight the advantages of occupational therapy's holistic approach to stroke treatment (Gillen, 2014).

Summary

Stroke is a common condition, affecting approximately 33 million people a year worldwide (Feigin et al., 2014). Due to many advances in public health and medicine, acute death and life threatening complications have generally decreased by addressing the many potential risk factors throughout life as well as better post stroke care. (Bartels, Duffy & Beland, 2016).

Following stroke, a person may experience both physical and psychosocial impairments. While both physical and psychosocial impairments may affect occupational performance, psychosocial impairments are being addressed less than physical impairments (Gillen, 2014). Psychosocial impairments are estimated to be present in 30-50% of those who have had a stroke. (Falk-Kessler, 2016). Currently, there are many screens that are available that

healthcare providers can use to detect psychosocial impairments. However, the use of the screens is happening less than half of the time (Terry & Westcott, 2012). Similar to the screening of these impairments, researchers suggest various interventions that may be used throughout treatment. While there is evidence to support certain interventions, there is still a lack of evidence regarding the use of these interventions in routine practice (Hildebrand, 2015).

Occupational therapists are uniquely equipped healthcare professionals, having the skills to address both the physical and psychosocial aspects that accompany stroke (Hildebrand, 2015). Holistic care has been at the forefront of the occupational therapy profession since it's beginning. Holistic care also continues to be integrated into occupational therapy educational programs as a core aspect of the profession (Terry & Westcott, 2012).

Problem

Extensive literature is available regarding the effects that both physical and psychosocial impairments have on those who have experienced a stroke. In current occupational therapy literature, physical impairments are addressed more than psychosocial impairments, regardless of the fact that they both have significant negative impacts on occupational performance. Occupational therapists are uniquely equipped members on the healthcare team that have the tools to address the psychosocial issues experienced by persons post-stroke.

Purpose

The purpose of this scholarly project is to develop a guide that encourages occupational therapists to address common psychosocial impairments that people who have experienced stroke may encounter. The guide will describe common psychosocial

impairments, screening options, and intervention strategies. The guide will serve as a toolkit that occupational therapists can reference in order to approach stroke care in a holistic manner by offering structure to address psychosocial impairments alongside physical impairments.

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CHAPTER III

METHOD

A literature review was conducted on the topic of cerebrovascular accident (stroke) by first searching multiple online databases including CINAHL, American Heart Association/American Stroke Association, the National Institute of Neurological Disorders and Stroke, as well as various occupational therapy and medical textbooks. The purpose of this general search was to find the latest factual information and statistics about stroke, a diagnosis relevant to occupational therapy practice. This general search produced a great deal of information about the physiology of stroke, common impairments that were found to be relevant to occupational therapy practice and the latest statistics.

Narrowing the focus on psychosocial impairments, the American Journal of Occupational Therapy, CINAHL, PubMed, along with the aforementioned sources were used to find more information about relevant psychosocial impairments that often occur post-stroke. This search revealed many common psychosocial impairments that occur post-stroke and through this search it was found that these topics were often discussed, however, there was a lack of information on the evaluation and treatment of psychosocial impairments in occupational therapy literature.

After evaluating all of the relevant research, a search using the Rehab Measures Database was conducted to find relevant evaluations and assessments for those diagnosed with a psychosocial impairment and stroke. By comparing the assessments and evaluations

found on Rehab Measures Database with the assessments and evaluations commonly used in relevant literature, appropriate assessments and evaluations were reviewed.

After the literature review, it was revealed that there was a need and opportunity for occupational therapy practitioners to intervene in the area of psychosocial impairments, as these impairments were often overlooked by various medical practitioners.

Based on its extensive use in stroke rehabilitation as well as in occupational therapy, the Model of Human Occupation (MOHO) was selected to guide the occupational therapy process in regards to the treatment of psychosocial impairment. MOHO was chosen to guide this manual due to its ability to prioritize individual needs, provide a holistic view of individuals, provide a client-centered approach, supply a rationale for intervention, and guide the therapeutic process (Kielhofner, 2008). Throughout the entirety of the guide MOHO's main concepts and six-steps of therapeutic reasoning are used.

Taylor's modes were also chosen to be used in step four of the MOHO therapeutic reasoning process. While MOHO does offer therapeutic strategies, Taylor's modes were included to offer another set of clinical tools that can be used to gain a better understanding of the patient as a whole including how they perceive their psychosocial needs and build a stronger therapeutic relationship throughout the six-step therapeutic reasoning process.

Taylor's modes were chosen because these clinical tools can assist therapists in building a strong relationship with patients, specifically those who have experienced a stroke. By building a strong relationship, therapists can gain a better understanding of their patients as a whole and how they perceive their psychosocial needs (Taylor, 2008). The six therapeutic modes are defined and include strengths and weakness in regards to psychosocial impairments post-stroke.

This resource guide is organized in a way that allows therapists to have guidance through each step of the therapeutic reasoning process. This was done to help therapists make mindful decisions within each step that will build off one another and allow for quality patient care.

The goal of this resource guide is to not only provide a resource that highlights the often overlooked psychosocial impairments that may occur post-stroke, but also provide occupational therapy practitioners with a resource manual to increase recognition and comfort in addressing these impairments. It is believed that by providing a resource that is easier to understand than a research article/protocol, therapists will address these impairments in any area they plan to practice.

CHAPTER IV

PRODUCT

USING EVIDENCE TO ADDRESS PSYCHOSOCIAL IMPAIRMENTS POST-STROKE:
A GUIDE FOR OCCUPATIONAL THERAPY

Using Evidence to Address Psychosocial Impairments Post- Stroke: A Guide For Occupational Therapy



Emilee Rath, MOTS
Michael Thurn, MOTS
Sonia Zimmerman, PhD, OTR/L, FAOTA

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Introduction

Stroke

Cerebrovascular diseases encompass a variety of disorders that involve vessels in the cerebral circulation, with stroke being the most common (Bautista, 2014). With an estimated 795,000 people a year experiencing a stroke, it is considered a common medical event that is well-known in the healthcare community and beyond (Bartels, Duffy, & Beland, 2016). After many public health and medical advances, the overall rate of stroke survivorship has increased greatly in the last 50 years (Lacklund et al., 2013). There are an estimated three million stroke survivors, which is double the number of survivors 25 years ago (Bartels, Duffy, & Beland, 2016). Due to many advances in stroke care, stroke is considered a leading cause of long-term disability in the United States.

Stroke Related Impairments

Following a stroke, individuals may experience a wide variety of physical and psychosocial impairments. These impairments are often dependent on a wide variety of factors such as location of the brain in which the stroke has affected, and the degree to which the brain was affected (American Heart Association, 2012). Some of the physical effects that a stroke may have on a person include but are not limited to: paralysis on either side or both sides of the body, vision problems, memory loss, speech and language problems. Other complications may include dysphagia, concerns with balance, foot drop, muscle spasticity, and fatigue (American Heart Association, 2012). Along with these physical impairments, there are a variety of psychosocial impairments that may effect someone who has had a stroke (Falk-Kessler, 2016).

Psychosocial impairments often go undiagnosed and therefore untreated in individuals who have suffered a stroke. Psychosocial impairments reduce participation in activities of daily

living (ADLs), which may result in poorer physical and social outcomes (Hildebrand, 2015). Common psychosocial issues identified through research are as follows: 1) affective and mood disorders such as depression, post-stroke emotionalism, and generalized anxiety; 2) behavioral and personality changes such as anger, irritability, apathy, sexual changes, and obsessive compulsive disorder; 3) cognitive and behavioral disintegration such acute state of confusion and delirium; 4) perception identity disorders of the self or of other people and places (Hildebrand, 2014).

Ideally, rehabilitation services are delivered by a multidisciplinary team of health care providers with training in many areas such as neurology, rehabilitation nursing, occupational therapy (OT), physical therapy (PT) and speech and language pathology (SLP). These teams are usually directed under the leadership of physicians or neurologists trained and certified in physical rehabilitation medicine (Weinstein et al., 2016). Other health professionals who play a significant role include social workers, psychologists, psychiatrists, and counselors (Miller et al., 2010).

Role of Occupational Therapy

Occupational therapists are uniquely equipped healthcare professionals who have the skills to assess and treat the physical as well as the psychosocial issues that accompany stroke (Hildebrand, 2015). Occupational therapists support holistic care to help ensure that people admitted to hospitals benefit from optimal outcome, while still developing skills to manage both their physical and psychosocial well being in the most independent manner (Terry & Westcott, 2012). Unfortunately, physical and psychosocial issues have not been receiving the same amount of attention in occupational therapy practice, with physical issues being addressed far more than psychosocial issues (Gillen, 2014).

Guide Purpose

A main concern that occupational therapists may feel is that they have little choice over the limited evidence based interventions regarding psychosocial impairments (Terry & Westcott, 2012). The purpose of this guide is to address this concern by providing therapists with current evidence-based interventions to address psychosocial impairments following stroke. In particular, we believe that not only listing which interventions are evidence based, but also elaborating on those interventions will be of benefit to therapists.

The guide focuses on evidence based assessments that can be used by occupational therapists to assess common psychosocial issues that occur after a patient experiences a stroke. The assessments focus on helping occupational therapists better understanding the patient's psychosocial experiences, allowing them to begin to develop a deeper understanding of the person.

The interventions included in this guide have been published in the *Occupational Therapy Practice Guidelines for Adults with Stroke* (Wolf & Nilsen, 2015). These interventions came from the work of Mary Hildebrand's (2014), *Effectiveness of Interventions for Adults With Psychosocial or Emotional Impairment After Stroke: An Evidence-Based Review*. While Hildebrand (2014), lays out a great guideline of evidence-based interventions for therapists seeking to address psychosocial and behavioral impairments following stroke, she (the author) asserts that a limitation of her review is that it does not elaborate on the intervention protocols.

Each intervention addressed in this guide is evidence-based with at least moderate evidence from a Level II study. These interventions include: strengthening, range of motion, motivational interviewing, problem-solving therapy, psychosocial/behavioral intervention and

antidepressant medication, knowledge and behavior therapy, leisure education program, stroke education program, and intensive vs non-intensive rehabilitation.

This guide, including assessment and interventions, is guided by the Model of Human Occupation (MOHO), specifically, MOHO's 6 steps of therapeutic reasoning. This reasoning means moving between therapy and the circumstances of those who have experienced a stroke to guide the therapy process. Throughout these 6 steps, the patient serves as a source of information as well as a collaborator. The 6 steps of therapeutic reasoning are as followed:

1. Generate and use questions to guide the reasoning process
2. Gather information on/with the client using structured and unstructured means
3. Create a conceptualization of the client's situation that includes client strengths and problems/challenges
4. Identify goals (i.e. client change to be achieved) and plan for therapy (i.e., client occupational engagement and therapeutic strategies)
5. Implement and review therapy
6. Collect information to assess outcomes (i.e., client goal attainment)

(Kielhofner, 2008)

Model of Human Occupation

The Model of Human Occupation (MOHO) was chosen to guide this manual due to its ability to prioritize individual needs, provide a holistic view of individuals, provide a client-centered approach, supply a rationale for intervention, and guide the therapeutic process (Kielhofner, 2008). The model conceptualizes three interrelated components of the person as volition, habituation, and performance capacity. These components can also be impacted by the physical and social environment, which can impact the individual's ability to form a personal

identity. These concepts seek out to offer explanations about an individual's circumstances, the physical as well as the emotional and psychosocial limitations, motivations, and how to implement occupational therapy interventions (Forsyth, et al. 2014). MOHO is used as a framework to organize the individual's motivations, roles and routines, as well as the physical, cognitive, and psychosocial abilities of the individual.

Volition

Volition refers to the motivation an individual has to perform the occupations (Kielhofner, 2008). Not only should the individual have an overlying desire toward actions, but he/she must attach value to the occupation, feel competent to do the occupation, and find it fulfilling (Forsyth et al., 2014). For individuals who have psychosocial issues due to experiencing a stroke, volition is greatly impacted due to changes, both physically and psychosocially, in an individual's ability to complete desired occupations.

Habituation

Habituation refers to the process of how an occupation is organized into patterns or routines (Kielhofner, 2008). Through repetitive action, habits are shaped that influence how individuals perform routine activities. Through roles, interaction, and social expectations, individuals internalize and develop a sense of identity (Forsyth et al., 2014). People have previously established roles and routines before experiencing a stroke. An event such as a stroke may require an individual to initiate new roles and routines with both their physical and psychosocial deficits.

Performance capacity

Performance capacity is the mental and physical abilities that the individual needs in order to complete the occupation (Kielhofner, 2008). The performance capacity aspect has both subjective and objective approaches. The objective approach is addressed first when learning a new task. The subjective approach is utilized once an individual is able to complete a task with more of his/her focus being on the personal experience with completing the task (Kielhofner, 2008).

MOHO stresses that occupations are interactions between the person, including the characteristics of volition, habituation, and performance capacity, and the environmental factors (Forsyth, et al., 2014). A person displays function when he or she is able to choose, organize, and perform occupations that are personally meaningful. For those who have experienced a stroke, being able to continue to engage in meaningful occupations, regardless of physical or psychosocial deficits, is important to increase quality of life.

Symptoms

- ❖ **Depressive Symptoms**
- ❖ **Anxiety Symptoms**
- ❖ **PTSD Symptoms**
- ❖ **Psychotic Symptoms**

Depressive Symptoms

Depression and depressive disorders are characterized by “sad, empty, or irritable mood.” Symptoms can also include somatic and cognitive changes, typically affecting an individual's ability to function. (Bonder, 2015). Depression following stroke is described as a feeling of hopelessness that interferes with functioning and quality of life. Depression post stroke is a result of the person experiencing a traumatic physical and psychosocial event, that often times leaves them unable to complete and engage in daily tasks as they had in the past (Depression, 2016).

There are a variety of symptoms that can accompany depression following stroke. Signs and symptoms following a stroke may include:

- Persistent sad, anxious or empty feelings
- Sleep disturbances
- Increase or decrease in appetite and eating patterns
- Feelings of helplessness, hopelessness, or worthlessness
- Social withdrawal
- Loss of interest in activities or hobbies
- Irritability
- Fatigue
- Difficulty concentrating or remembering details
- Aches, pains, headaches and digestive problems that do not ease with treatment
(somatic symptoms)
- Suicidal thoughts

(Depression, 2016)

Anxiety Symptoms

Anxiety is characterized by excessive fear and worry. Individuals with anxiety also have associated behaviors that either reflect functional deficits related to the anxiety or behaviors related to anxiety (). Experiencing a stroke can cause stress, worry, and can affect the way in which a person thinks and feels. Following a stroke, a person may experience fears or worries connected to their health or their ability to complete tasks (Stroke Association. 2012).

There are a variety of signs and symptoms that can accompany anxiety following a stroke. Signs and symptoms of anxiety following a stroke may include:

- Feeling worried or anxious most of the time
- Finding is difficult to calm down
- Feeling overwhelmed or frightened by sudden feelings of intense panic/anxiety
- Experiencing recurring thoughts that cause anxiety
- Avoiding situations or things which can typically cause anxiety (i.e. social events, crowded places).

(Stroke Association. 2012)

Post Traumatic Stress Disorder Symptoms

PTSD is often characterized by the diagnosis among those involved in the military or those experiencing a heavy trauma. Often overlooked are those that have undergone a major change in medical status or physical function such as those having experienced stroke. While a stroke may not be viewed in a traumatic way such as war, a stroke would classify as a direct experience. Commonly PTSD aligns with acute stress disorder and may share many of the same features. These symptoms may impede daily life and may have lasting effects on independent living and future rehabilitation (Lazarony, 2015).

There are a variety of signs and symptoms that can accompany PTSD. Signs and symptoms of PTSD following a stroke may include:

- Increased nightmares
- Elevated heart rate
- Elevated blood pressure
- Reminiscing over the stroke
- Staying away from people or places that remind that of the stroke
- Isolating themselves from others
- Feeling on guard, numb, irritable, or easily startled
- Increased anxiety
- Difficulty sleeping
- Outbursts of anger

(Lazarony, 2015)

Psychotic Symptoms

Psychotic symptoms can appear in many different ways. While psychotic disorders may seem uncommon, many symptoms or even a psychotic disorder can often manifest following a traumatic medical condition, event, or change in life, similar to what a stroke may cause. These symptoms may interfere with daily engagement in occupations making normal day to day tasks difficult. Symptoms appearing and disappearing suddenly may be normal, however, if symptoms persist for longer than a day, it is imperative that further action is taken (Morrison, 2014). The following symptoms may be noticed by the individual or others interacting with the individual:

- Hearing or seeing something that isn't there
- A constant feeling of being watched
- Disorganized or bizarre speech or writing
- Inappropriate or unusual behavior
- Strange body movements or positioning
- Feeling indifferent or numb about important situations
- Deterioration of academic or work performance
- A change in personal hygiene and appearance
- A change in personality
- Increasing withdrawal from social situations
- Irrational, angry or fearful response to loved ones
- Inability to sleep or concentrate
- Extreme preoccupation or fears that seem bizarre

(Morrison, 2014)

Assessments/Screens

This section of the guide will address the following steps of the MOHO therapeutic reasoning process:

Step 1: Generating questions to guide information gathering

Step 2: Gather information on/with the client using structured and unstructured means

Step 3: Create a conceptualization of the client's situation that includes client strengths and problems/challenges

The assessments help occupational therapists better understand the psychosocial impairments that the patient may be experiencing. The MOHO specific assessments (MOHOST, OCAIRS, OPHI-II, OSA) can assist therapists in generating more specific questions about psychosocial impairments. The assessments that are specific in detecting certain psychosocial impairments/symptoms can assist therapists in gathering information and creating a conceptualization of the client's situation as well as their problems and challenges. These assessments help therapists focus in on problematic areas to be addressed in goal writing and intervention planning.

(Kielhofner, 2008)

Depression Specific Assessments/Screens

- ❖ Patient Health Questionnaire- 9
- ❖ Patient Health Questionnaire-2
- ❖ Geriatric Depression Scale
- ❖ Beck Depression Inventory

Patient Health Questionnaire-9

Author: Kroenke, Spitzer, & Williams (2001)

Purpose: The Patient Health Questionnaire-9 is a multipurpose instrument for screening, diagnosing, monitoring and measuring the severity of depression.

Population: Patients 18+ in primary care settings. Specifically, older adults with physical disabling conditions.

Description: The Patient Health Questionnaire-9 incorporates DSM-IV depression diagnostic criteria, and rates the frequency of symptoms which factors into scoring the severity. Question 9 on the Patient Health Questionnaire-9 screens and assigns weight to the degree to which depressive problems have affected the patient's level of function. The tool consists of 10 areas in which the patient rates their feeling on a scale from 0-3, 0 being "Not At All" and 3 being "Nearly Everyday."

Relevance: The Patient Health Questionnaire-9 is relevant to this population because it addresses depressive symptoms that those who have had a stroke may be experiencing. It allows patients to rate how often they are feeling symptoms. It is easy to administer, quick, and patient-directed.

MOHO Concepts Addressed: The Patient Health Questionnaire-9 addresses volition by allowing the patient to draw on their personal capacity and self-efficacy through individual report of at what level he/she are bothered by specific feelings of depression. This questionnaire also draws on habituation by allowing the patient to report in what ways some activities have been impacted by specific feelings of depression.

Patient Health Questionnaire-2

* Shorter version of the Patient Health Questionnaire-9, consisting of the first two items from the Patient Health Questionnaire-9. Inquires about the degree to which an individual has experienced depressed mood and anhedonia over the past two weeks. Its purpose is to screen for depression and decide whether the Patient Health Questionnaire-9 should be administered.

Reference: Raad, J. (2001). Rehab Measures: Patient Health Questionnaire. Retrieved October 24, 2016, from <http://rehabmeasures.org/Lists/RehabMeasures/DispForm.aspx?ID=954>

Geriatric Depression Scale

Author: Jerome Yesavage, MD

Purpose: The Geriatric Depression Scale is a self-report measure of depression in older adults.

Population: Healthy, medically ill, and mild to moderately cognitively impaired older adults ages 65 + in primary care or community settings.

Description: The Geriatric Depression Scale is a 30-item screening tool used to identify depression in older adults. It is a patient report screening tool with questions requiring a simple “yes” or “no” answer. The patient is asked to provide responses to each question in reference to the past week of their life.

Relevance: The Geriatric Depression Scale is relevant because it is used to screen depression among older adults. A large majority of those who have had a stroke are over the age of 65+ making this tool applicable to many patients. It also addresses depression, which is a common psychosocial issue that accompanies stroke.

MOHO Concepts Addressed: The Geriatric Depression Scale relates to MOHO as it draws on how a person feels during tasks or how they feel about their actions during tasks. The personal causation of the person is evaluated, through gaining an understanding of their personal capacity and self-efficacy.

Reference: Yesavage, J., Brink, T. L., Lum, O., Heersema, P., Adey, M., & Rose, T. (1982). Screening Tests for Geriatric Depression. *Clinical Gerontologist*, 1(1), 37-43.

Beck Depression Inventory

Author: Aaron Beck

Purpose: The Beck Depression Inventory measures characteristics, attitudes, and symptoms of depression.

Population: Adolescent 13-17; Adults 18-64

Description: The Beck Depression Inventory is a 21 item, self-report depression inventory, self or verbally administered, that identifies overt behavioral characteristics of depression. Items are scored on a 4-point scale that ranges from 0 to 3. Ratings are calculated to provide a total score ranging from 0-63, which score greater than 10 generally meeting the threshold for a diagnosis of depression.

Relevance: The Beck Depression Inventory is relevant because it is appropriate for adults 18-64 years of age. It also has been research with the stroke population to accurately measure and detect symptoms of depression.

MOHO Concepts Addressed: The Beck Depression Inventory addresses the volitional aspects of a person by allowing them to self-report their feelings about personal capacity and self-efficacy. It addresses many symptoms of depression and assists the patient in reporting a view of their experience.

Reference:

Aaron Beck

Beck, A., Steer, R., & Carbin, M. (n.d.). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, 8(1), 77-100.

Anxiety Specific Assessments/Screens

- ❖ **Beck Anxiety Inventory**

Beck Anxiety Inventory

Author: Aaron Beck

Purpose: The Beck Anxiety Inventory measures the severity of anxiety in children and adults, and measures common symptoms of anxiety that the subject has had during the past week.

Population: Adults 17+

Description: The Beck Anxiety Inventory evaluates both physiological and cognitive symptoms of anxiety. It consists for 21 items, each descriptive of a symptom of anxiety and is rated on a scale of 0 to 3. It can be administered verbally by a trained interviewer or can be self administered.

Relevance: The Beck Anxiety Inventory has been found to discriminate well between anxious and non anxious diagnostic groups, showing that it is relevant as a screening tool to measure post stroke anxiety.

MOHO Concepts Addressed: The Beck Anxiety Inventory addresses the volitional aspects of a person by allowing them to self-report their feelings about personal capacity and self-efficacy. It addresses many symptoms of depression and assists the patient in reporting a view of their experience.

Reference:

Aaron Beck

Beck, A.T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961) An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.

PTSD Specific Assessments/Screens

- ❖ PTSD Checklist

PTSD Checklist

Author: C. Blevins, F. Weathers, M. Davis, T. Witte, & J. Domino

Purpose: The PTSD checklist (PCL-5) is a self-report measure designed to monitor symptoms of PTSD. It may assist in monitoring symptom change, screening individuals, and making a provisional PTSD diagnosis.

Population: Those diagnosed with or having experienced severe chronic disease, motor vehicle accidents, sexual assault, domestic violence, and veterans both deployed, active and civilian.

Description: The PCL-5 is a 20-item self-report measure that assesses the 20 DSM-5 symptoms of PTSD. Taking 5-10 minutes to complete, the PCL-5 may be used as a screen in conjunction with other psychosocial or physical related healthcare. Scoring may be completed by the individual or by a clinician. While the PCL-5 is to be used for all populations, the previous version, PCL-4, has separate tools for civilians, those in the military, and those having experienced a significant and specific stressful event.

Relevance: The PCL-5 is a screen that may be used when PTSD symptomatology is suspected, evident or when a diagnosis has already been made. If a diagnosis has been made, the tool may be used to monitor symptom change. The tool may also help guide a clinician upon referral of a suspected PTSD diagnosis.

MOHO Concepts Addressed: The PCL-5 may be used to address many volitional aspects of a person. Many areas of personal causation are addressed such as personal capacity, including the physical, intellectual, and social abilities as well as self-efficacy in regards to completing tasks. Concepts of habituation are also addressed when uncovering readiness to exhibit a certain behavior. Overall, performance capacity may be looked at in an objective way with responses.

Reference: Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): Development and Initial Psychometric Evaluation. *Journal of traumatic stress*, 28(6), 489-498.

Psychotic Specific Assessments/Screens

- ❖ **Modified Mini Screen**

Modified Mini Screen (MMS)

Author: New York State Office of Alcoholism and Substance Abuse Services

Purpose: The Modified Mini Screen (MMS) is designed to identify characteristics and symptoms of mood disorders, anxiety disorders, and psychotic disorders based on various characteristics found in the DSM-IV and other clinical evaluation tools.

Population: The MMS has mostly been tested and validated with adults of the prison population, however, there are small studies in outpatient mental health, inpatient mental health, and residential treatment settings. Authors of the MMS suggest its use with chronic disease and conditions such as stroke, TBI, and COPD.

Relevance: The MMS is a 22-item self-report measure. While the MMS has mostly been tested in the forensic population, often under diagnosed or at risk for mental illness, this screen does present a straightforward measure of symptoms related to mood, anxiety, and psychotic disorders. The results of the screen may be used to help a clinician address problems, seek further treatment, or monitor symptoms and change.

MOHO Concepts Addressed: This screen addresses the volitional aspects of a person, specifically, personal capacity and self-efficacy. As the screen addresses the many symptoms of mood, anxiety, and psychotic disorders the clinician can not only look at personal capacity but also, how these play a role in occupational engagement and performance.

Reference: New York State Office of Alcoholism and Substance Abuse Services (OASAS). (2002). *Screening for co-occurring disorders: User Guide for the Modified Mini Screen (MMS)*. Albany, NY: NYS Practice Improvement Collaborative (PIC).

MOHO Specific Assessments/Screens

- ❖ MOHOST
- ❖ OCAIRS
- ❖ OPHI-II
- ❖ OSA

Model of Human Occupation Screening Tool

Authors: Sue Parkinson, Kirsty Forsyth, & Gary Kielhofner

Purpose: The MOHOST addresses motivation, performance, and organization of occupational behavior. It measures occupational participation including self-cares, productivity, and leisure with an emphasis on determining reasons why the individual is not engaging in occupation. It is a theory-driven analysis and can be used in multiple areas of practice to understand the patient's level of engagement and determine if more detailed assessment is required. It includes six subscales that examine volition, habituation, motor skills, process skills, communication/interaction skills, and the environment.

Population: All ages; Irrespective of symptoms, diagnosis, or treatment setting and includes those with verbal and nonverbal communication skills.

Description: Therapist completed, based on observation. The MOHOST allows that therapists to draw upon a variety of different sources of information in order to fully reflect their knowledge of the person as a whole. Information gathered through formal observation, formal observation in 1:1 group settings, discussion with patient regarding motivations, interests, roles, and routine, discussion with caregivers and the multidisciplinary team regarding observations, reading case notes, and completing other formal assessments. The MOHOST is comprised of a 4-point rating scale for 24-items that are divided into the following subgroups: motivation for occupation, pattern of occupation, communication and interaction skills, process skills, motor skills, and environment.

Relevance: The MOHOST is relevant for those who have experienced a stroke because it draws on all aspects of the person, allowing the therapist to view the patient's case from a holistic, MOHO perspective.

MOHO Concepts Addressed: The MOHOST addresses motivation, performance, and the organization of the patient's occupational behavior. It addresses volition, habituation, and performance capacity. It gathers information from a variety of contexts in a variety of ways in order to explain how the patient's occupation is motivated, patterned, and performed.

Reference: Sue Parkinson, Kirsty Forsyth, & Gary Kielhofner Parkinson, S., Forsyth, K., & Kielhofner, G. (2006). *A user's manual for the Model of Human Occupation Screening Tool (MOHOST)*. Chicago, Ill: University of Illinois at Chicago

Occupational Circumstances Assessment Interview and Rating Scale (OCAIRS)

Author: Kristy Forsyth PhD, SROT, OTR, Shilpa Deshpande, BS, IOTR, Gary Kielhofner, DrPH, OTR, FAOTA, Chris Henriksson, MSc, OT, PhD, Linda Olson, MS, OTRL, Sarah Skinner, Med, OTRL, Supriya Kulkarni, BS, IOTR

Purpose: The Occupational Circumstances Assessment Interview and Rating Scale (OCAIRS) is a semi-structured interview that provides both qualitative and quantitative information about a person's life and occupational participation.

Population: The OCAIRS is intended for those with psychiatric and physical disabilities and is appropriate for anyone able to sit through an interview type assessment. There is a higher amount of research in areas of mental health compared to physical disabilities.

Relevance: The OCAIRS is a MOHO based interview assessment that can systematically identify factors impacting occupational performance, while providing the therapist with an opportunity to understand a patient's perception of current circumstances. Based on the findings the therapist can use the OCAIRS to identify an area of need for therapy intervention.

MOHO Concepts Addressed: The OCAIRS has specific ratings and measures that address the MOHO concepts of personal causation, values, interests, roles, habits, occupational performance, participation, and environment. As a MOHO tool, this interview assessment specifically relates to MOHO making intervention strategies and decisions easier in regards to MOHO.

Reference: Forsyth, K., & Model of Human Occupation Clearinghouse. (2006). *A user's manual for the Occupational Circumstances Assessment Interview and Rating Scale*. Chicago, Ill: Model of Human Occupation Clearinghouse, Dept. of Occupational Therapy, College of Applied Health Sciences, University of Illinois at Chicago.

Occupational Performance History Interview-II (OPHI-II)

Author: Gary Kielhofner, Trudy Mallinson, Carrie Crawford, Meika Nowak, Matt Rigby, Alexis Henry, Deborah Walens

Purpose: The Occupational Performance History Interview (OPHI-II) is a historical interview intended to give a broad and detailed appreciation of a person's life history, the impact of illness, disability, and other trauma in the person's life, and the direction in which the person would like to take his or her life.

Population: Any participant able to participate in an interview. The OPHI-II has also been tested in multiple mental health patient populations. Interviewer should consider age and cognitive ability in relation to life history narrative. A long-term setting is ideal.

Relevance: The OPHI-II allows for the person and interviewer to establish occupational roles, daily routine, and environments. The interview also allows for discovery of occupational identity, occupational competence, and critical life events. This narrative review may be used to evaluate a person's whole life helping to identify goals, services, necessary supports and areas to focus on. It is client centered and client directed.

MOHO Concepts Addressed: The semi-structured OPHI-II covers the specific MOHO concepts of identity, competence, personal causation, values, interests, roles, occupational performance, occupational participation, and environment. As it is a MOHO based assessment, the structure aligns with the MOHO concepts allowing for easy transitions in the therapeutic reasoning process.

Reference:

Kielhofner, G., Mallinson, T., Crawford, C., Nowak, M., Rigby, M., Henry, A., & Walens, D. (1998). *Occupational performance history interview II*. Chicago, IL: Model of Human Occupation Clearinghouse.

The Occupational Self-Assessment (OSA)

Author: Kathi Baron, MS, OTR; Gary Keilhofner, DrPH, OTR, FAOTA; Anita Iyenger, MS, OTR; Victoria Goldhammer, OTS; & Julie Wolenski, OTS

Purpose: The occupational self assessment (OSA) is a self-report measure designed to gather the clients' perceptions of their own occupational competence, their values of competence in areas of functioning, and of the impact of their environment on their occupational adaptation.

Population: The OSA has been used in a wide variety of adult populations and also has a child/adolescent counter assessment. The OSA would work best for a population with insight and the ability to attend to the assessment.

Relevance: The OSA is relevant because it allows the patient to report to what extent they feel that competence in specific occupations is valuable to their habits and routines.

MOHO Concepts Addressed: The OSA addresses performance capacity by gathering the patient's self-report of their perceptions of their own occupational competence.

General Assessments/Screens

- ❖ **Depression Anxiety Stress Scale**
- ❖ **Connor-Davidson Resilience Scale**
- ❖ **Psychosocial Adjustment to Illness Scale**
- ❖ **Brief-Coping with Problems Experienced**
- ❖ **Hospital Anxiety and Depression Scale**

Depression Anxiety Stress Scale

Author: P.F. & S.H Lovibond

Purpose: The Depression Anxiety Stress Scale (DASS) is a measure designed to assess many fundamental symptoms of depression, anxiety, and stress.

Population: The DASS has been tested in a wide variety of populations including: war veterans, those diagnosed with stroke, students, adults with depression, those diagnosed with a spinal cord injury and many others. There is significant statistical data on many populations over eighteen as well as limited data on those between 14-18.

Description: The DASS is a self-report measure that uses a 4-point scale in which the user is able to respond to three subscale measures of depression, anxiety, and stress. The Depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia, and inertia. The Anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The Stress scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. This measure takes 10-30 minutes.

Relevance: The DASS is relevant to this population because it allows for a self-report of symptoms that may arise following stroke. This measure can be used as a self-awareness tool as well as a tool that can be used in conjunction with OT services or other health care services.

MOHO Concepts Addressed: This scale addresses the volitional aspects of a person, specifically, personal capacity and self-efficacy. As the scale addresses the many symptoms of depression, anxiety, and stress; with the scores the clinician can not only look at personal capacity but also, how these play a role in occupational engagement and performance.

Reference: Lovibond, P.F. & Lovibond, S.H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33, 335-343.

Connor-Davidson Resilience Scale (CD-RISC)

Author: Kathryn Connor & Jonathan Davidson

Purpose: The Connor-Davidson Resilience Scale (CD-RISC) is a tool to measure resilience in a wide variety of populations in relation to various changes that may have had occurred in their life.

Population: The CD-RISC has been tested and validated in the general population and among patients having burn injury, many physical traumas, stroke, students, domestic violence, refugees, those with various psychosocial illness and healthcare practitioners

Description: The CD-RISC is a 25 item self-report scale that looks at various characteristics of resilience. Resilience is defined as the embodiment of personal qualities that enables one to thrive in the face of adversity. Resilience is considered multidimensional and a combination of many characteristics that constantly change within a person's varying contexts. The authors assert that resilience is a key characteristic of stress coping ability.

Relevance: By measuring resilience, or the stress coping ability of an individual a clinician may be able to help identify impairments that may be present in those having experienced a stroke. The measure can not only help clinicians, but also work as a self-measure on an individual basis.

MOHO Concepts Addressed: The CD-RISC may be used to address volition, habituation, and performance capacity. Specifically, personal capacity and self-efficacy are addressed in regards to resilience and coping with stress or adverse situations.

Reference: Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and anxiety, 18*(2), 76-82.

Psychosocial Adjustment to Illness Scale

Author: LR. Derogatis

Purpose: The Psychosocial Adjustment to Illness Scale (PAIS) is a multi-domain assessment designed to assess the quality of a patient's psychosocial adjustment to current medical or ongoing medical illness.

Population: Normative data available for those diagnosed with stroke, renal dialysis, lung cancer, hypertension, and burns. The interview may also be adapted to meet the needs of the patient's spouse, or other caregivers.

Description: The PAIS is a 46-item semi-structured interview designed to be completed in conjunction with a larger personal interview. The 46-items should be asked in sequential order, however, the test allows for personalization of the interview. The interview may take 20-25 minutes to complete. The interview aims to discover health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment and psychological distress. There is also a self report available that may be used as well.

Relevance: The PAIS covers many psychosocial domains that may not be addressed by other screens or standard evaluations. The unique categories provide for a new approach to interview and screening and relate to occupational engagement and performance in a wide variety of ways.

MOHO concepts addressed: The PAIS works to identify impacts that the social and contextual environments have on the person's occupational performance. It identifies how aspects of these environments has an affect of the person's habits and routines.

Reference: Derogatis, L. R. (1986). The psychosocial adjustment to illness scale (PAIS). *Journal of psychosomatic research*, 30(1), 77-91.

Brief- Coping with Problems Experienced

Author: Charles S. Carver, PHD

Purpose: The Brief - Coping with Problems Experienced (Brief-COPE) is designed to assess the varying coping strategies used by individuals in response to stress.

Population: Adults experiencing traumatic brain injury, cancer, severe mental illness, trauma, stroke, burns, and caregivers of individuals with a variety of conditions such as dementia and cancer.

Relevance: The Brief-COPE is a 28-item self-report measure comprised of 14 scales. Each scale assesses the degree to which the respondent utilizes a specific coping strategy. These strategies include active coping, planning, positive reframing, acceptance, humor, religion, using emotional support, using instrumental support, self-distraction, denial, venting, substance use, behavioral disengagement and self-blame. This may help a clinician to understand coping strategies used and patterns of coping styles. By understanding how the person responds and copes with significant stress, the clinician may gain knowledge useful to formulate future treatment.

MOHO Concepts Addressed: The brief-COPE aims to uncover the coping skills and behaviors that make up the habituation of a person. This tool may also address the personal capacity and self-efficacy one has when using these, or in regards to wanting to use coping skills.

Reference: Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4, 92-100

Hospital Anxiety and Depression Scale

Author: Philip Snaith, PhD

Purpose: The Hospital Anxiety and Depression Scale measures anxiety and depression in both hospital and community settings. It's purpose is to give clinically meaningful results as a psychological screening tool and can assess the symptom severity of anxiety disorders and depression in patients with illness and the general population.

Population: Primary care and community settings.

Description: The Hospital Anxiety and Depression Scale is one questionnaire made up of fourteen items. There are seven questions for anxiety and seven for depression of which can be answered within 2-5 minutes.

Relevance: The Hospital Anxiety and Depression Scale is brief and simple to use and addresses anxiety and depression, which are both common occurrences for those who have had a stroke.

MOHO Concepts Addressed: The Hospital Anxiety and Depression Scale addresses the volitional aspects of MOHO by asking the patient to report about how they feel when completing tasks and going throughout their day. It also addresses performance capacity being gaining an understanding about how the patient views tasks that they are completing, drawing on the concept of the "Lived Body."

Reference: Snaith, R. P. (2003). The Hospital Anxiety And Depression Scale. *Health and Quality of Life Outcomes, 1*, 29. <http://doi.org/10.1186/1477-7525-1-29>

Identifying Goals and Client Engagement

This section of the guide will address the following step of the MOHO therapeutic reasoning process:

Step 4: Identify goals and plans for client engagement and therapeutic strategies

From information gathered throughout steps 1, 2, and 3 of the therapeutic reasoning process the therapist, in collaboration with the client, will identify goals and a plan for reaching those goals. This will take place through the intervention phase. An important piece of developing goals and a plan for intervention is developing a collaborative and strong relationship between the therapist and the client. Building a client-centered relationship will engage the client in the therapy process, allowing them to work collaboratively with the therapists to develop goals.

(Kielhofner, 2008)

Building the Client-Centered Relationship

Taylor's 6 Therapeutic Modes

A therapeutic mode is a way in which therapists can relate to a patient. Six therapeutic modes have been identified by Renae Taylor as frequently used modes to approach specific situations in occupational therapy practice. Each mode has equal potential to enable a functional therapeutic relationship. However, any mode may have a negative effect on a patient's attitude and feeling toward the therapist and their own condition (Taylor, 2008).

Each mode can assist therapists in building a strong relationship with patients, specifically those who have experienced a stroke. Dealing with psychosocial issues post-stroke can be a difficult topic to discuss with some patients. By building a strong relationship with these tools, therapists can gain a better understanding of their patients as a whole and how they perceive their psychosocial needs (Taylor, 2008).

The Six Therapeutic Modes are listed and defined in the following pages:

Advocating Mode

The **advocating mode** is used to ensure that patients have the personal, material, and interpersonal resources they need for maximal participation in productivity, leisure, and all other daily life activities. This includes making sure that patients have access to housing, transportation, education, equal opportunities for employment, assistive devices, and any other resources that could help to maximize their independence and well-being (Taylor, 2008).

Advocating for those with psychosocial issues post stroke:

- After screening for psychosocial issues, refer patient to other healthcare professionals for further treatment
- Advocate needs to facility leaders for resources to properly address psychosocial issues in stroke settings
- Advocate to community leaders about the need for support groups and resources in the community to help increase community integration
- Advocate for facility to offer resources to patient regarding community support groups
- Advocate for facility to offer resources to patient regarding transportation to support groups and within the community
- Offer educational materials to patient and families to help increase understanding of psychosocial issues that present following a stroke

(Taylor, 2008)

STRENGTHS	WEAKNESSES
Provides patients access to important resources (Taylor, 2008)	May be premature or inconsistent with the patient's need to raise awareness about injustices (Taylor, 2008)
Patient may be more likely to regain self-esteem and develop a positive identity as someone who has experienced a stroke if treated by a therapist as someone who deserves the same resources and opportunities as everyone else (Taylor, 2008)	Focusing therapy on changing social and environmental obstacles may limit that amount of time spent addressing the actual psychosocial issues through 1:1 intervention (Taylor, 2008)

Collaborating Mode

The **collaborating mode** is when therapists make decisions jointly with patients, involve patients in reasoning about therapy, and expect patients to participate actively in all aspects of therapy. Through the collaborating mode, constant feedback from the patient is sought out by the therapists to ensure that the therapeutic process is forming the way the patient had wished. With the collaborating mode, patients are more likely to achieve positive outcomes if they take ownership of the therapy process (Taylor, 2008).

Collaborating with patients who have experienced a stroke:

- Collaborate with patient on identifying psychosocial needs
- Collaborate with patient to prioritize which psychosocial needs to address
- Collaborate with patient to develop goals addressing to psychosocial issues
- Collaborate with patient to develop strategies and interventions to address psychosocial issues

(Taylor, 2008)

STRENGTHS	WEAKNESSES
Promotes self-confidence and independence in patients (Taylor, 2008)	May be difficult for patients who are lacking motivation due to psychosocial issues (Taylor, 2008)
Reduces risks of dependency on therapist or regressive behavior (Taylor, 2008)	May work less effectively with patients who place responsibility for stroke on outcome circumstances and do not feel responsible for their recovery (Taylor, 2008)
Collaborating increases likelihood to gain patient's trust, which is imperative when working with those who have recently gone through a life changing event such as a stroke (Taylor, 2008)	Collaborating may cause confusion about roles within the therapeutic relationship, regarding who is responsible for which part of the therapy process (Taylor, 2008)

Empathizing Mode

The **empathizing mode** involves bearing witness to and fully understanding a patient's physical, psychological, interpersonal, and emotional experience. Therapists put a significant amount of time and effort into striving to understand a patient's interpersonal needs and perspective as accurately as possible. Through this mode, therapists listen carefully, are watchful of what their patients are communicating, and they adjust their approach accordingly. Therapists utilize the empathizing mode to periodically summarize what a patient has said to make other nonverbal attempts to reflect their understanding of what the patient is communicating (Taylor, 2008).

Empathizing with patients who have experienced a stroke:

- Listening as patients express feelings of anxiety, depression, etc.
- Paraphrasing, reflecting, and probe to gain more insight on patient's psychosocial concerns
- Offering verbal and nonverbal feedback when patient discloses feelings about stroke
- Offering verbal support and understanding about expressed difficulties
- Normalizing patient's worries, fears, and feelings regarding their stroke and current circumstances

(Taylor, 2008)

STRENGTHS	WEAKNESSES
<p>Effective with even the most challenging, reluctant, negative, critical, or resist patients. Effective for patients who have recently experienced a life changing event such as a stroke (Taylor, 2008)</p>	<p>Over utilizing empathy may lead to over protecting patients if therapists listen and validate at the expense of questioning or challenging them to engage (Taylor, 2008)</p>
<p>By modeling empathy, patients are more likely to empathize with themselves, self-reflect, and gain insight into their emotional reactions and psychosocial issues (Taylor, 2008)</p>	<p>Patients who are not as open with the emotional part of themselves may withdraw from what they see as too much intimacy or emotional involvement in therapy (Taylor, 2008)</p>
<p>Patients are more likely to feel responded to, cared about, and understood. Patients are more likely to open up about their psychosocial issues through building trust with this mode (Taylor, 2008)</p>	<p>The use of empathy may lead to confusion in some patients regarding the role of the therapists and the objectives of occupational therapy (Taylor, 2008)</p>

Encouraging Mode

The **encouraging mode** is one in which a therapist works to instill patients with hope, courage, and the will to explore or perform a given activity. Therapists who use the encouraging mode frequently use such strategies as compliments, applause, and cheering. Other strategies include humor, entertaining gestures or antics, singing or dancing, and demonstrations of involvement to improve their patient's mood (Taylor, 2008).

Encouraging those who have experienced a stroke:

- Encourage patients to engage in therapy to help increase functional performance, which may indirectly benefit their mental health
- Encourage patients to engage in meaningful occupations
- Encourage patients to seek our support from friends/family in regards to their psychosocial needs
- Encourage patients to seek out leisure occupations to increase social participation
- Encourage patients when they are demonstrating lack of motivation or depressive/anxious symptoms
- Encourage patients to seek out social supports/support groups relating to psychosocial issues post stroke

(Taylor, 2008)

STRENGTHS	WEAKNESSES
Addresses motivational issues that a patient may have (Taylor, 2008)	Patients may become desensitized to efforts to motivate them (Taylor, 2008)
Because of it's nature, psychosocial issues can often leave patients unmotivated, making encouraging a great tool to get patients engaged (Taylor, 2008)	Patients may reject outward efforts to motivate, encourage, or cheer them on depending on their psychosocial state (Taylor, 2008)

Instructing Mode

The **instructing mode** emphasizes education to patients in therapy and the therapist assumes a teaching style in their interactions with patients. When using the instruction mode, therapists use skills to provide patients with detailed descriptions of the objectives, goals, and tasks of therapy. Through this mode, therapists provide patients with information, direction, recommendations, and advice. Therapists utilize instructional statements, mini-lectures, role-modeling, demonstrations, statements that convey feedback to the patient, and dialogue that involves questions and answers as the primary focus (Taylor, 2008).

Instructing patients who have experienced a stroke:

- Instructing patients on relaxation techniques to reduce anxiety through directions and demonstrations
- Instructing patients on implementation of sensory strategies to reduce anxiety
- Instructing patients on how to implement self-esteem boosters in their daily lives in order to increase motivation
- Instructing patients on how to recognize and stop negative thoughts throughout their day
- Instructing patients about importance of engaging in therapy in order to recover/treat psychosocial issues

(Taylor, 2008)

STRENGTHS	WEAKNESSES
<p>Conveys confidence to patients, and shows the patient that the therapist has a good idea about what is best for the patient, maximizing outcomes (Taylor, 2008)</p>	<p>Because of the patient's' psychosocial state, some patients may feel that the therapist is coming off as controlling, dominant, or parental (Taylor, 2008)</p>
<p>Patients tend to grasp, learn, and adhere to activities and tasks offered in therapy (Taylor, 2008)</p>	<p>Therapists may over utilize instructing and attempt to just “fix the problem” rather than listen and validate the issues and feelings the patient is experiencing (Taylor, 2008)</p>

Problem-solving Mode

The **problem-solving** mode relies heavily on using reason and logic in the relationship with the patient. This mode may consist of the therapist creating new devices or approaches to treatment. It is strengthened by theory-based interventions, evidence-based practice, complex treatment protocols, or creating adaptations for patients. Therapists generally approach the interpersonal aspects of therapy by reasoning or by using other logical approaches, such as strategic questioning aimed at enabling a patient to see a wider range of options, consequences, or dimensions of the issue (Taylor, 2008).

Problem-Solving with those who have experienced a stroke:

- Developing new strategies (i.e. relaxation, depression reducing, ways to increase motivation) that are specific and work for a particular client
- Discovering research and using evidence-based practice to guide interventions for psychosocial issues post stroke
- Using motivational interviewing to better understand the patient and a whole and how psychosocial issues are affecting their daily occupations
- Using theory to guide both assessments and interventions regarding the psychosocial aspects of the patient

(Taylor, 2008)

STRENGTHS	WEAKNESSES
<p>More likely to see significant improvements in occupational performance due to high level on focus on technical aspects (Taylor, 2008)</p>	<p>Strong emphasis on technical aspects may take away from the emphasis of getting to know patients on a more intimate level and gaining a better understanding of their psychosocial issues (Taylor, 2008)</p>
<p>Patients who are less comfortable with a more emotion-focused approach may value and feel most comfortable with this mode (Taylor, 2008)</p>	<p>May over rely on pragmatic, technical, and mechanical aspects, overlooking the importance of empathy and open communication helpful during psychosocial recovery (Taylor, 2008)</p>

Identifying Goals

Once necessary information has been gathered through stages 1, 2, and 3 of the therapeutic reasoning process and the therapeutic relationship has begun to develop, goal setting can begin to take place (Kielhofner, 2008). This process includes:

- Creating therapy goals with the client
- Deciding what kinds of occupational engagement will enable the patient to change
- Determine what kind of therapeutic strategies will be needed to support the patient to change

Goals indicate the kinds of changes that therapy will aim to achieve. Change is required when the patient's characteristics and/or environment is contributing to occupational problems or challenges (Kielhofner, 2008). These changes correspond to the kinds of problems and challenges identified in steps 1, 2, and 3 of the therapeutic process.

Deficits due to a stroke can have an effect on a patient's personal causation, interests, values, roles, habits, performance capacity, skills, physical environments, and social environments. Examples of changes that can be made in the person are listed below. Further, examples of strategies a therapist can use to initiate those changes are also listed. This table can serve as a guide for therapists when writing goals to address psychosocial issues post-stroke specific to each client:

Concepts	Changes	Strategies
Personal Causation	<ul style="list-style-type: none"> • Develop emotional acceptance of limitations and pride in occupational abilities • Reduce client's anxiety and fear of failure in occupational performance • Reduce unnecessary feelings of dependence, resentment, or guilt associated with loss of participation 	<ul style="list-style-type: none"> • Validate client's thoughts and feelings concerning performance capacities and how difficult it can be to do things that provoke anxiety • Encourage to client to sustain effort in difficult occupational circumstances • Encourage them to use performance capacities in the face of anxiety
Values	<ul style="list-style-type: none"> • Increase satisfaction and self-esteem from realizing occupational goals • Increase client's ability to reflect and acknowledge that they are able to do things that are important to them • Strengthen sense of what is most personally significant within occupational life 	<ul style="list-style-type: none"> • Validate client's value system as important driver of the therapeutic plan • Give feedback on how client's values/standards do not seem personally cogent, lead to self-devaluation, or set up unattainable standards/occupational goals • Identify conflicts between values and performance capacity and values and environmental values
Interests	<ul style="list-style-type: none"> • Changes in client's attraction, participation, and enjoyment/satisfaction in occupation 	<ul style="list-style-type: none"> • Identify the essence of the attraction to the old interest through the experience of old interests if the person no longer has the skill to engage in that

	<ul style="list-style-type: none"> • Increase client's desire to do things that are meaningful to them • The client has an increased willingness to chose to engage in interests 	<p>particular occupational form/task</p> <ul style="list-style-type: none"> • Identify resources in the client's social environment to support identified interest • Advise clients to re-adapt previous interests, exploration of new interests
Roles	<ul style="list-style-type: none"> • Increase the client's commitment to assuming specific roles that are necessary and desirable in their life • Improve client's perception of self in a more manageable and fulfilling number of roles • Improve routine due to role acquisition 	<ul style="list-style-type: none"> • Validate the challenges around role change and assuming responsibilities • Advise the client to make choices (volition) around reducing their responsibilities • Advise client to leave roles behind or enter into new roles
Habits	<ul style="list-style-type: none"> • Changes in client's habits to accommodate an acquired impairment and/or enhance occupational performance and occupational participation • Increase client's effectiveness so that they are able to complete a specific occupation by altering their habitual way of doing it • Increase client's organization of daily routines that improve 	<ul style="list-style-type: none"> • Negotiate options of altering methods of completing occupational forms/tasks or organizing occupational forms/tasks into alternative routine • Validate that it is hard to change habits • Encourage sustained effort until the person is able to complete the occupational form/task and/or routine

	effectiveness in managing role related responsibilities	
Performance Capacity	<ul style="list-style-type: none"> • Develop new ways of managing symptoms to allow them to engage in occupation • Increase feeling of how to do things & confidence when doing things with an altered body or despite symptoms • Increase understanding and better management of such things as altered bodily sensations, hallucinations, pain, fatigue, pain, and altered perception to minimize interference with occupational performance 	<ul style="list-style-type: none"> • Validate how difficult it can be to have a damaged or altered body • Coach the person in the use of new objects and adapted methods of completing occupational forms/tasks • Encourage the person when the client is engaged in occupational forms/tasks. This encouragement should be from a highly empathetic other who is attentive to understanding the lived body experience.
Skills	<ul style="list-style-type: none"> • Learning new strategies that results in an increased skill • Learning to use more adaptive skills to 	<ul style="list-style-type: none"> • Negotiate with client around treatment strategies of improving skills or adapting for lack of skill

	<p>compensate for weaker skills</p> <ul style="list-style-type: none"> • Compensation for immutable impairments of performance capacity through learning to capitalize on change in the environment 	<ul style="list-style-type: none"> • Encourage client to sustain performance when they are showing signs of frustration of difficulty when trying to use their skills or learn how to adapt to skill deficit • Validate how difficult it can be to have skill deficit
Physical Environment	<ul style="list-style-type: none"> • Change in physical space and objects to facilitate occupational performance and occupational participation through improving ease of access and use including adaptation to naturally occurring objects to new objects 	<ul style="list-style-type: none"> • Validate with the client how difficult and emotional it can be to alter physical spaces and use new objects • Negotiate possibilities for changing space and objects • Encourage person to make changes to physical environment
Social Environment	<ul style="list-style-type: none"> • Social attitudes and behaviors are more conducive to participation • Immediate social groups are altered in ways to increase performance and/or participation • Discrimination and other negative attitudes/practices are reduced 	<ul style="list-style-type: none"> • Validate difficulties of changing social environment • Advise client and relative about available support networks • Coach the relatives how to support their relative. This may require the relative to be involved in the client's treatment sessions

(Kielhofner, 2008)

Interventions

This section of the guide will address the following step of the MOHO therapeutic reasoning process:

Step 5: Implement and review therapy

Implementing therapy involves following the plan of action and monitoring how therapy is unfolding. When therapists implement interventions, new information can emerge and one or more of the following can result:

- Confirmation of the therapist's conceptualization of the patient's situation
- Changes in the therapist's conceptualization of the patient's situation
- Confirmation of the utility of the planned patient occupational engagement and therapists strategies
- Modification of goals and/or planned patient occupational engagement and therapist strategies

Throughout this section of the guide, therapists are offered evidence-based interventions that are supported with evidence to address and adequately treat the common psychosocial issues that accompany stroke.

(Kielhofner, 2008)

Evidence-Based Interventions

Evidence-based practice is based on the integration of critically appraised research results with the clinical expertise, and the client's preference, beliefs and values (Wolf & Nilsen, 2015). An evidence-based review conducted by Mary Hildebrand (2014), has evaluated the effectiveness of occupational therapy interventions to treat the effects of psychological or emotional impairments after stroke. Hildebrand's work reviewed 41 articles and identified five main categories that are currently being used to treat psychosocial issues following stroke. These categories include: exercise, behavioral interventions, care coordination, education, and community rehabilitation (Hildebrand, 2014). The table below summarizes the results of her work, showing which interventions are currently considered evidence based practice for occupational therapists. These evidence based interventions include the following:

- Strengthening interventions
- Range of motion intervention
- Motivational interviewing
- Problem-solving therapy
- Psychosocial/Behavioral intervention
- Knowledge and behavioral therapy
- Leisure education program
- Stroke education program
- Intensive home-based rehabilitation

For the purpose of this guide, the information will cover interventions that Hildebrand (2014) has identified as having moderate evidence.

Intervention	Level of Evidence		
	Moderate	Mixed	Insufficient
Exercise-Based	<p>Level I Evidence:</p> <p>Strengthening Intervention</p> <p>ROM Intervention</p>		<p>Level I Evidence:</p> <p>Progressive resistance training</p> <p>Tai Chi</p> <p>Very early mobilization</p> <p>Intensive exercise</p> <p>Ergometry</p> <p>Bilateral arm exercises</p> <p>Walking</p> <p>Treadmill</p> <p>Home based exercise</p> <p>Level II Evidence:</p> <p>Exercise & recreation activities</p> <p>Community based exercise</p>
Behavioral Therapy	<p>Level I Evidence:</p> <p>Motivational interviewing</p> <p>Problem-solving therapy</p> <p>Psychosocial/behavioral</p>		<p>Level I Evidence:</p> <p>Behavior modification & risk factor control</p> <p>Life review therapy</p> <p>CBT</p>

	intervention Knowledge & behavioral therapy		
Education-Based	Level I Evidence: Leisure education program Stroke education program		Level I Evidence: Chronic Disease Self-Management education Stroke information package/Computer generated education package
Community Rehabilitation	Level I Evidence: Intensive home based rehabilitation		Level I Evidence: Community-based OT Community-Based OT intervention to improve mobility
Care Coordination		Level I Evidence: Inpatient care coordination Post-discharge support and outreach Care coordination in the community Family support organizer Day Service	

(Hildebrand, 2014)

Exercise-Based Interventions

- ❖ **Group Strengthening Exercises**
- ❖ **Range of Motion**

Group Strengthening Exercise

Strengthening exercises are defined as:

Exercises to increase or restore strength following a physical injury or impairment that consist of 2 or more patients.

Group strengthening exercises can improve health related quality of life by:

- Increasing functional independence in occupations, indirectly increasing quality of life
- Increasing social participation by engaging with peers in exercise groups
- Increase self-efficacy by engaging in exercise based therapy

What should evidence-based group strengthening exercises programs look like to address psychosocial issues in those who have experienced a stroke?

- Strengthening exercises groups should be approximately **1.5 hours in length**
- Strengthening exercise groups should take place **3 days per week**
- Strengthening exercise groups should be at least **10 weeks in length**
- Each groups should consist for **3-4 participants**
- Each group session should have a **5-10 min warm up** consisting of leisurely walking, mild strengthening, and range of motion
- Each group should have **aerobic exercise** consistent of patient recommendations
- Each group should consist of modality for **strength training**
- Each group should have a **cool-down for 5-10 min** consisting of leisurely walking and muscular relaxation

(Olney, S. J., Nymark, J., Brouwer, B., Culham, E., Day, A., Heard, J., ... & Parvataneni, K. (2006). A randomized controlled trial of supervised versus unsupervised exercise programs for ambulatory stroke survivors. *Stroke*, 37(2), 476-481.)

Range of Motion

Range of motion exercises are defined as:

Exercises aimed at increasing or restoring the amount of movement in one or multiple joints of a patient's body.

Range of motion exercises can reduce depressive and anxiety symptoms in stroke patients post-stroke through the following:

- Physical rehabilitation, including physiotherapy and exercises programs including range of motion, has demonstrated positive psychosocial outcomes in stroke survivors
- Patients who receive range of motion exercises through their exercise program show significant improvements in depressive and anxiety symptoms
- Relief from prolonged immobile joints can improve function and emotional distress

What should evidence-based range of motion exercise programs look like to address psychosocial issues in those who have experienced a stroke?

- Range of motion exercises should be completed **5 times** per each affected joint
- Range of motion exercises should be completed **twice a day**
- Range of motion exercises should be completed **6 days per week**
- Range of motion exercise programs should be carried out for **4 weeks**
- Each session should last approximately **10-20 minutes**
- Passive range of motion exercises should be done **slowly** on one joint at a time, with patients using a **stronger limb to assist** the weaker limb to complete exercises
- Evidence shows effectiveness in **long-term care facilities** and **rehabilitation programs**

(Tseng, C. N., Chen, C. C. H., Wu, S. C., & Lin, L. C. (2007). Effects of a range-of-motion exercise programme. *Journal of Advanced Nursing*, 57(2), 181-191.)

Behavioral Therapy Interventions

- ❖ **Motivational Interviewing**
- ❖ **Problem-Solving**
- ❖ **Psychosocial/behavioral Intervention**
- ❖ **Knowledge and Behavioral Therapy**

Motivational Interviewing

Motivational Interviewing is defined as:

A talk based therapy used to support and build patient's' motivation to adjust and adapt to having had a stroke.

Motivational Interviewing can increase mood and self-reported depression through the following:

- Support and build patient's' motivation to adjust and adapt to having had a stroke.
- Developing confidence in their ability to adjust and adapt to life after stroke.
- Equipping patients with the ability to identify realistic personal goals for their recovery.
- Recognizing the importance of making psychologic adjustments and practical adaptations.
- Helping to increase low expectations and provide support to engage in rehabilitation and improve recovery.

What should evidence-based motivational interviewing look like to address psychosocial issues in those who have experienced a stroke?

- Therapist should aim to discuss and address topics such as:
 - Adjustment to having had a stroke and their current concerns
 - Physical Impairments
 - Functional impairments
 - Social Support
 - Patients' personal and realistic goals for recovery and their perceived barriers to attaining these goals.

- Therapist's goals should be to work with patient dilemmas and ambivalence by supporting and reinforcing optimism and self-efficacy.
- Ultimate goal should be to enable patients to identify their own solutions.
- Session should be between 30-90 minutes
- Sessions should be completed within the first four-weeks following stroke diagnosis.

Sessions should contain the following motivational-interviewing consistent techniques:

- Open questions
- Reflections
- Advise with permission
- Affirm
- Empathize control
- Reframe
- Support

(Watkins, C. L., Auton, M. F., Deans, C. F., Dickinson, H. A., Jack, C. I., Lightbody, C. E., . . . Leathley, M. J. (2007). Motivational interviewing early after acute stroke: A randomized, controlled trial. *Stroke*, 38, 1004–1009. <http://dx.doi.org/10.1161/01.STR.0000258114.28006.d7>)

Examples of motivational interviewing-consistent techniques are as follows:

Open Questions

Open questions are used to **gather information, understand, or elicit the client's story**. The question should allow for a **wide range of possible answers**.

The question should aim to **seek information, invite the clients' perspective, or encourage self-exploration**.

Examples:

“How might you be able to do that?”

“How do you feel about that?”

“In what ways has this stroke been hard on you?”

“Tell me about your recent experience in the hospital?”

“Tell me more.”

“What are your concerns about life after Stroke?”

Reflections

A reflection is a reflective listening statement made by the therapist **in response** to a client statement. It can reflect a client from the current session or **previous sessions**. Reflections **capture and return** to the client something that the client has said. Reflections can simply **repeat or rephrase** what the client has said or may **introduce new material**. Reflections can be **complex or simple**.

Simple Reflections

- Add little or no meaning or emphasis to what the client has said.
- Merely convey understanding or facilitate communication exchange.
- May simply be a repeat or rephrase of what the client has said.
- Do not go beyond the original content of the client's statement.

Complex Reflections

- Add **substantial meaning** or **emphasis** to what the client has said.
- Convey a **deeper or richer** picture of the client's statement.
- Contain significantly more or different content from what the client actually said.
- The therapist may add **subtle or obvious** content or meaning to the client's words.
- Use **Analogy, metaphor and simile** (not stated by the client).
- Use **Exaggeration or amplification** by **understating or overstating**.

Examples:

Client: "I don't think I'll mind rehab, but I don't want to go to a place where everyone sits around and complains all day."

Therapist: "You don't want to do that." **Simple**

Therapist: "So you're kind of wondering what it would be like to be here." **Complex**

Client: "I want to be able to walk, go to work, and enjoy life again"

Therapist: "Those are your main goals for therapy." **Simple**

Therapist: "You want to be able to participate in normal, meaningful activities." **Complex**

Advise with permission

The therapist gives **advice, makes a suggestion, or offers a solution or possible action**. These will usually contain language that indicates that advice is being given: should, why don't you, consider, try, suggest, advise, you could, etc. The advice, suggestion, solution, or action, should **always be given with permission**.

Examples:

“Would it be alright if I suggested something?”

“We could try brainstorming to come up with therapy goals if you like

Affirm

The therapist says something **positive or complimentary** to the client. It may be in the form of **expressed appreciation, confidence or reinforcement**. The counselor comments on the client's **strengths or efforts**.

Appreciation: The therapist compliments the client on a **trait, attribute, or strength**. The reference can be to a "stable, internal" characteristic of the client, something positive that refers to an aspect of the client that would endure across time or situations (smart, resourceful, patient, strong, etc.). It may also be for **effort**.

Examples:

“You’re a very resourceful person.”
“Thank you for coming today.”
“You’ve made great strides in therapy.”
“I’ve enjoyed talking with you today.”

Confidence: The therapist makes a remark that indicates confidence in the client's ability to do something, to make a change; it predicts success, or otherwise supports client self-efficacy. These are related to a particular task, goal, or change.

Examples:

Client: “I don’t think I can do it.”
Therapist: “You’ve succeeded through some difficult changes in the past”

Reinforcement: These are general encouraging or "applause" statements even if they do not directly comment on a client's nature, and do not speak directly to self-efficacy. They tend to be short.

Examples:

“That’s a good idea.”
“Good for you.”
“That’s good.”

Empathize Control

The therapist directly acknowledges, honors, or emphasizes the client's **freedom of choice, autonomy, personal responsibility, etc.** This may also be stated in the negative, as in "Nobody can make you change." There is no tone of blaming or faultfinding.

Examples:

"You're setting your own goals and boundaries"

"it is totally up to you whether you use adaptive equipment or not"

"You know what's best for you"

"It's your decision"

Reframe

The therapist suggests a **different meaning** for an experience expressed by the client, placing it in a new light. These generally have the quality of **changing the emotional status** of meaning from negative to positive or from positive to negative. Reframes generally meet the criteria for reflections but go further than adding meaning or emphasis by actually changing the value of meaning and not just the depth.

Examples:

Client: My wife is always nagging me about taking things easy and slow.

Therapist: “Sounds like she’s pretty concerned about you.” **Reframe** (“nagging” as “concern”)

Support

These are generally **sympathetic, compassionate, or understanding** comments. They have the quality of **agreeing** or siding with the client.

Examples:

- | | |
|--|-----------------|
| “You’ve got a point there.” | (Agreement) |
| “That must have been difficult.” | (Compassion) |
| “I can see why you would feel that way.” | (Understanding) |
| “I’m here to help you with this.” | (Compassion) |
| “That’s a difficult thing to say.” | (Compassion) |

(Miller, W. R., Moyers, T. B., Ernst, D., & Amrhein, P. (2003). Manual for the motivational interviewing skill code (MISC). *Unpublished manuscript. Albuquerque: Center on Alcoholism, Substance Abuse and Addictions, University of New Mexico.*)

Problem Solving Therapy

Problem-solving therapy is defined as:

A therapy in which the patient selects a problem then goes through 7 steps to arrive at a course of action. The problem-solving therapy used in the study was called Problem-Solving Therapy for Primary Care (PST-PC) (Hegel, Barrett, Cornell, & Oxman, 2002).

What are the benefits of problem-solving therapy?

- Problem-solving therapy had been developed for use in elderly patients with depression and cognitive behavioral therapy had been shown to be unsuccessful in treating post stroke depression.
- Patients who are given problem-solving therapy following acute stroke may be spared depression and perhaps its adverse consequences.

(Robinson, R. G., Jorge, R. E., Moser, D. J., Action, L., Solodkin, A., Small, S. L., . . . Arndt, S. (2008). Escitalopram and problem-solving therapy for prevention of post-stroke depression: A randomized controlled trial. *JAMA*, 299, 2391–2400. <http://dx.doi.org/10.1001/jama.299.20.2391>)

What does problem-solving therapy look like in practice?

- May be used on patients ages 50-90 years-old
- PST-PC has three main goals
 1. The patient is educated about the relationship between depressive symptoms and problems in living and the rationale for learning adaptive problem solving skills.
 2. The patient's problems are delineated through spontaneous report and questioning about key areas of living (e.g., finances, relationships, work problems)
 3. An attempt is made to solve the problems in a structured way using the PST-PC intervention.
- The intervention consists of seven stages:
 1. Defining and clarifying the problem
 2. Establishing a realistic goal
 3. Generating multiple alternative solutions
 4. Implementing decision making guidelines
 5. Choosing a solution
 6. Implementing the solution
 7. Evaluating the outcomes
- Sessions last approximately 1 hour for the first visit, and 30 minutes for each subsequent visit for a total of 4-6 visits.
- The goal is to implement all 7 stages of PST-PC for one problem each session.

(Hegel, M. T., Barrett, J. E., Cornell, J. E., & Oman, T. E. (2002). Predictors of response to problem-solving treatment of depression in primary care. *Behavior Therapy*, 33(4), 511-527.)

APPENDIX 2

Introducing PST-PC to the Patient in Session 1 Checklist

1. Structure of PST-PC Treatment

- 6 Visits
- Today' Visit: 1-hour; Visits 2-8: 30-minutes
- Weekly and Bi-weekly Visits
- Teach problem solving skills
- Work through at least one problem per week
- Work on homework between visits

2. Establish that Symptoms are Due to Depression

- Assure understanding that depression is causing symptoms
- Collect brief list of key depressive symptoms
- As necessary, use "mind/body" explanation
- State that will track symptoms during treatment

3. Link Between Problems, Depression and PST-PC

- Depression is often caused, or made worse, by the problems of living
- Worsening depression interferes with problem solving: Vicious cycle / Downward spiral
- PST-PC strengthens problem-solving skills
- Improved problem-solving lifts mood
- Improvement follows action

4. Problem-Solving Orientation

- Problems are a normal, predictable part of living
- Problems are not unfair, and should be expected
- Negative mood is a cue that problems exist
- Some degree of control can almost always be achieved
- Taking action alone will cause mood to improve

5. The Seven Stages (Steps) of PST-PC

1. Clarifying and defining the problem
2. Establishing objective achievable goal
3. Solution alternatives: Brainstorming
4. Decision guidelines: Pros and Cons
5. Choosing the preferred solution(s)
6. Implementing the solution(s)
7. Evaluating the outcome

6. Activity Scheduling

- Depression stops people from doing enjoyable things
- Fewer enjoyable things causes and worsens depression
- Vicious cycle / Downward spiral
- We will focus on increasing enjoyable activities each day

7. Problem List Generation

- Focus on current problems
- Allow patient to first spontaneously report current problems
- Systematically review categories from problem worksheet

(Hegel M, Arean PA. Problem-Solving Treatment for Primary Care: A Treatment Manual for Depression. Lebanon, NH: Project IMPACT: Dartmouth College; 200)

Psychosocial/Behavioral Intervention

Psychosocial/behavioral intervention is defined as:

A treatment method known as the Seattle Protocols. Using this method, adapted for those with stroke, participants are taught to view psychosocial symptoms as observable and modifiable behaviors that are initiated and maintained by the person-environment interactions.

Psychosocial/behavioral intervention can help a client after they have experienced a stroke by:

- Increasing the level of pleasant social and physical activity in order to improve mood.
- Addressing physical and cognitive challenges to such activity
- Developing and implementing a structured and clear behavior plan

What should psychosocial/behavioral intervention look like to address psychosocial issues in those who have experienced a stroke?

- Programming should occur for 9 weeks
- Sessions 1 and 2 are completed in week 1 and 7 sessions completed over two months.

(Mitchell, P. H., Veith, R. C., Becker, K. J., Buzaitis, A., Cain, K. C., Fruin, M., ... & Teri, L. (2009). Brief Psychosocial–Behavioral Intervention With Antidepressant Reduces Poststroke Depression Significantly More Than Usual Care With Antidepressant Living Well With Stroke: Randomized, Controlled Trial. *Stroke*, 40(9), 3073-3078.)

Sessions should follow the Seattle Protocol as described:

Session 1: Common emotional and physical aspects of stroke recovery are introduced and a rationale for treatment is presented. Realistic expectations are set based on the nature of the stroke and participants are encouraged to identify their goals for treatment. American Stroke Association education materials are provided and participants are asked to complete *The Pleasant Events Schedule* to facilitate discussion for future sessions.

Session 2: *Concept of Pleasant Events* is discussed and participants are reminded the importance of identifying pleasant events that are realistic to the individual's stroke. The relationship between depression and a lack of *pleasant activities* is discussed. The *Pleasant Events Schedule* is used to identify activities that the person with stroke might enjoy, based on what they enjoyed in the past. A daily mood and activity form is introduced in this session to help track experiences.

Session 3 and 4: The major focus is on the *Pleasant Events Schedule*. Current limitations and working through those limitations. Practical advice regarding activity engagement and methods of problem-solving around obstacles to activity is given.

Session 5: This session takes time to focus on the participant to the caregiver, if caregivers are present. Issues such as caregiver burden and depression are addressed, with resources offered to caregiver if necessary. Therapist helps to identify resources such as people, networks, activity centers, respite services and health care providers that may help.

Session 6: Basic principles of behavior change and identifying problems of the participants choosing. Participants are taught to pinpoint a problem, gather information about it, and discover what potential antecedents that triggered the problem or consequences that maintained the

problem might be They are then helped to set realistic goals for problem- solving and establish a plan.

Session 7: Focuses on altering negative thinking so common in depressed individuals.

Participant are encouraged to keep track of negative statements they find themselves making and track when they happened, how often, and around what situation and people.

Session 8 & 9: Serve as a summary of progress made as well as a structure for insuring continued improvement. Participants look back on previous sessions and identify skills and strategies the participants plan to continue using and develop a plan for future consideration.

More information:

Teri, L., Logsdon, R. G., & McCurry, S. M. (2005). The Seattle Protocols. *Research and practice in Alzheimer's disease, 10*, 153-158.

Mitchell, P. H., Teri, L., Veith, R., Buzaitis, A., Tirschwell, D., Becker, K., ... Cain, K. C. (2008). Living Well with Stroke: Design and Methods for a Randomized-Controlled Trial of a Psychosocial-Behavioral Intervention for Post-Stroke Depression. *Journal of Stroke and Cerebrovascular Diseases: The Official Journal of National Stroke Association, 17*(3), 109–115. <http://doi.org/10.1016/j.jstrokecerebrovasdis.2007.12.002>

Knowledge and Behavioral Therapy

Knowledge and behavior therapy is defined as:

A counseling method consisted of both a stroke education and rational emotive behavior therapy (REBT) component. REBT is based on resolving emotional and behavior problems and seeks to change irrational beliefs that may express themselves as irrationality, inability to control anger, anxiety, and depressive symptoms.

Knowledge and behavior therapy can help patients that have experienced stroke by:

- Improving state anger
- Improving hostility
- Improving the ability to control anger
- Increasing quality of life
- Decreasing depression or depressive symptoms
- Decreasing symptoms of anxiety
- Improvements in ADL's

What should evidence-based knowledge and behavior therapy look like?

- Weekly sessions lasting 1-2 hours for 1 month
- Behavioral and knowledge component consisting of education and REBT strategies

Education about health psychology and recovery from hemiplegic stroke

- The lifestyle risks for stroke, including environmental, biological, and behavioral causes (stress, anger, hostility, etc.)
- Lifestyle changes that were necessary after stroke, including medications, behavioral changes, and changes in emotional regulation and personality.

REBT Strategies

- **Belief changes:** According to REBT, clients have a preexisting belief system that leads them to attribute unrealistic thoughts to events, which in turn leads to emotional distress.
 - Clients are taught a new positive belief system to replace their old system
 - Positive attitude training teaches clients to become more positive by seeing the good side of things.
- **Forgiveness training:** Used to reduce the level of anger reported by participants.
 - Using imagination to think of interpersonal situations that caused anger.
 - Asked to explain out loud the emotions generated by the situation.
 - Asked to think about the benefits of forgiveness of forgiveness for both parties involved.
- **Anger management:** Used to help clients learn coping strategies to control their anger.
 - Timeout (stopping and thinking about the situation)
 - Allowing and understanding that others have different views
 - Listening to others and empathizing
 - Using available social support
 - Writing down their feelings

(Chang, K., Zhang, H., Xia, Y., & Chen, C. (2011). Testing the effectiveness of knowledge and behavior therapy in patients of hemiplegic stroke. *Topics in stroke rehabilitation*, 18(5), 525-535.)

Education Based Intervention

- ❖ **Leisure Education**
- ❖ **Stroke Education**

Leisure Education Program

Leisure education is defined as:

A component of therapy that focuses on the development of leisure-related skills, attitudes, and knowledge to increase a person's quality of life.

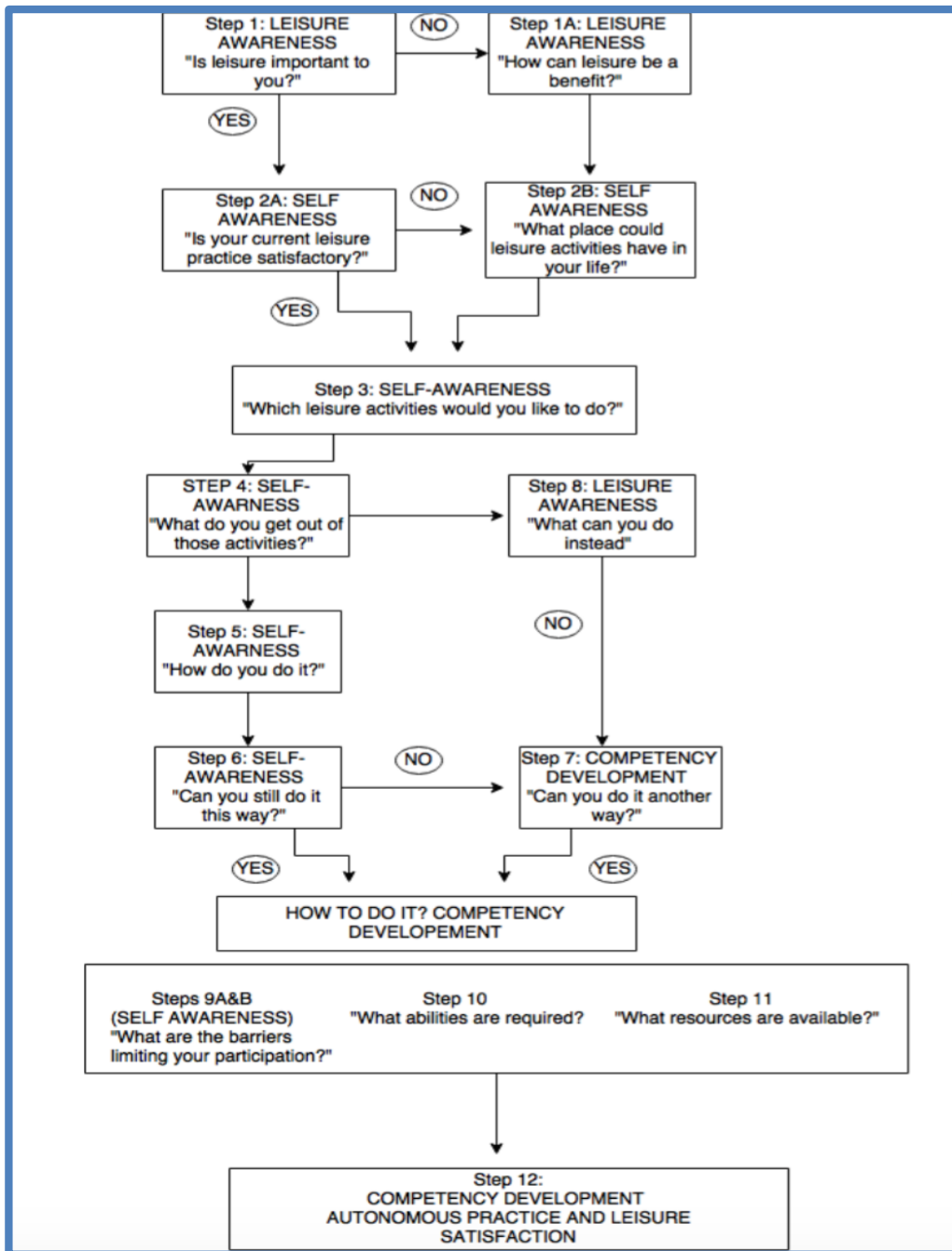
Leisure education programs can affect psychosocial well being in those who have experienced a stroke by the following:

- Participation in and satisfaction with leisure has been found to be indicators of quality of life and wellbeing
- An increase in leisure participation leads to a decrease in depressive symptoms
- Following leisure education programs, patient's present with fewer depressive symptoms
- Following leisure education programs, patients report being more satisfied with their leisure activities, indirectly having a positive impact on their mental health

What should evidence-based leisure education programs look like to address the psychosocial issues in those who have experienced a stroke?

- Program should be divided and focus on **3 main components**:
 - **1. Leisure awareness**- the perception and knowledge that people have of their leisure activities and how important they consider them.
 - **2. Self-awareness**- people's perception of themselves, their values, attitudes, and capacities in regard to leisure activities.
 - **3. Competency development**- the perceived and real constraints identified by the person and knowledge of alternatives to achieve autonomy in leisure activities

- The program should be divided into **12 steps** regarding the 3 above components to develop competency and satisfaction in leisure. The 12 steps and process to reach/complete these steps are listed in the table below:



The program **should not** exceed 12 sessions

- The patient reaches the **end of the program** when 1 of the following have been met:
 1. The participant has gone through all of the 12 steps in the program
 2. The person had integrated significant leisure activities in her/his life

(Desrosiers, J., Noreau, I., Rochette, A., Carbonneau, H., Fontaine, L., Viscogliosi, C., & Bravo, G. (2007). Effect of home leisure education program after stroke: a randomized controlled trial. *Archives of Physical Medicine & Rehabilitation*, 88 (9), 1095-1227.)

Stroke Education Program

Stroke education is defined as:

Health care providers offering the provision of accurate, timely information and advice related to stroke and the complications that may accompany stroke.

Stroke education programs can affect psychosocial well being in those who have experienced a stroke by the following:

- Educational sessions can increase a patient's and caregiver's understanding of stroke, indirectly reducing anxiety
- Educational sessions can increase trust in the relationship between therapists and patients and their caregivers, indirectly reducing anxiety

What should evidence-based stroke education programs look like to address the psychosocial issues in those who have experienced a stroke?

- Patients as well as their **families/caregivers** should be part of the stroke education program
- The educational program should take place every 2 weeks, for approximately 20 minutes
- Patients and their families/caregivers should be given a **pretest** to measure their level of knowledge of a stroke before implementation of the program. The information from this pretest can help therapists understand what patients and their caregivers already know and what areas should be focused on in the educational program. An example is shown below:

Please read the following statements. Tick one box for each question.

	True	False	Don't know
1) A stroke is caused by damage to the brain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) A stroke is the same as a heart attack.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Effects of a stroke depend on which part of the brain is affected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Brain cells which are affected by a stroke may not work again.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Most recovery occurs in the first few weeks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Physical, mental, or sexual activity will increase the likelihood of a further stroke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Squeezing a ball can get your hand working again.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) Therapy can help you move your arm and leg again.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) A speech therapist teaches you to get in and out of bed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Feelings of frustration are a normal reaction after stroke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) Depression is common following stroke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) A stroke may affect personality and mood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) Flying should be avoided after a stroke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14) Welfare benefits are provided to everybody who has a stroke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15) It is possible to have help with both domestic and personal care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16) Home adaptations are provided free of charge to everyone who has a stroke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17) A social worker can give advice on welfare benefits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- The **pre-test** above can also serve as a **post-test** to track outcomes and effectiveness of the educational program.
- An educational manual should be used to guide sessions. The **educational manual** implemented in the program should contain the following educational topics:
 - Causation of stroke
 - Consequences of stroke

- The stroke recovery process
- Financial benefits
- Relevant services
- A specific section tailored for caregivers

The educational manual can be **created within a program** to develop a unique resource specific to that facility

- The National Stroke Association offers multiple resources for stroke education materials. A list of resources, as well as an order form, can be obtained from:

<https://www.stroke.org/sites/default/files/resources/stroke-education-materials-order-form.pdf>

(Smith, J., Forster, A., & Young, J. (2004). A randomized trial to evaluate an education programme for patients and caregivers after stroke. *Clinical rehabilitation*, 18(7), 726-736.)

Community Rehabilitation

- ❖ **Intensive Home-Based Rehabilitation**

Intensive Home-Based Rehabilitation

Intensive home-based rehabilitation is defined as:

Face to face contact therapy from the multidisciplinary team for at least 6 sessions per week within the patient's home.

Intensive home-based rehabilitation can affect psychosocial well being in those who have experienced a stroke by the following:

- Evidence indicates that rehabilitation services provided in the patient's own home can be as successful as traditional hospital based services
- Intensive home-based rehabilitation services can improve social participation in those who have experienced a stroke, indirectly decreasing depressive symptoms
- Intensive home-based rehabilitation improves quality of life in those who have experienced a stroke
- Intensive home-based rehabilitation programs decreases depressive symptoms in adults who have experienced a stroke

What should evidence-based intensive home based rehabilitation look like to address the psychosocial issues in those who have experienced a stroke?

- Home based rehabilitation programs should consist of **6 or more** face to face contacts per week
- The maximum length of treatment time should be **12 weeks**
- Home based rehabilitation programs should not be limited to one discipline, but should be **multidisciplinary**
- The **multidisciplinary team** should consist but is not limited to the following:
 - Physiotherapist
 - Occupational Therapist
 - Speech and Language Therapist
 - Therapy Assistant (if needed)
- All treatments should take place within the **patient's home**

(Ryan, T., Enderby, P., & Rigby, A. S. (2006). A randomized controlled trial to evaluate intensity of community-based rehabilitation provision following stroke or hip fracture in old age. *Clinical Rehabilitation*, 20(2), 123-131.)

Assessing Outcomes

This section of the guide will address the following step of the MOHO therapeutic reasoning process:

Step 6: Collecting Information to Assess Outcomes

Determining therapy outcomes is an important step in the therapy process. While this guide presents tools to use in various stages of the therapeutic process, it does not offer specific strategies to use for assessing outcomes. The Model of Human Occupation suggests that therapists:

- Examine the extent to which goals have been achieved
- Re-administering assessments
- Therapists should follow departmental protocol, or seek strategies using the Occupational

Therapy Process Framework to determine the final outcomes.

(Kielhofner, 2008)

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CHAPTER V

SUMMARY

Occupational therapists are uniquely equipped healthcare providers who have the skills to treat both physical and psychosocial impairments following a stroke. Throughout time, occupational therapists have begun to “peg-hole” themselves into either physical or psychosocial occupational therapists, decreasing the range of practice and skills in which they offer to patients. Because occupational therapists have the skills to treat a variety of symptoms following stroke, it is a responsibility of the profession to holistically treat patients who have had a stroke.

This resource guide allows therapists to move through the therapeutic process addressing both psychosocial and physical issues in patients who have had a stroke. This resource is guided through the model of human occupation including assessments and screens, guidance to help patients develop goals, evidence-based interventions, and guidance for assessing outcomes.

An important part of the therapy process is measuring outcomes. In order to measure outcomes, the effectiveness of addressing both physical and psychosocial issues should continually be monitored. This can be done in collaboration between the therapists and the client. The approach to this step can be decided by the facility, to ensure that standards are being met within the facility and the outcomes are appropriately being measured.

Limitations

A limitation for this product is that the interventions included are evidence based and have been tested by researchers in the past outside of the profession of occupational therapy. The product does not offer interventions that may be effective but just have not yet been tested in research. Further, depending on the setting, completing the entire therapeutic process as described in this resources guide may be difficult depending on length of stay, insurance coverage, and resources that are available to therapists.

Recommendations

Improvements to this product could include testing the specific evidence-based interventions in the profession of occupational therapy. Further, other intervention options that are not yet considered evidence-based can be tested and added to the product in order to increase options for clients and therapists.

Conclusion

Each year in the United States it is estimated that 795,000 people experience a new or recurrent cerebrovascular accident. Approximately 610,000 of them are first attacks and 185,000 are recurrent attacks. There are an estimated three million stroke survivors, which is double the number of survivors 25 years ago (Bartels, Duffy, & Beland, 2016). As many as 50% of those who have had a stroke experience stroke-related psychosocial or emotional disorders (Hildebrand, 2015). Occupational therapists have the skills to treat this range of impairments that accompany stroke including anxiety, depression, PTSD, and psychosis. This product can encourage occupational therapists to treat both physical and psychosocial impairments and bring the profession back to its roots.

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