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Differentiating Dementia from Mental Illness in the Elderly: An Occupational Therapy Process

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Differentiating Dementia from Mental Illness in the Elderly: An Occupational Therapy Process

by

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This Scholarly Project Paper, admitted by Michelle K. Halsted in partial fulfillment of the requirement for the degree of Master's Of Occupational Therapy from the University of North Dakota has been read by the Faculty Advisor under whom the work has been done and is hereby approved.


Faculty Advisor

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	v
ABSTRACT.....	vi
CHAPTER	
I. INTRODUCTION.....	1
II. REVIEW OF LITERATURE.....	4
Overview of Dementia.....	5
Overview of Mental Illness.....	9
Differential Diagnosis.....	13
Models.....	19
Assessments.....	24
Conclusion.....	35
III. METHOD.....	36
IV. PRODUCT.....	39
V. SUMMARY.....	67
APPENDICES.....	69
REFERENCES.....	84

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ABSTRACT

The purpose of this product is to provide those persons admitted to a hospital setting with an unclear diagnosis the opportunity to be efficiently and accurately diagnosed, thus allowing proper treatment, medications, and placement, if needed. Often, there is confusion amongst professionals in the treatment team as to whether an older adult may have a developing dementia versus symptoms of a mental illness. Through the evaluation process, individuals will engage in a balance of evaluative activities that may improve physical, social, emotional, spiritual, occupational, and cognitive focus areas. These evaluations are primarily based on Allen's Cognitive Model and The Model of Human Occupation. The assessment process encompasses a holistic and client-centered approach to treatment. An extensive literature review was conducted on topics of aging, disability, and mental illnesses with a particular focus on: memory and cognition, visual-perception, functional mobility, performance of basic activities of daily living, and mood and behavior. The occupational therapy evaluation process will guide the therapist toward specialized tests, tools, and cognitive models designed for assessment of these areas. In addition, suggestions for referral, assessment, and measurement of outcomes will be provided.

CHAPTER I

INTRODUCTION

Considering the changing societal needs in health care, data has shown that geriatrics will be a vital portion of health care services as those aged > 65 is expected to be at least 14% in 2010 and account for 1/3 of our health care dollars (Unwin, 2007). Because symptoms of dementia and other mental illnesses overlap, it can be difficult for health care professionals to distinguish between persons who may have dementia versus another mental disorder as they reside on the inpatient psychiatric unit (Thibault & Steiner, 2004).

Occupational therapists have the tools and knowledge to assist in early identification and treatment planning for individuals who may have an uncertain diagnosis. This project will focus on identifying symptoms and risk factors of adults of a particular set of criterion who are admitted to an inpatient psychiatric hospital. A specialized occupational therapy evaluation process will be developed for this population of persons presented with potential symptoms of dementia or other mental disorders.

In contemporary mental health practice, the evaluation assists clients and occupational therapists to mutually determine the need for change in occupational performance or their environments. The results can guide collaborative interventions intended to facilitate that change. The evaluation is a process that will involve several steps. First, synthesizing or gathering information about the client and then determining barriers and strengths that support performance. Secondly, observing a person's actions and listening to their words as they perform an activity. Next, selecting assessments, as needed, that will further measure the essential areas of performance, and whether context, activity, client factors, or activity demands that influence skill and patterns. Interpretation of the assessment data will identify what supports

or hinders performance. Finally, developing and refining a hypothesis about the person's strengths and weaknesses, contexts, and occupations will guide interventions (Cara & MacRae, 2005).

An extensive literature review will be conducted on topics of aging, disability, and mental illnesses with a particular focus on: memory and cognition, visual-perception, functional mobility, performance of basic activities of daily living, and mood and behavior. The occupational therapy evaluation process will guide the therapist toward specialized tests, tools, and cognitive models designed for assessment of these areas. In addition, suggestions for referral, assessment, and measurement of outcomes will be provided.

The occupational therapy evaluation process will be designed for client admission according to the percent of targeted criterion verified with the goal of assisting in earlier detection and identification of problem areas and accurate diagnosis. It is anticipated that occupational therapy intervention is expected to enhance and better able to engage the individual in meaningful participation in daily activities and improve overall quality of life. Caregiver training can be more directly targeted toward the caregivers' specific needs which have the potential to relieve caregiver stress (Aldridge, 2006).

This scholarly project will present the development of the most accurate assessments an occupational therapist can use to aid in the determination of a dementia type diagnosis versus a type of mental illness. The findings from the literature review (Chapter II) are compiled into an evaluation process suitable for use in a hospital or acute care setting. The information obtained from the use of the initial evaluations will provide a description of appropriate future cognitive assessments if indicated, assistance with accurate diagnosis, a guide for appropriate referral or living arrangement, and treatment strategies and techniques for future caregivers. Because

individuals usually remain in the psychiatric hospital setting approximately 4 days to several months, the evaluation is a continuous process and thus, will not only encompass the initial evaluation (completed within 24 hours of admission), but also further assessments and on-going evaluation of function.

Chapter 2

Literature Review

This literature review will describe research related to dementia and other common mental illnesses that occur in adults who have been admitted to an acute care hospital unit. Often these symptoms are similar or overlap, which can delay appropriate diagnosis and treatment (Cara & MacRae, 2005). The most common mental illnesses seen, and which will be discussed in this chapter include: psychotic, mood, anxiety, and behavioral (personality) disorders. Mental illness, as defined by the National Alliance of Mental Illness (NAMI), is a “biologically based brain condition which disrupts a person’s thinking, feelings, mood, ability to relate to others, and daily functioning...occurring in any age, religion, race or income” (2007).

The information gleaned will provide a basis to develop effective cognitive assessments, treatment techniques, and guidelines for appropriate placement. Occupational therapists often face challenges in working with individuals with dementia. These challenges include lack of evaluation tools and guidelines, limited resources for treatment, and unclear and inconsistent protocols. When initially admitted, patients may display symptoms which are common among a range of diagnosis. These are commonly identified across performance areas including: intrinsic activities of daily living (IADL), education, work, leisure, social interaction and basic activities of daily living (ADL) completion. Process skills are often severely impaired in this population and can be a major factor leading to admission. However, Alzheimer’s disease (AD) is progressive so in earlier stages, symptoms may yet be minor and difficult to diagnose (Cara & MacRae, 2005).

General Information on Dementia and Occupational Performance

Dementia is a slow, progressive decline in mental function including memory, thinking, judgment, and the ability to learn. Typically, symptoms include: memory loss, aphasia, declining performance of activities, personality changes, disorientation, and disruptive or inappropriate behavior. Symptoms can progress, causing dependency. Treatments focus on maintaining mental function and the highest level of independency achievable. Dementia is the leading cause of admissions to nursing homes and hospitals (Unwin, 2007).

As people age, changes in the brain cause some decline in short-term memory and learning ability. These normal age-related changes, unlike dementia, do not affect the ability to function. Dementia is a more serious decline in mental ability and worsens with time. People who have dementia have difficulty performing IADLs such as driving, cooking, and handling finances. In some types of dementia (such as Alzheimer's disease), the level of acetylcholine in the brain is low. Acetylcholine assists with memory, learning, concentration and in the functioning of many organs. Other changes occur in the brain, but whether they are caused by or result from dementia is unclear (Unwin 2007).

Most commonly, dementia is caused by Alzheimer's disease, which accounts for approximately 70% of cases. Other common types include vascular, Lewy body, and frontotemporal dementia (such as Pick's disease). It is possible for a person to have more than one of these dementias, labeled a mixed dementia. Other disorders that can cause dementia include the following: Parkinson's disease, brain damage due to injury or tumors, Huntington's disease, Prion diseases, progressive supranuclear palsy, and radiation therapy. Diabetes, chronic bronchitis, emphysema, infections, kidney disorders, liver disorders, and heart failure can worsen the effects of dementia (Porter & Kaplan, 2008).

In people with dementia, mental function typically deteriorates over a period of 2 to 10 years. Dementia progresses at different rates. In people with vascular dementia, symptoms tend to worsen with each stroke, sometimes showing improvement in between. In people with Alzheimer's disease or Lewy body dementia, symptoms tend to worsen more steadily; however, the rate at which a disease progresses varies from person to person. A review of the previous year's decline can give an indication about the coming year (Mori, Fujimori, Hirona, Imamura, Hashimoto, et al., 2009).

Categorizing symptoms as early, intermediate, or late (see appendix A) helps give affected people, family members, and caregivers an idea of what to expect. Some people with dementia hide their deficiencies well. They follow established routines at home and avoid complex activities such as balancing a checkbook, reading, and working. People who do not modify their lives may become frustrated with their inability to complete basic tasks (Porter & Kaplan, 2008).

In early stages of dementia, people may not acknowledge their impairments. When confronted about changes in personality or mental function, people may become hostile or agitated. Several effects of dementia contribute to these actions. Because they have forgotten the rules of proper behavior, they may act in socially inappropriate ways. People with dementia might also have difficulty understanding what they see and hear, they may misinterpret an offer of help as a threat and may lash out (Porter and Kaplan, 2008). In a study based by Han, Zimmerman, Schnelle, Dittus, Storow, et al., (2009), these behaviors often were found to lead to an admission to the emergency room. It is often difficult for physicians to determine delirium versus a dementia.

Forgetfulness is usually the first sign noticed by family members or practitioners. In a study by McGlone, Gupta, Humphrey, Oppenheimer, Mirsen, et al., (1990), subjective impression of memory function was able to differentiate healthy elderly subjects from patients with memory complaints, and whether memory complaints differed between patients with and without a dementing illness. Factor analysis indicates that client memory complaints correlate with depression rather than objective memory performance, while relatives' ratings correlated with objective memory scores, not depression. This indicates the need for proper evaluation and screening.

Three Primary Cognitive Processes Involved

Memory loss is the most common cognitive impairment among the elderly. Motor and sensory functions are spared until later stages of AD. Changes in cognition are gradual and progressively decline over time. Because impairment in memory is of primary concern in individuals with dementia, a description of short term memory (STM), long term memory (LTM) and the sensory perceptual system is provided in order to understand the cognitive processes involved. Research indicates STM being significantly impacted in those with dementia. STM is considered the activated and/or working memory. There are two components of STM. Primary storage is information recently received through sensory perception. Working memory is the retrieval of past information from the LTM which holds the information, makes sense of the information, and prepares information for long term storage. The amount of information maintained in STM relies on activation. If an individual does not use and retrieve the information, it is lost or forgotten (Levy, 2001).

LTM has three main storage systems. The first is termed episodic and this storage system is based on facts and events. The second is termed semantic, which builds on the episodic

memory and is based on our knowledge and beliefs about facts. The third is procedural. Procedural storage utilizes automatic behavior components including: motor, perceptual motor, and responses. Overall, an individual's remembrance of past events is greater than their recollection of recent events (Levy, 2001) Recent research shows that these types of memory are highly interactive; due to this interaction, dementia is partially accountable for fluency deficits (Greenberg, Keane, & Werfaellie, 2009).

The sensory perceptual memory is based on two main components. The visual aspect involves new stimulation and lasts milliseconds. Auditory stimulation lasts 4 to 5 seconds. The information received through visual/auditory stimuli is stored in STM and can be transferred to LTM in order to recall past events. In dementia, visual-perception is defective and plays a role in development of visual hallucinations, delusional misidentifications, visual agnosias, and visuoconstructive disabilities (Mori, et al., 2000).

Occupational therapists maintain that participation and maximal function of daily activities is a valued aspect of human health and wellness (Law, 2002). The goals of care include preventing further decline, slowing the progression with immunizations, pharmacologic intervention, and cognitive and behavioral interventions. Other goals may include rehabilitation to restore and improve function as well as decreasing fall-risk. Although prolonging life is also an overall goal, decreasing caregiver burden, offering appropriate placement and services such as hospice as needed are realistic. See appendix B for information on easing care-giver stress.

Mental Illness: An Overview of Types/Symptoms and Occupational Performance

According to the American Psychiatric Association, (APA, 2004), researchers believe most serious mental illnesses are caused by complex imbalances in the brain's chemical activity. They also believe environmental factors can trigger the onset of mental illness. Like other diseases, mental illnesses can be treated. Even people with severe cases can lead productive lives with proper treatment

Psychotic Disorders

Psychotic disorders are serious illnesses that affect the mind and alter a person's ability to think clearly, make good judgments, respond emotionally, communicate effectively, understand reality and behave appropriately. There are numerous types of psychotic disorders; however, the most commonly seen in hospitals are types of schizophrenia (National Institute of Mental Health, 2009).

Symptoms vary from person to person and may change over time. The major symptoms of psychotic disorders are hallucinations and delusions. Other possible symptoms of psychotic illnesses include: disorganized or incoherent speech, confused thinking, strange or possibly dangerous behavior, slowed or unusual movements, loss of interest in personal hygiene, loss of interest in activities, problems at school or work and with relationships, cold and detached manner with the inability to express emotion, and mood swings or other mood symptoms, such as depression or mania (APA 2004).

Mood Disorders

A mood disorder is the term given for a group of diagnoses in the Diagnostic and Statistical Manual (DSM-IV-TR) classification system (APA, 2004) where a disturbance in the person's emotional mood is hypothesized to be the main underlying feature. Two groups of

mood disorders are broadly recognized. There are depressive disorders, of which, the best known and most researched is major depressive disorder commonly called clinical depression or major depression. The second is bipolar disorder, formerly known as "manic depression" and described by intermittent periods of manic and depressed episodes.

Depression

According to the National Institute for Mental Health (NIMH, 2009), 3-4 million men are affected by depression; it affects twice as many women. Researchers do not know the exact mechanisms that trigger depression. Two neurotransmitters, serotonin and norepinephrine, are implicated in depression. There is also a high prevalence of comorbidity in the elderly, particularly diagnosed with a dementia.

Symptoms include: changes in appetite and sleeping patterns, feelings of worthlessness, hopelessness, and inappropriate guilt; loss of interest or pleasure in formerly important activities, fatigue, inability to concentrate, overwhelming sadness, disturbed thinking, physical symptoms such as headaches or stomachaches, and suicidal thoughts or behaviors (NIMH, 2009).

Apathy

Apathy is an additional mood disorder that involves a primary deficit in motivation. It should be distinguished from cognitive decline and depression. Apathy is extremely common in dementia and most of the time coexists with depression. Its presence should be considered during the routine course of an evaluation without ascribing it to depression itself. In order to distinguish the two syndromes, symptoms of sadness and feelings of helplessness, hopelessness, and worthlessness prove to be particularly helpful. Both apathy and depression can have a negative impact on the progression of AD, therefore, an accurate differential diagnosis is

fundamental to reach appropriate family education, effective treatment, and significant use in understanding behavioral symptoms in AD (Tagariello, 2009).

Bipolar Disorder

More than 5 million adults in America have bipolar disorder. With bipolar disorder, symptoms can include both a depression and a mania. These changes occur in cycles and are referred to as “episodes.” People with bipolar disorder experience sometimes extreme or frequent mood swings that can take three different forms: manic, depressive, and mixed episodes (Porter & Kaplan, 2008).

Bipolar disorder is thought to be caused by changes in the chemistry of the brain. The symptoms and severity of the condition can vary, but with the proper treatment, bipolar disorder symptoms can be managed. On average, people with bipolar disorder spend ten years seeking treatment before finally being correctly diagnosed. One survey found that as many as 70% of people with bipolar disorder are initially diagnosed with a different condition. Often, this is because people only tend to seek treatment during a depressive episode and neglect to discuss manic symptoms with their healthcare professional (APA, 2004).

While the causes of bipolar disorder are still unknown, the symptoms are believed to be triggered by an imbalance of some key chemicals in the brain. Researchers believe that when the levels of these neurotransmitters are too high or too low, this may result in symptoms of bipolar disorder, such as extreme happiness, irritability, sadness, delusions, or a lack of energy.

Personality Disorders

Personality disorders are a class of personality types, which deviate from the contemporary expectations of a society. The American Psychiatric Association definition is "an enduring pattern of inner experience and behavior that deviates markedly from the expectations

of the culture of the individual who exhibits it." Diagnosis of personality disorders is very subjective; however, inflexible and pervasive behavioral patterns often cause serious personal and social difficulties, as well as a general functional impairment. Rigid and ongoing patterns of feeling, thinking and behavior may be caused by underlying belief systems (APA, 2004).

Anxiety Disorders

Some degree of anxiety is adaptive; it can help people prepare, practice, and rehearse so that their functioning is improved and can help them be cautious in potentially dangerous situations. However, beyond a certain level, anxiety causes dysfunction and undue distress. At this point, it is maladaptive and considered a disorder. Anxiety occurs in a wide range of physical and mental disorders; however, anxiety disorders are more common than any other class of psychiatric disorder. They often are not recognized and consequently not treated. Left untreated, chronic maladaptive anxiety can contribute or interfere with treatment of some physical disorders (APA, 2004).

Other physical causes include use of drugs; effects of corticosteroids, cocaine, amphetamines, and even caffeine can mimic anxiety disorders. Withdrawal from alcohol, sedatives, and some illicit drugs can also cause anxiety. Anxiety can arise suddenly, as in panic, or gradually over many minutes, hours, or even days. Anxiety may last from a few seconds to years; longer duration is more characteristic of anxiety disorders. Anxiety ranges from barely noticeable qualms to complete panic. The ability to tolerate a given level of anxiety varies from person to person. Anxiety can be so distressing and disruptive that depression may result. Alternatively, an anxiety disorder and a depressive disorder may coexist, or depression may develop first, with symptoms and signs of anxiety occurring later (APA, 2004).

Differential Diagnosis

Dementia versus Depression

Age-associated memory impairment is not necessarily a sign of dementia or early Alzheimer's disease. Depression may resemble dementia and symptoms often overlap. Often a person with a depressed mood will exhibit decreased motivation during cognitive testing. A person often expresses cognitive complaints that exceed measured deficits. They may complain about memory loss, but rarely forget important current events or personal matters. Language and motor skills are maintained. In contrast, people with dementia lack insight about their mental impairments and often deny memory loss. In persons with dementia, language deficits may become more obvious. The development of late life depression can indicate an impending dementia. Many people can have both depression and dementia. In these people, treatment of depression may improve, but not entirely restore mental function and routines (Unwin, 2007).

Dementia versus Psychotic Disorder

Few studies have investigated the relationship between schizophrenia and dementia. Often found was that patients with young-onset dementia may be diagnosed with a psychotic illness years before the dementia diagnosis is made. These findings have implications for clinicians to further understand the neurobiology of psychotic illness, and the lack of assessments available to detect these differences (Velakoulis, 2009).

Research done by Raphael & Stievater & Ahrens, (1999), concluded that new-onset visual hallucinations in the geriatric patient could pose a perplexing differential diagnosis for the clinician. Diagnosis of functional psychiatric disturbances requires the identification of several psychological symptoms in conjunction with the visual hallucinations. Thus, diagnosis of schizophrenia or other psychotic disorders would require the presence of formal thought disorder,

bizarre delusions, bizarre or catatonic behavior, and/or negative symptoms in the context of functional decline. Often, there is a past psychiatric history or familial history of psychotic disorder (Raphael, et al., 1999).

Diagnosis of conversion disorder rests upon exclusion of physical causes and establishment of a temporal relationship of the visual hallucinations with psychological conflict or stress. Isolated visual hallucinations, in the absence of psychological symptoms, are not characteristic of psychiatric disorders. Visual hallucinations often suggest a broad range of organic conditions. For example, visual hallucinations in the context of an altered sensorium are suggestive of delirium; new-onset visual hallucinations are temporally related to initiation of dose increases in medications. Other conditions associated with the emergence of visual hallucinations include visual disturbances and sensory deprivation. In fact, visual hallucinations have been reported among patients with retinal degeneration, cataracts, and in those with lesions of the optic tracts (Raphael, et al., 1999).

Multiple neurologic disturbances can be associated with new-onset visual hallucinations in the elderly. The consultation-liaison psychiatrist can assist with the workup of possible etiologies, thereby preventing the mismanagement of patients presenting with visual hallucinations. Although rare, the emergence of new-onset visual hallucinations in the elderly, especially with symptoms suggesting mild dementia, should prompt a thorough evaluation (Velkoulis, et al., 2009).

Delirium versus Dementia

In a study by Han, et al., (2009), the diagnosis of delirium was missed in 76% of cases of elderly admitted to the emergency room. Delirium status was determined by using the Confusion Assessment Method for the intensive care unit (CAM-ICU). Using a delirium risk

score has the potential to improve screening efficiency in the elderly admitted. Those who could not be diagnosed were often admitted to psychiatric units.

Han, et al., (2009), noted that although the two disorders may be difficult to differentiate, there are symptoms that separate the illnesses. Delirium was noted to cause confusion, disorientation, and memory loss. It is different than dementia in that sufferers are not as alert, can be drowsy or semi-comatose or can be agitated and hallucinating. There is a sudden on-set versus a gradual development of symptoms over time. Delirium also includes altered or fluctuating level of consciousness. Research studies indicate the need for further development of assessments to determine dementia and rule-out other possible disorders.

Problems, such as pain, seizures, shortness of breath, urinary tract infections, and constipation, may cause delirium with rapidly worsening confusion in people who have dementia. If these problems are alleviated, people usually return to the level of functioning they had before the problem.

Substance Abuse Effects

While it is clear that drug and alcohol use, abuse, and dependence occur among the elderly, the extent is speculative at best. Due to the rising number of older adults, this may be a silent epidemic (Benshoff, Harrawood, & Koch, 2003). This population is often retired, less social, and drives less, resulting in fewer legal issues. However, virtually no data exist to quantify drug use, abuse, and dependence patterns. The sheer size of this population cohort will mean that the size of potential problems will grow (Ferreria & Weems, 2010). There is some suggestion that the baby-boom generation is more likely than earlier generations to have been exposed to drug and alcohol use and may drink or consume drugs at greater rates after age 65. If so, the need for treatment and rehabilitation services will multiply (Benshoff, et al., 2003).

However, few engage in illicit drug use and tend to turn to alcohol or prescription medications to cope with co-existing anxiety and depression. Many drugs may temporarily cause or worsen symptoms of dementia. Sleep aids, cold remedies, anti-anxiety drugs, and some antidepressants are common examples (Ferreria & Weems, 2010).

Alcohol and prescription drug misuse affects as many as 2-20% of older Americans. This age group experiences more than half of all reported adverse drug reactions leading to hospitalization. Because elderly tend to have decreased body mass the doses of prescription medication prescribed to them may be far too high and thus affect cognition. There is a significant link between decreased cognition and falls/injuries associated with drug and alcohol abuse (Ferreria & Weems, 2010).

According to Ferreria & Weems, (2010), alcohol can be considered either a tonic or a toxin in dose-dependent fashion. Active areas of research regarding the possible benefits of moderate alcohol consumption among aging individuals include: oxidative stress, dementia, psychosocial functioning, dietary contributions, and disease prevention. There is need for greater quantification and qualification of per capita consumption, consumption patterns (quantity, frequency, and stratified combinations), and types of alcohol consumed by older adults in the United States (Ferreria & Weems, 2010).

Intellectual Differences

Leibovivi, Ritchie, Ledesert, & Touchan, (1996), found that examination of changes over one year in a cohort of elderly persons with early signs of cognitive deterioration suggests the impact of education is complex. Results support that elderly persons with higher education have developed and are better able to continue developing explicit verbal cognitive skills in the face of deterioration in other areas. While education plays a significant role in the evolution of cognitive

deficit, its impact varies greatly according to the age of the subject at onset of the impairment and the type of cognitive function.

Hall, Lipton, Sliwinski, Katz, Derby, et al.; (2009), establish that late life cognitive activities influence cognitive reserve independently of education. The effect of early life education on cognitive reserve may be mediated by cognitive activity later in life. Alternatively, early life education may be a determinant of cognitive reserve, and individuals with more education may choose to participate in cognitive activities without influencing reserve. Future studies should examine the efficacy of increasing participation in cognitive activities to prevent or delay dementia.

Leibovivi, et al., (1996) state that premorbid intelligence levels or young adult IQ, seem to have little effect on the rate of cognitive deterioration in the younger elderly, but begin to exert an important protective role over the age of 75. It might be suggested therefore, that IQ level becomes crucial at the age where there is a significant drop in neuronal reserve capacity. With regard to the question of whether age or education level is the most significant determinant of cognitive change, Leibovivi, et al., (1996), suggests that over the time period examined, education may have a more important impact on changes in secondary memory and language functioning, but that elsewhere age is the more important factor.

Elderly persons with a high level of education appear to show greatest resistance to change but only on tests with a high-learned component which are tests of language and secondary memory. The results also suggest that on cognitive functions such as attention, implicit memory and visuospatial analysis, education level seems to make relatively little difference to the rate of change over time. These latter functions have been attributed to older nervous system structures (Leibovivi, et al., (1996).

The association between Down's syndrome and Alzheimer's disease is well established. Neuropathological changes of Alzheimer's disease are present in the brains of people with Down's syndrome by the age of 40 but a clinical diagnosis of dementia of Alzheimer type is not inevitable. Prevalence rates for dementia have been reported to be as high as 50-75% by the age of 65. Another contributing factor is improved health care/longer lifespan (Torr & Davis, 2010).

Less attention has been paid to dementia in people with intellectual disabilities not due to Down's syndrome. The cumulative incidence of dementia was found to be not significantly different to that of Alzheimer's disease in the general population. This contrasts with other findings that reported prevalence rates of dementia in elderly people with intellectual disability that were higher than the general population. Diagnosis of dementia in people with intellectual disability is becoming more sophisticated and rigorous. Clinical assessment combined with batteries of cognitive tests and compliance with acceptable diagnostic criteria such as ICD-10 or the recommendations of the American Association of Mental Retardation (AAMR)/IASSID Task Force is becoming a new standard in research.

The Cambridge Examination for Mental Disorders of Older People with Down's syndrome and Others with Intellectual Disabilities (CAMDEX-DS) is a widely used tool for dementia assessments in the general population. The CAMDEX-DS, which includes an informant interview and a participant cognitive assessment, is the only tool of its kind that is available to clinicians providing a comprehensive, structured, standardized clinical method of assessing people with intellectual disability for dementia (Torr & Davis, 2010).

Torr & Davis, (2010), state that due to the high rates of comorbidity in adults with intellectual disability; making a distinctive diagnosis of dementia may be difficult. Medical

conditions, psychiatric disorders, mobility and sensory impairments may all cause functional decline that may be mistaken for or coincide with dementia.

Occupational Therapy Models and Assessments

Studies have shown the importance of engaging in meaningful occupation to achieve and maintain good mental and physical health (Mahaffey, 2009). Using an organized reasoning process can structure decision-making during occupational therapy interventions within a framework. Mahaffrey (2009) states that using a theoretical model such as MOHO as well as an additional model that is compatible, is appropriate for older adults. This process can direct intervention toward meaningful and fulfilling occupations

Conceptual models provide the practitioner with a framework for thinking through how the various aspects of the domains of occupational therapy interact and influence, particularly for prioritizing therapy interventions. Particularly for occupational therapists practicing in mental health settings, theoretical perspectives regarding occupation, the nature of psychiatric disorders, and recovery assist in analysis and interpretation of evaluation and assessment findings.

Theoretical perspectives are useful because they bring unique and meaningful professional knowledge about occupations to clients (Cara & MacRae, 2005).

Cara and MacRae (2005) state the evaluation process involves a series of steps. 1) Gathering or synthesizing information about the client and then determining barriers and strengths that support performance. 2) Observation of client's actions and listening to words as an activity is performed. 3) Selecting assessments as needed, to further measure essential performance areas. 4) Interpreting the assessment data. 5) Developing and refining a hypothesis about the client's strengths, weaknesses, contexts and occupations to guide them.

Diagnosis may dictate the evaluation process and assessments used. For those with schizophrenia in the acute stages, it may be difficult to elicit information in an assessment that is client-centered, and demands broad and abstract thinking that may be impaired by positive symptoms such as hallucinations and delusions. This is also true for clients with confusion, memory impairment, or agitation. More structured assessments, with specific simple questions that elicit information or task assessments may be in order (Cara & MacRae, 2005).

Other considerations in selecting the best instruments include having the appropriate level of training to administer the assessment according to its standard protocol and eliciting the person's cooperation and best performance by ensuring the proper assessment environment. Cultural differences need to be considered, as well as the age of the client. The examiner should consider that people may not have experience with tests, understand the importance of tests, or tests may not be meaningful to them. Language differences may be obvious barriers; tests that are translated may lose much of their dependability or reliability. Subject privacy and confidentiality is essential as the client has a right to privacy and to be informed of the assessment and its purpose, and of the intended use of the assessment. Assessments should not be used in isolation. A broad spectrum of information that gives an in-depth view of the client is a necessity (Cara & MacRae, 2005).

Often in mental health settings, therapists complain of not having enough time to administer assessments (Cara & MacRae, 2005). However, many assessments have been designed so information needed can be obtained in the quickest time without obtaining useless information. In addition, creative use of assessments can be implemented so that they are used in group settings or given as an intervention.

Evaluation is a planned and ongoing process that requires the occupational therapists to have a comprehensive understanding of occupation. Via the skilled selection and use of assessment tools, evaluation findings guide the development of interventions that will promote occupational engagement. The following provides a brief overview of models/assessments most commonly used by occupational therapists in a variety of health care settings (Cara & MacRae, 2005).

The Model of Human Occupation (MOHO)

This model has three essential components. These include: 1) volition, which refers to the process by which persons are motivated toward and choose what they do, 2) habituation analyzes the person's habits and routines, and 3) performance capacity analyzes the person's mental, physical and sensory capabilities. These three elements and environmental conditions always resonate together, creating conditions out of which a person's thoughts, feelings and behavior emerge. The model is useful in that it can be applied to both able and less able individuals and offers reliable and valid assessment resources an occupational therapist can use with clients (Kielhofner, 2007).

Lee, Taylor, Kielhofner, and Fischer, G., (2008), surveyed 1,000 occupational therapists to determine what theories they used in their practice. More than 80% of respondents indicated that they used MOHO in their practice at least some of the time. Therapists reported that MOHO supports holistic, occupation-focused, client-centered, and evidence-based practice. They reported finding MOHO concepts useful for treatment planning and intervention effects of treatment.

The Cognitive Disabilities Model

Claudia Allen's Cognitive Disabilities Model addresses the client's unidentified information processing components, which may be underlying their functional performance pertaining to ADLs and IADLs. This model assists an occupational therapist in assessment and treatment planning by assessing both cognitive and functional impairments. The cognitive components considered within this model are attention, praxis, and memory (Allen, Blue & Earhart, 1998). Incorporated within Allen's Cognitive Disabilities Model is a hierarchical approach that consists of six cognitive levels used to determine the individuals' level of cognitive function/ability. The hierarchy of cognitive levels consists of automatic, postural, manual, goal directed, exploratory and planned actions. Allen's Cognitive Disabilities Model provides information regarding assessments, interventions for individuals with dementia, and suggestions for educating caregivers about the level of assistance needed. The model includes screening tools, craft activities used to determine cognitive change, and ADLs to implement for home programming. Therefore, appropriate treatment is provided based on a person's individual cognitive level in order to keep functioning at an optimum for a longer duration of time and to plan for appropriate time of discharge (Allen, 1998).

The Canadian Model of Occupational Performance (CMOP)

Spirituality is considered to be at the core of a person; it is environmentally influenced, and gives meaning to occupation (Law, Stanton, Polatajko, Baptiste, Thompson, et al., 1997). There are two main areas of focus in this model: Occupational performance i.e. the result of the interaction between a person, their environment and occupation and the importance of client-centered practice i.e. the collaboration and partnership formed in the therapeutic process. The

CMOP promotes the practitioner to involve the client in decision-making, advocate for the client, and recognize that the client is experienced and knowledgeable (Law et al., 1997).

The theoretical basis of the CMOP focuses on the dynamic relationship between the person, (denoting spirituality, cognition, affect, and physical being), and occupation, (self-care, leisure and productivity), and the environment (physical, institutional, cultural, social settings) The person is connected to the environment, and occupation occurs because of the interaction between the person and their environment.

The Model of Occupational Adaptation (OA)

OA emphasizes the creation of a therapeutic climate, the use of occupational activity, and the importance of relative mastery (Schultz & Schkade, 1992). Practice based on occupational adaptation differs from treatment that focuses on acquisition of functional skills because the practice model directs occupational therapy interventions toward the patient's internal processes and how such processes are facilitated to improve occupational functioning. The occupational adaptation practice model is holistic. The patient's occupational environments (as influenced by physical, social, and cultural properties) are as important as the patient's sensorimotor, cognitive, and psychosocial functioning and the patient's experience of personal limitations and potential is validated. The integration of these concepts drives the treatment process Occupational challenges stimulate change or adaptation in attitudes or actions that lead to competence. Competence, or relative mastery, involves three properties: efficiency (the use of time, energy and resources), effectiveness (the degree to which one achieves a desired result), and satisfaction (the extent to which the outcome was not only personally satisfying but also well regarded) (Schultz & Schkade, 1992).

The Ecological Model of Occupation

Dunn, Brown, & Youngstrom, (2003), state that the Ecology of Model of Occupation serves as a framework for considering the effect of context. Context is described as a lens from which persons view their world. The interrelationship of person and context determines which tasks fall within the person's performance range. The Ecology of Human Performance framework provides guidelines for encompassing context in occupational therapy theory, practice, and research. This framework offers five strategies for addressing individual needs: (1) establish/restore the person's ability to perform in context; (2) modify/adapt contextual features and task demands to support performance in context; (3) alter the context to better match the individual's abilities; (4) prevent problems by anticipating difficulties; and (5) create circumstances that promote more typical or complex performances in context. This model also recommends observation of different contexts such as group sessions, in the school, or at home.

Evaluation Process and Model-based Assessment

The occupational profile is intended to provide an understanding of the client's occupational history, experiences, patterns of daily living, interests, values, and needs (Cara & MacRae, 2005). Typically the information gathered for the profile is obtained through interviews and collection of information based on chosen model. The most commonly interviews used in occupational therapy are semi-structured. Information can also be gathered using assessments that are based on self-report or via observation-based performance. Task based assessments can give actual scores or levels of function and ability (Cara & MacRae, 2005). The following are assessments are examples that could be used with adults experiencing psychiatric or cognitive dysfunction. It is not a comprehensive list. See Appendix E for additional assessments available for use.

Model of Human Occupation Screening Tool (MOHOST)

Based on MOHO, the MOHOST addresses client's motivation for occupation, pattern of occupation, communication, process and motor skills, and environmental factors. The MOHOST was designed to be used to document progress towards occupational therapy intervention goals as well as to screen for occupational therapy services. It was designed to be used in acute care settings and in those circumstances where client-centered practice is most challenged. It is quick and simple to complete and can be used at regular intervals to document baseline assessment and progress thereafter. The MOHOST seeks to objectify the information a therapist gathers while screening for occupational therapy services. Data is gathered through observation, discussion with the patient and patient's family members, or through team member communication. There is an extensive rating criterion for each item. This is significant, as often, patients have a great deal of difficulty imparting accurate information upon admission. Finally, the MOHOST uses language that enables therapist to communicate findings clearly with clients and families (Parkinson, Forsyth, & Kielhofner, 2006).

Kramer, Kielhofner, Lee, and Ashpole, (2009), examined the utility of the MOHOST as a valid outcomes assessment. Admission and discharge ratings from an inpatient rehabilitation unit demonstrated significant increase in MOHOST measures from admission to discharge. The study findings indicate that with minimal training, occupational therapists can use this assessment with a consistent and interchangeable manner to measure client changes in occupation. The MOHOST can be used over time to detect participation after inpatient rehabilitation and compliment information provided by more impairment-focused assessments. Kramer, et al., (2009), also suggest that future research should explore how MOHOST can be used as an outcome measure in settings such as outpatient, acute care, and mental health settings.

Research should explore the type of rehabilitation intervention utilized and the usage in combination with other outcome measures.

Assessment of Communication and Interaction Skills (ACIS)

The ACIS is an observational assessment based on MOHO that gathers data on communication and interaction skills (Kielhofner, 2007). Three domains, physicality, information exchange, and relations, are used to describe different aspects of communication and interaction. The ACIS gathers data on skill as it is exhibited during performance in an occupational form and/or within a social group. This assessment is used with adults and can take as little as 20 minutes to administer.

By providing a structured way to view communication and interaction, occupational therapists can use the ACIS with clients to identify areas of strength and habits interfering with effective interaction. Specific communication and interaction skills, such as gesturing, focusing, and respecting, can be practiced to facilitate participation in meaningful occupations and valued social groups (Kielhofner, 2007).

Assessment of Motor and Process Skills (AMPS)

The Assessment of Motor and Process Skills (AMPS) offers a systematic way of examining the transaction between the person, the ADL task, and the environment. It also can evaluate the quality of a person's ADL task performance, measured at the level of activity and participation and not underlying body functions, person factors, or environmental factors that may limit ADL task performance (Fisher, 2006).

The AMPS is an observational assessment that is used to measure the quality of a person's activities of daily living (ADL). The quality of the person's ADL performance is assessed by rating the effort, efficiency, safety, and independence of 16 ADL motor and 20 ADL

process skill items, while the person is doing chosen, familiar, and life-relevant ADL tasks.

There are more than 100 standardized ADL tasks. Administration and scoring of the AMPS takes 30-60 minutes. Therapists must be trained prior to usage, as accurate scoring is vital. Many studies support the validity reliability, internal consistency, and ability of scores to remain stable when scored by different raters (Fischer, 2006).

Within the context of performing chosen, familiar, and life-relevant ADL tasks: ADL motor skills are test items used to rate the level of skill observed when one moves oneself or task object. ADL process skills are test items used to rate the level of skill observed when one (a) selects, interacts with, and uses tools and materials, (b) carries out individual actions and steps, and (c) modifies performance when problems are encountered (Fischer, 2006).

Robinson and Fischer (1999) studied the ability of the AMPS and the Cognitive Component of the Cambridge Examination for the Mental Status in the Elderly (CAMCOG) in two groups of elderly people; those who were cognitively well, and those with dementia. The results showed that the AMPS process skill scale was able to identify all subjects with dementia, whereas the CAMCOG failed to detect 20% of these subjects. Also determined was that the AMPS was far more effective in detecting dementia than those tests utilizing more self report. The Kholmans Evaluation of Living Skills (KELS), as actual observation of task performance is more objective.

Doble (1999) measured ADL functioning using the AMPS and the Older Americans Resources and Services (OARS) and concluded that concordance with a clinician's ratings of subjects' level of functioning was achieved for 77% on their AMPS ADL process ability measures and for 54% based on their family informant's OARS ADL ratings.

The Allen's Cognitive Level Screen (ACLS)

Based on Allen's Cognitive Disabilities Model, the ACLS was developed to measure the changes in ability to function and facilitate the continuum of care, which means evaluation and treatment occur simultaneously. The two main areas of focus are memory and attention (Allen, 1998). An estimation of the individual's ability is obtained by engaging the client in the completion of a leather-lacing task. At each higher cognitive level, the sensory cues used in performance are more complex resulting in behavior that is more organized. Scores are arranged on a hierarchy of six cognitive levels.

Also included in the model are 52 modes, which provide more specific cognitive function per level. This screen is quickly administered and can build rapport with the client. There is also the belief that performance is driven by a person's best ability to function and the goals and environment should reflect this. Once the individual has completed the leather-lacing task, the occupational therapist determines the appropriate cognitive level based on the person's current cognitive ability. Utilizing this screening tool enables the occupational therapist to assess and reassess, therefore determining any cognitive decline or improvement. Completion of the three tasks requires that the person attend to understand and use sensory and motor cues from the material objects (leather, lace, and needles), the administrator's verbal and demonstrated instructions and cues, and feedback from motor actions while making the stitches. The scores obtained are interpreted using the Allen Cognitive Scale of levels and modes of performance. The screen is available in two forms: the standard Allen Cognitive Level Screen (ACLS) and a larger form (LACLS) for persons with vision or hand function problems (Allen, Austin, David, Earhart, & Riska-Williams, 2007). Research has demonstrated that the use of an enlarged ACL (LACL) can be effectively utilized as a screening tool for cognitive dysfunction in elderly

persons (aged 75 or older) who may not be able to see or manipulate the original and smaller version (Kehrberg, et al., 1993).

Allen, Reyner, and Earhart, (2005), state the purpose of the ACL is used to obtain a quick measure of global cognitive processing capacities, learning potential, and performance abilities and to detect unrecognized or suspected problems related to functional cognition. The construct being measured: functional cognition encompasses functional performance abilities and global cognitive processing capacities. It incorporates the complex, dynamic interplay between 1) a person's information processing abilities, occupational performance skills, values and interests, 2) the increasingly complex motor, perceptual and cognitive activity demands of three graded visual-motor tasks and 3) feedback from performance of these tasks in context (Allen, et al., 2007).

The strengths and problems that may be identified must be verified and supplemented with other assessments, e.g. Allen Diagnostic Module-2nd edition and skilled observations grounded in the cognitive disabilities model and theory. This screen is not intended for use in isolation of other assessments or as a diagnostic tool. The information obtained is used to guide occupation-based interventions at the level of activity demands, performance skills, and occupations based on the Occupational Therapy Practice Framework. This screening tool was originally developed for use with adults with psychiatric disorders and for adults with dementia. It can be utilized for those who have experienced a traumatic brain injury or a cerebral vascular accident (Allen, et al., 2007).

Secrest, Wood, & Tapp (2000), also studied the ACL and compared it to the Wisconsin Card Sorting Test (WCST) and the Routine Task Inventory (RTI). The results support the use of

the ACL as a quick measure of a person's cognitive and functional abilities. The ACL was found to be sensitive to domain of functioning and is predictive of task performance.

Vellignanab, Thomasab, Mahurina, Millerab, Dassoniab, & et al., 1998) examined the concurrent and predictive validity of the ACL in medicated patients with schizophrenia who received the ACL at discharge from a state psychiatric facility. Positive correlations were found between the ACL and concurrent measures of adaptive and cognitive function. Analysis revealed that the majority of the variance in ACL scores was predicted by neuropsychological test scores assessing higher level cognitive processes, such as visual organization and manipulation of information in working memory. Results revealed positive relationships between the ACL obtained at discharge and community functioning at follow-up.

The Allen Diagnostic Module (ADM)

Based on the Cognitive Disabilities Model, the Allen Diagnostic Module (ADM) is designed to verify the ACLS score (Allen, et al., 1998). Thirty-five craft projects have been standardized to control the new information presented to individuals who tend to deny any functional limitations. The projects are selected to match the ACLS score and must have meaning to the individual. Crafts are selected because they can be standardized to present new information that is meaningful to the disabled most of the time. The ADM contains extensive rating criteria, which are sensitive to small degrees of change in ability to function that can be objectively monitored. Ratings can be done while observing individuals or groups of people; recommendations for group size are provided for each activity. The probes identified for each mode and activity are a means of evaluating an expected improvement in ability to function (Allen, et al., 1998).

The Clock Draw Test

Although not specifically tied to an occupational therapy model, the Clock Draw Test (CDT) is another valuable tool in determining the level of dementia an individual may have. Directions are simple and it is an evaluation that can be administered quickly, however, a skilled therapist must interpret the results. Cognitively impaired persons typically do not draw a perfect clock. A score on the CDT of 4 approximates a MMSE of near 30 or mild cognitive impairment. A score of 2 on the CDT puts patient in the moderate impairment of MMSE scores of high teens. A score of 1 reflects moderate-to-severe scores on MMSE (low teens) (Unwin, 2007). Abnormal results suggest need for further assessment and most often, this assessment is used in conjunction with other assessments such as the CPT or the AMPS.

Juby, Tench, and Baker (2002) report that for patients referred for geriatric assessment that have a normal MMSE score; a clock-drawing test is a moderately sensitive and specific adjunct for detecting executive cognitive dysfunction.

The Cognitive Performance Test (CPT)

The Cognitive Performance Test (CPT) is a standardized, performance-based assessment instrument, originally designed for the objective evaluation of function in Alzheimer's disease (Burns, 2002). This instrument, based on Allen Cognitive Disability Theory, uses seven common activities of daily living (ADL) tasks, for which the information-processing requirements can be systematically varied to assess ordinal levels of functional capacity. The current seven tasks are titled: dress, shop, toast, phone, wash, travel, and medbox. For each task, standard equipment, set-up and methods of administration are required. A gross level score is determined for each of the seven tasks; these scores are then added for a total score and averaged to determine the functional level and mode. The CPT was initially developed as a research

instrument, to be used in a longitudinal study of functional change and for serial assessment to detect change in response to a pharmacologic or environmental intervention. It currently serves as the functional assessment for numerous inpatient settings and has proven to be useful in the assessment of patients, with a variety of diagnoses, to predict and explain capabilities to function in various contexts (Burns, 2002).

Kehrberg, Kuskowski, Mortimer, and Schoberg, (1993), found concurrent validity with the Mini Mental State Exam (MMSE) and the CPT. Other researchers have found that the presence of an abnormal MMSE score alerts clinicians to the possibility of cognitive impairment and that further assessment (such as the CPT) is required.

The Canadian Occupational Performance Measure (COPM)

The CPOM (Law, Baptiste, Polatajko, (2005) is an individualized, client-centered measure designed for use by occupational therapists to detect change in a client's self-perception of occupational performance over time. The COPM is based on the Canadian model of occupational performance and is designed for use with clients with a variety of disabilities and across all developmental stages.

The COPM is an associated outcome measure used to assist the OT and service user in identifying issues in self-care, productivity and leisure. It considers the client the expert on his/her own situation, aims to facilitate clients' identification of priorities, and guides the therapy process. This assessment has its use with people with mild learning disabilities i.e. often living at home with their parents with the view to moving to a more independent setting, or those in supported or independent living situations, who wish to build on a particular aspect of their life. It does require the person to have a high level of understanding and insight into their situation and therefore can be limited in its use. However, if used appropriately, this measure can be an

excellent tool for working alongside the individual to establish their own goals and measure their own outcomes (Law, et al., 1997). Caregivers also have the possibility of participating or assisting with this interview.

The COPM is a standardized and there are specific instructions and methods for administering and scoring the test. It is designed as an outcome measure, with a semi-structured interview format and structured scoring method. Change scores between assessment and reassessment using the COPM are the most meaningful scores derived from this assessment. Originally published in 1991, with the latest fourth edition released in May 2005, the COPM has been used in more than 35 countries and has been translated into over 20 languages. The COPM has undergone extensive research in many different occupational therapy practice situations. The majority of clients and therapists indicate that the measure is easy to administer, taking 20-40 minutes.

A recent review of the published literature found 98 papers that focused on the COPM. Psychometric properties including clinical utility, validity, and responsiveness were studied in much of the research. The results demonstrated support for the reliability and validity of the COPM. Clinical utility was examined through a number of different studies and results again demonstrated support for the use of the COPM with a wide variety of clients in many different settings (Law, et al., 1997).

The Mini Mental State Exam (MMSE)

The MMSE is a quick tool for early detection of dementia and entails a simple questionnaire to assess individual's responses, along with providing an indication of cognitive impairments (Folstein, Folstein, & McHugh, 1975). The MMSE is composed of three specific cognitive skills including orientation, attention, and memory. Orientation refers to person, place,

and time. Memory is assessed by the identification of three specific objects previously displayed. Attention and calculation are assessed regarding serial sevens or spelling “world” backwards. Evaluation of language skills are done by naming objects, phrase repetition, following a three step oral command and one step written command, writing a sentence, and copying a design. Although the MMSE is an efficient assessment tool, it relies heavily on verbal skills and may not detect minor cognitive impairments. In addition, it may be subject to level of educational attainment, language barriers, and vision/hearing requirements. The MMSE can be repeated over time, which is a beneficial way of tracking cognitive progression or regression (Folstein, et al., 1975).

The MMSE can be used in determining adults at higher risk for falls. Gleason, Gangnon, Fischer, and Mahoney, (2009), report the rate of falls increased with each unit decrease in an MMSE score down to at least 22, suggesting that subtle cognitive deficits reflected in MMSE scores can influence risk of falls. Throughout the research, the MMSE was often used in conjunction of other assessments and often used as a comparative. Reed, Jagust, and Seab, (1989), found that MMSE scores explained approximately one-third of the variance in both instrumental ADL’s and physical ADL’s and in the whole sample, the MMSE and ADL’s were independent of one another in the less demented half of the sample. This suggests cognitive losses and functional impairments are two distinct aspects of dementia severity and should be assessed separately, thus the MMSE will be used in conjunction with additional tests as described in this chapter.

Conclusion

This scholarly project seeks to create a specialized occupational therapy process for persons with potential symptoms of dementia and or other mental disorders. Throughout the literature review, it is apparent that symptoms of dementia are easily confused or misdiagnosed with other mental health disorders. Clients are often initially seen on the acute psychiatric unit with minimal history or no prior diagnosis. Occupational therapists have the skills to assist in proper diagnosis, treatment, and referral suggestions for this population; however, there is a need for specialized evaluations that target the population at risk for a developing dementia.

CHAPTER III

METHODOLOGY

The process used to design this scholarly project began with an extensive literature review to determine the need for specialized occupational therapy evaluations differentiating a person with a mental illness and dementia. Information accessed was used to direct the development of a specialized occupational therapy-evaluation process. The literature review offered information that supported the need for a specialized evaluation process in the targeted population. It also identified effective measures and approaches to support the evaluation process.

The articles were found through PubMed, EBSCOhost, psychINFO, Scopus, OT search, and CINAHL databases from the Harley French Library at the University of North Dakota School of Medicine website. Also used via on-line was Google Scholar. Much explanatory literature of dementia and mental illness was identified through credible textbooks. The keywords used included; mental illness, psychosis, depression, dementia, occupational therapy, assessments, evaluations, and differential diagnosis. Inclusion criteria for the articles included current assessments used by occupational therapists, those utilized by other health care professionals, and other issues that could be directly related to admissions to an acute-care psychiatric unit.

Government websites were accessed to obtain data and statistics on elderly with mental illness and/or possible dementia. These included the National Alliance of Mental Illness, and the Agency for Health Care Policy and Research. Overall, there was limited occupational therapy literature on assessments that differentiate mental illness versus dementia. The majority of the findings were obtained from the fields of psychology and neurology. Research revealed there is

a need for further studies in this area. Based on the findings of the literature review, it is apparent that symptoms of dementia are easily confused or misdiagnosed with other mental health disorders. Clients are often initially seen on the acute psychiatric unit with minimal history or no prior diagnosis. Occupational therapists have the skills to assist in proper diagnosis, treatment, and referral suggestions for this population; however, there is a need for specialized evaluations that target the population at risk for a developing dementia.

After completion of the literature review, multiple occupational therapy theories and models were considered and evaluated to determine the appropriate fit for the project. In order to develop a comprehensive and effective evaluation process, specific models that can provide a foundation for implementing appropriate assessments and tasks to utilize when assisting individuals who may potentially have dementia were viewed as a necessity. There are a variety of models that emphasize the importance of cognition and wellness. Among those models of particular relevance to this project are Claudia Allen's Cognitive Disability Model and Gary Kielhofner's, The Model of Human Occupation.

The Cognitive Disabilities Model was selected because it addresses the client's unidentified information processing components, which may be underlying their functional performance pertaining to ADLs and instrumental activities of daily living (IADL

Allen's Cognitive Disabilities Model also provides information regarding assessments, interventions for individuals with dementia, and suggestions for educating caregivers about the level of assistance needed. It provides a structure, which makes it easier to explain to other professions and to caregivers the level of assistance a person may need.

The Model of Human Occupation (MOHO) was selected for its ability to explain how occupation is motivated, patterned, and performed. Persons with a chronic mental illness often

have difficulty with cognitive function, which directly impacts each of these phenomena. MOHO supports holistic, occupation-focused, client-centered, and evidence-based practice. MOHO is diverse as it is intended for use with any person experiencing problems in their occupational life and is designed to be applicable across the life span. This model guides the OT in assisting the individual in determining whether occupations fit with the occupational roles and expectations of the cognitive status, physical, social environment, and provide the individual greater choices and sense of control in the process.

Following the literature review and identification of theoretical models, development of this scholarly product was initiated. The project focused on identifying symptoms and risk factors of adults of a particular set of criterion who are admitted to an inpatient psychiatric hospital. A specialized occupational therapy evaluation process was developed for this population of persons presenting with potential symptoms of dementia or other mental disorders. This scholarly project presents the most accurate assessments an occupational therapist can use to aid in the determination of a dementia type diagnosis versus a type of mental illness. The findings from the literature review (Chapter II) guided development of an evaluation process suitable for use in a hospital or acute care setting. The information obtained from the use of the initial evaluations will ideally provide a description of appropriate future cognitive assessments if indicated, assistance with accurate diagnosis, a guide for appropriate referral or living arrangement, and treatment strategies and techniques for future caregivers.

In summary, the methodology for developing a new evaluation protocol for adults admitted to an acute psychiatric hospital included a literature review, identification of the theoretical models, and development of the product based on the findings. Information from these sources was used to guide the creation of the occupational therapy evaluation process in order to meet the needs of adults with complex diagnoses.

Chapter 4

PRODUCT

The purpose of this product is to provide those persons admitted to a hospital setting with an unclear diagnosis the opportunity to be efficiently and accurately diagnosed, thus allowing proper treatment, medications, and placement, if needed. Through the evaluation process, individuals will engage in a balance of evaluative activities that may improve physical, social, emotional, spiritual, occupational, and cognitive focus areas. These evaluations are primarily based on Allen's Cognitive Model and The Model of Human Occupation. The evaluation process encompasses a holistic and client-centered approach to treatment. The desired occupational performance outcomes of this evaluation process include the following:

- Early identification of symptoms and diagnosis
- Understanding of the person's ability to function through skilled and formal observations
- Selection of the most appropriate treatment methods and goals in order to match cognitive abilities
- Monitor and observe task performance for maintenance of skill level and safety
- Determination of appropriate placement/care

This evaluation process will be utilized by all practicing occupational therapist on the inpatient unit. This will include appropriate training in the use of all assessments utilized. The specified evaluation process will be used with those individuals meeting the following specified criterion: Age (65 years or more), family history, prior medical history and work-up results, head injury or falls, and prior psychiatric admissions or diagnosis as described by Unwin, 2007.

The time required should be equal to that of the standard evaluation already utilized on the unit. The time frame ranges from thirty minutes to one hour, based on client ability. Also, additional tools may be added such as: reading glasses or magnifiers, hearing amplifier, larger-print questionnaires, Large Allen Cognitive Level Screen, adaptive scissors and/or writing utensils. These adaptive are essential adjuncts to the evaluation kit/process and accommodate age-related vision, hearing, visual-perceptual, and fine motor skill changes experienced by elderly persons. Also noted by Boucart, Desprez, Hladiuk & Desmettre, (2008) is that spatial properties that facilitate image segmentation (e.g. color and reduced crowding) help object perception in people with low vision.

Setting:

This evaluation process was designed for use by occupational therapists serving the population of the North Central Health Care (NCHC) in Wausau, WI. There has been an increase in elderly patients admitted that demonstrate decreased vision, auditory, motor, or visual-perceptual difficulties. Evaluation of these concerns is an obligation of the experienced clinician. Much discussion amongst professionals on the treatment team has centered on the need for more effective assessment of a developing dementia versus a mental illness in an elderly client.

An in-service will be provided to other professional staff employed on this particular department/unit. The in-service will entail an orientation to the evaluative process as envisioned by the therapists. Included are an outline of the scoring process and what the score indicates, and purpose of the evaluation

Cognitive Models and Assessments

In order to develop a comprehensive and effective evaluation process, specific occupational therapy models can provide a foundation for implementing appropriate assessments and tasks to utilize when assisting individuals who may potentially have dementia. There are a variety of models that emphasize the importance of cognition and wellness. Among those models of importance are those developed by Claudia Allen, Claudia Allen's Cognitive Disability Model and Gary Kielhofner, The Model of Human Occupation.

Cognitive Disabilities Model

Claudia Allen's Cognitive Disabilities Model addresses the client's unidentified information processing components, which may be underlying their functional performance pertaining to ADLs and instrumental activities of daily living (IADL). This model assists an occupational therapist in assessment and treatment planning by assessing both cognitive and functional impairments. The cognitive components considered within this model are attention, praxis, and memory (Allen, 1998).

Incorporated within Allen's Cognitive Disabilities Model is a hierarchical approach, which consists of six cognitive levels used to determine the individuals' level of cognitive function/ability. The hierarchy of cognitive levels consists of automatic, postural, manual, goal directed, exploratory and planned actions. Level one is automatic actions that are protective reflexes and survival in nature. Level two is postural actions which include: sit, stand, walk, range of motion and push by overcoming gravity during movements. Level three is manual actions of handling objects by repetitiveness and following verbal cues to move on to the next step within an activity or tasks. Level four is goal directed actions; the individual can move to the next step without cues and can follow directions. Self-cares can be functionally completed;

however some level of assist/cueing may be needed. Level five describes independent learning through exploration. The individual is able to talk and work simultaneously. Personalities can be impulsive and lack good judgment at this level. Level six consists of planned actions and abstract thinking processes. Within the six cognitive levels there are 52 modes, each level contains five modes in two point increments. Each mode defines more specific physical and/or cognitive action capability of an individual (Allen, Blue & Earhart, 1992).

Allen's Cognitive Disabilities Model provides information regarding assessments, interventions for individuals with dementia, and suggestions for educating caregivers about the level of assistance needed. The model includes screening tools, craft activities used to determine cognitive change, and suggestions related to activities of daily living (ADLs) to implement for home programming. Therefore, appropriate treatment can be provided based on a person's individual cognitive level in order to extend optimum functioning for a longer duration (Allen, 1998). One example of a screening tool is the Allens' Cognitive Level screen (ACL), which is a quick screening tool using a leather-lacing task providing sensory cues and based on the six cognitive ordinal levels. Once the individual has completed the leather-lacing task, the occupational therapist determines the appropriate cognitive level based on the person's current cognitive ability. Utilizing this screening tool enables the occupational therapist to assess and reassess, therefore determining any cognitive decline or improvement.

The Model of Human Occupation

The Model of Human Occupation (MOHO) seeks to explain how occupation is motivated, patterned, and performed. Persons with a chronic mental illness often have difficulty with cognitive function, which directly impacts each of these phenomena. MOHO is an ideal model in settings where individuals have difficulty with maladaptive or underdeveloped routines or habits. This model provides a focus on this area. It is also client centered; through finding out

people's values and interests, one can hopefully offer choices in the therapy realm (Kielhofner, 2007). MOHO is diverse as it is intended for use with any person experiencing problems in their occupational life and is designed to be applicable across the life span. Within MOHO, people are conceptualized as being made up of three interrelated components: volition, habituation, and performance capacity.

Volition refers to motivation for occupation. Thought and mood disorders often disrupt this system and interfere with rational choices (Kielhofner, 2007). This is an excellent opportunity for OT to intervene by facilitating groups that address activities and occupational choices. As patients become more reality-based and stable, interventions could focus on personal causation, values and interests. Renewed occupational roles or mastery over a new role can lead to enjoyment, improved self-esteem, and greater independence. Critical occupational issues could be addressed but would also allow the OT to focus on meaningful occupation.

Habituation refers to the process by which occupations are organized into patterns or routines (Kielhofner, 2007). As previously mentioned, this is imperative to reintegration into a lifestyle that promotes wellness. With the use of this model, OT can not only facilitate groups that focus on prior patterns or routines that were dysfunctional, but work to establish new habits, routines, and roles. As a patient becomes more stable, insight into these issues can be fostered. In addition, structure and routine may initially be established via the therapist/staff and gradually integrated by the patient.

Performance Capacity refers to the physical and mental abilities that underlie skilled occupational performance (Kielhofner, 2007). Co-existing medical conditions are investigated and addressed on an individual basis. Referrals may be made to a psychologist or neurologist for additional testing. Rehabilitation services such as physical, occupational, and speech therapies

are utilized in conjunction with mental health programming if needed. After detoxification, patients are connected with alcohol and other drug assessment programming and counseling services.

MOHO also emphasizes that to understand human occupation, we must also understand the physical and social environments in which it takes place. Therefore, this model aims to understand occupation and problems of occupation that occur in terms of its primary concepts of volition, habituation, and performance capacity within the environmental context (Kielhofner, 2007). OT can focus less on interventions that target the person as the problem. This would encourage more of a stigma-free and supportive environment that may allow individuals to gain more confidence and feel more freedom of choice to choose and develop those occupations that have meaning and value to them. Patients may be able to move beyond playing a more dependent, passive role in their treatment and move toward seeing their own potential and achievement of meaningful goals. OT may work as a guide in helping patients to create a plan to pursue engagement in healthier choices/lifestyle. OT also may play a significant role in assisting the patient in determining whether occupations fit with the occupational roles and expectations of the person's cognitive status, physical and social environment.

In summary, this model allows for occupation-based interventions that give the patient more choice and sense of control of their treatment. Ultimately, a client-centered and occupation-based practice would arise with this model as a guide.

Initial Assessments

The occupational therapist evaluates the client using skilled observation and formal assessments to identify how performances of daily living tasks are affected by cognitive

impairments. In an acute care setting, the initial evaluation is performed in response to a physician's order and as soon as possible. Specific assessments to assess perception and cognition include:

- The Model of Human Occupation Screening Tool (MOHOST)
- The Assessment of Communication and Interaction Skills (ACIS)
- Mini Mental State Examination (MMSE)
- Allen's Cognitive Level Screen (ACLS)
- Clock Draw Test
- The Modified Interest Checklist

After the occupational therapist interprets the data accumulated from these initial evaluations, further assessments that are more comprehensive may be recommended and completed as a later date. These may include:

- The Assessment of Motor and Process Skills (AMPS)
- The Cognitive Performance Test (CPT)
- The Allen Diagnostic Module (ADM)

A description of the assessments listed above follows. See Appendix D for Case Illustration of evaluation use.

The Model of Human Occupation Screening Tool (MOHOST)

The MOHOST (Model of Human Occupation Clearinghouse Website, 2002) was designed to be used in acute care settings and in those circumstances where client-centered practice is most challenged, which is ideal for this setting. It is quick and simple to complete and can be used at regular intervals to document baseline assessment and progress thereafter. It draws together the client's perspectives as well as team knowledge and understanding of the client to develop a comprehensive picture of client's occupational functioning that supports planning, intervention, and evaluation with an occupational focus. The MOHOST is an assessment that addresses the MOHO concepts (volition, habituation, skills, and environment), allowing the therapist to gain an overview of the client's occupational functioning. The MOHOST addresses client's motivation for occupation, pattern of occupation, communication, process, and motor skills, and environment.

The MOHOST seeks to objectify the information a therapist gathers while screening for occupational therapy services. Data is gathered through observation, discussion with the patient and patient's family members, or through team member communication. This is significant, as often, patients have a great deal of difficulty imparting accurate information upon admission. Finally, the MOHOST uses language that enables therapist to communicate findings clearly with clients and families.

The Assessment of Communication and Interaction Skills

The ACIS (Forsyth, Salamy, Simon, & Kielhofner, 1997) is an observational assessment tool that gathers data on communication and interaction skills also based on the MOHO model. The ACIS gathers data on skill as it is exhibited during performance in an occupational form

and/or within a social group. Because patients are already involved in a variety of treatment groups throughout the day, this is an ideal means to assemble quick, numerical information which would be easy to discuss with other team members. It is also possible to observe several patients during sessions; which is time and cost-effective. By providing a structured way to view communication and interaction, occupational therapists can use the ACIS with clients to identify areas of strength and habits interfering with effective interaction. Three domains: physicality, information exchange, and relations, are used to describe different aspects of communication and interaction. Specific communication and interaction skills, such as gesturing, focusing, and respecting, can be practiced to facilitate participation in meaningful occupations and valued social groups (Forsyth, et al., 1997).

Mini Mental State Examination (MMSE)

The MMSE is a quick tool for early detection of dementia and entails a simple questionnaire to assess individual's responses, along with providing an indication of cognitive impairments (Folstein, Folstein, & McHugh, 1975). The MMSE is composed of three specific cognitive skills including orientation, attention, and memory. Orientation refers to person, place, and time. Memory is assessed by the identification of three specific objects previously displayed. Attention and calculation are assessed regarding serial sevens or spelling "world" backwards. Evaluation of language skills are done by naming objects, phrase repetition, following a three step oral command and one step written command, writing a sentence, and copying a design. The total score is 30 points and a score less than 24 is indicative of cognitive impairment. "Early" stages typically score 21-30, "moderate" 11-20, and end-stage 0-10. Although the MMSE is an efficient assessment tool, it relies heavily on verbal skills and may not

detect minor cognitive impairments. Also, it may be subject to level of educational attainment, language barriers, and vision/hearing requirements. The MMSE can be repeated over time, which is a beneficial way of tracking cognitive progression or regression (Folstein, et al., 1975).

Allen's Cognitive Level Screen (ACLS)

The ACLS was developed to measure the changes in ability to function and facilitate the continuum of care, which means evaluation and treatment occur simultaneously. The two main areas of focus are memory and attention (Earhart, Allen, Pollard, & David, 2003). An estimation of the individual's ability is obtained by engaging the client in the completion of a leather-lacing task. There is also a larger version of the leather lacing task (LACLS) available to accommodate for visual difficulties. At each higher cognitive level, the sensory cues used in performance are more complex resulting in behavior that is more organized. There is also the belief that OT treatment is driven by a person's best ability to function and the goals and environment should reflect this. The occupational therapist demonstrates and verbally instructs the individual in the most simplest of three stitches. The client is again prompted to complete the second, more complex stitch. When or if the person completes the first two stitches, the client is encouraged to attempt the last and most complex stitch independently. Once the individual has completed the leather-lacing task, the occupational therapist determines the appropriate cognitive level. Utilizing this screening tool will enable the occupational therapist to assess and reassess, therefore determining any cognitive decline or improvement (Earhart, et al., 2003). Also, additional assessments, such as the Cognitive Performance Test (CPT), can provide more specific results can be utilized within the Allen's Cognitive Disability Model per recommendation of the occupational therapist.

The Clock Draw Test (CDT)

The Clock Draw Test (CDT) is another valuable tool in determining the level of dementia an individual may have. It is quick, however, a skilled therapist must interpret the results. The instructions are to: “Draw the face of a clock, putting the numbers in correct position. I’ll then ask you to indicate a time after you are done.” Ask the client to draw in the hands at ten minutes after eleven or twenty minutes after eight. Scoring is as follows: Draws closed circle: 1 point, places numbers in correct position: 1 point. If a person is able to: include all 12 correct numbers: 1 point, places hands in correct position: 1 point. Interpretation and clinical judgment is imperative and must be applied. Cognitively impaired people typically don’t draw a perfect clock. A score on the CDT of 4 approximates a MMSE of near 30 or mild cognitive impairment. A score of 2 on the CDT puts patient in the moderate impairment of MMSE scores of high teens. A score of 1 reflects moderate-to-severe scores on MMSE (low teens) (Unwin, 2007). Abnormal results suggest need for further assessment.

The Modified Interest Checklist

The Modified Interest Checklist is a self-report tool (via paper-and-pencil) that is used with adults and is compatible with the MOHO model (Model of Human Occupation Clearinghouse Website, 2002). This tool is used to gather information on 68 activities or interests. Patients are required to read the typed sheet and provide checkmarks by the appropriate answer. Although this may be difficult for some patients due to reading level, comprehension, and concentration required, it could be adapted and used in discussion format by a skilled therapist or enlarged print format. The current revision of this checklist also provides

information on the strength of the interest, as well as present and future engagement in the activity. This ties in strongly to the volitional construct of MOHO.

Additional Assessments

The Allen Diagnostic Module-2nd Edition

The Allen Diagnostic Module-2nd edition (ADM-2) is a component of the Allen's Model that includes 35 craft projects used for moderate to higher functioning individuals. The ADM-2 specifically addresses individuals with cognitive levels from three to six: manual, goal directed, exploratory, and planned actions. The crafts are used to evaluate new learning in order to assess the person's capacity to adapt to every environment (Earhardt, Allen, & Pollard, & Davis, 2007). The main purpose of the ADM-2 is to reconfirm the determined ACL level of an individual. This is completed by matching the craft project to the determined ACL level/mode. The rating criterion ranges from 3.0 to 5.8. The length of the ADM-2 varies with the complexity of the craft projects and time ranges from 15 minutes to several days. This assessment is an on-going evaluation of a person's functioning as they remain hospitalized.

The Assessment of Motor and Process Skills (AMPS)

The AMPS is a standardized assessment, used with adults with both physical and mental disabilities; further, it can be used with very low functioning to higher functioning patients, and can be used cross-culturally (Fischer, 1993). The AMPS is an observational assessment based on MOHO that is used to measure the quality of a person's performance of domestic (instrumental) or basic (personal) activities of daily living (ADL). The quality of the person's ADL performance is assessed by rating the effort, efficiency, safety, and independence of 16 ADL motor and 20 ADL process skill items. Because patients are able to choose the tasks that will be

performed, they are more familiar, relevant, and meaningful to his or her daily life. The AMPS can assist with treatment planning and documenting change. It is an ideal assessment for managed care environments and other settings where OT's need to demonstrate the efficacy of their interventions in a cost-effective and client-centered manner. The assessment requires no special equipment and can be administered in any relevant setting within a 30 to 40 minute period. The AMPS allows a therapist to determine the ADL ability of the client, while taking into account the relative challenge of each of the ADL tasks the client performed. As a result, clients who performed different ADL tasks can be directly compared (Fischer, 1993)

The AMPS can demonstrate:

- Which skills/actions are effective and which are not.
- How much ADL ability a person has. Persons with lower ADL ability may be less responsive to restorative occupation, but possibly able to benefit from adaptive occupation.
- An objective basis for measuring change. Even when effective interventions based on designing adaptive occupation are implemented, client ADL ability measures increase because environmental constraints are eliminated. Improved ADL ability can occur in the absence of any change in the status of a person's neuromuscular, biomechanical, cognitive, or psychosocial impairments or his or her underlying capacity limitations.

It is proposed that in the targeted area, the AMPS will not be a part of the initial evaluation used, but will be utilized later in the hospital stay and only with those patients meeting specific criterion. Rationale: Many patients are too psychotic, dangerous, intoxicated, confused, or elevated upon admission to comply with the assessment and information gleaned would not be relevant. Also, approximately one-half of admitted patients are dismissed or

discharged in 24 hours; this would be viewed as a loss of productivity and as a fruitless cost to the facility by administration. As patients stabilize on medications and move closer to their baseline of function, the OT and other significant treatment team members will decide on administration of the evaluation. The following questions would be used as a guide: a) why does this person experience difficulty? b) What level of task challenge can this person manage...independent living, community based residential facility (CBRF), group home, nursing home? c) Is this person a candidate for restorative interventions based on the use of restorative occupation or compensatory interventions based on the use of adaptive occupation? d) Has this person's ADL performance improved as a result of our interventions thus far?

The Cognitive Performance Test (CPT)

The CPT (Burns, 1991) is based on Allen's Model of Cognitive Disability. Recently, it was updated as a new subtask was added (Burns, 2002). The CPT addresses the functional consequences of cognitive impairment. The basis is that information-processing deficits interfere with or prevent safe and effective occupational performance. A person's level is determined by evaluating sensori-motor behavior, including types and resulting motor or task behavior. Sensory cues are ordered from internal (proprioception) to external concrete (tactile, visual, and verbal) to increasingly abstract (related visual cues, verbal hypotheticals, symbols, & ideas). Motor performance is ordinal, beginning with reflexive actions that appear in response to internal cues, to planned actions that reflect processing of tactile, visual and then abstract cues. At each higher cognitive level, the sensory cues used in performance are more complex resulting in behavior that is more organized (Burns, 2002) It is most ideal to administer all 7 subtasks, but at least 4 are required. The scoring is based on the six ordinal levels of global functioning and

can be directly correlated with the person's level of care required to perform specific activities of daily living (ADLs) and intrinsic activities of daily living (IADLs).

The occupational therapist can repeat most directions twice, and confirmations to client's questions regarding correct procedure can be given any time. However, allowance of ample time for the client to respond is required before giving additional assistance. There are several types of assistance: Verbal cueing which is non-specific, verbal direction, which is specific and mainly used at, levels 2 & 3, and demonstration which is physically demonstrating what you want client to do (level 3).

The belief is that OT treatment is driven by person's best ability to function and that goals and environment should reflect this. What a person can do, will do, or may do is based on ability vs. choice although tasks so require meaning, relevance, and motivation. Social support system (caregiver) is also a major influence. The scores significantly correlate with Mini-mental State Exam Scores, Global Assessment of Functioning Scale (GAF), several measures of caregiver ADL, and various neuropsychological measures. The scores are highly predictive of risk of institutionalization over a four-year follow-up period. (Burns, 2002)

Outcomes Measurement

One OT department member will attend a daily multi-disciplinary team meeting and provide input on OT attendance, symptoms, progress, and goals. OT will also assist the patient in the development and review of goals on their treatment plan. A therapist will complete a thorough chart review, an observation of the client while on the unit, the initial OT evaluation and specific ADL assessments as per needed. A plan to continue to develop delineation of OT's

role in the program will be implemented as well as continuing to provide on-going daily group and individual programming. Documentation is completed daily. Outcomes will be measured with The Model of Human Occupation Screening Tool (MOHOST) at time of discharge.

Therapy will be discontinued when one or more of the following criterion is met: the client has achieved goals and outcomes, the client has reached a plateau in progress, the client is unable to make gains in treatment because of medical, psychological, or mental complications, and appropriate living arrangements and/or additional services needed are in place.

Consumer input is monitored by participation in a quality management team and through survey of consumers. Someone outside of the department monitors consumer surveys, several weeks after discharge, to ask perceptions of the program and to solicit ideas for improvement. Treatment quality is also monitored by clinical outcomes, safety, and cost analysis. One way clinical outcomes are measured is by examining if the consumer was able to maintain stability, and use some of the concepts learned in programming. A measure of whether or not the person has had a relapse that would cause a return to programming or inpatient within 30 days of discharge and the reason for a relapse are studied. New symptoms emerging or a difficulty responding to treatment in general is questioned. Possibly adding questions on the survey that pertain to specific OT interventions may give more relevant information to the provision of OT services. However, more information may need to be distributed or discussed with patients prior to discharge regarding which services are OT-based versus another provider (social work, nursing, psychology, etc.) as this is confusing to patients at times. Changes in client ADL ability measures via use of the Assessment of Motor and Process Skills (AMPS) and/or the Cognitive Performance Test (CPT) are used in quality assurance programs to provide an objective method

to demonstrate to our clients, colleagues, health care administrators, and health care payers that occupational therapy services are cost-effective and improve the functional status of our clients.

Part B presents the Evaluation kit as prepared for the occupational therapists employed in the inpatient unit.

Part B: Occupational Therapy Evaluation Kit

The Model of Human Occupation Screening Tool (MOHOST)

- Upon admission, the occupational therapist will utilize the MOHOST scoring sheets seeks to objectify the information the therapist gathers while screening for occupational therapy services. Data is gathered through observation, discussion with the patient and patient's family members, or through team member communication. This is significant, as often, patients have a great deal of difficulty imparting accurate information upon admission. It is quick and simple to complete.
- The therapist will use this screening at regular intervals (twice weekly) to document baseline assessment and progress thereafter. Also, it will be used upon discharge for outcomes.
- The therapist will draw together the client's perspectives as well as team knowledge and understanding of the client to develop a comprehensive picture of client's occupational functioning that supports planning, intervention, and evaluation with an occupational focus.
- The therapist will use this assessment to address the majority of MOHO concepts (volition, habituation, skills, and environment), allowing the therapist to gain an overview of the client's occupational functioning. The MOHOST addresses client's motivation for occupation, pattern of occupation, communication, process, and motor skills, and environment, which will be explained to the treatment team at regular intervals.
- The rating scale criteria have been changed to letter rating scale labels (F= Facilitates occupational participation, A= Allows occupational participation, I= Inhibits occupational participation, R= Restricts occupational participation).
- Finally, the therapist will use MOHOST language which communication of findings clearly with clients and families.

❖ This screening tool availability is located on the bottom of page 58.

The Assessment of Communication and Interaction Skills (ACIS)

- An observational assessment tool that gathers data on communication and interaction skills.
- The occupational therapist will use the ACIS (score sheet) to gather data on skill as it is exhibited during performance in an occupational form and/or within a social group. Because patients are already involved in a variety of treatment groups throughout the day, this is an ideal means to assemble quick, numerical information
- The ACIS facilitates an easy manner in which to discuss data with other team members; and thus the therapist will communicate the information obtained with the treatment team daily. It is also possible to observe several patients during sessions; which is time and cost-effective.
- The therapist will follow the structured way to view communication and interaction as formulated in the ASIS.
- Occupational therapists may then use the ACIS with clients to identify areas of strength and habits interfering with effective interaction.
- The therapist will objectify the three domains: physicality, information exchange, and relations, which are used to describe different aspects of communication and interaction. Specific communication and interaction skills, such as gesturing, focusing, and respecting, can be practiced to facilitate participation in meaningful occupations and valued social groups.
- The ACSIS utilizes a standard score sheet that has three main. Each area is scored via uses a 4 point scale as follows: 4=competent, 3=questionable, 2=inefficient, and 1=deficit.

❖ This screening tool availability is located on the bottom of page 58

The Modified Interest Checklist

- Self-report tool (via paper-and-pencil) that is used with adults.
- This tool is used to gather information on 68 activities or interests.
- This checklist also provides information on the strength of the interest as well as present and future engagement in the activity.

Instructions:

Patients are required to read the typed sheet and provide checkmarks by the appropriate answer. Although this may be difficult for some patients due to reading level, comprehension, and concentration required, it could be adapted; such as using larger print or magnifiers. Also it could be used in discussion format by a skilled therapist.

❖ MOHO-based Assessments available from:

Model of Human Occupation Clearinghouse Website.

<http://www.moho.uic.edu/>

Suggested Reading: Kielhofner, G. (2007). Model of human Occupation: Theory and Application (4th ed.). Lippincott, Williams, and Wilkins

Mini Mental State Examination (MMSE)

Description:

The MMSE is a quick assessment tool for early detection of dementia and entails a simple questionnaire to assess individuals' responses, along with providing an indication of cognitive impairments. The therapist will utilize the MMSE scoring sheets (availability at bottom of page). It is composed of:

Orientation: time and place

Memory: three specific objects

Attention/calculation: serial 7's or spelling "world" backwards

Language: naming objects

Phrase repetition

Follow a 3-step oral command

Follow a one-step written command

Write a sentence

Copy a design

Scoring:

Total maximum score is 30 points

A score of <24 is indicative of cognitive impairment

Additional information:

The MMSE can be repeated over time to allow tracking of cognitive progression and to monitor effects of treatment.

The MMSE is an efficient assessment tool; however, the evaluation relies heavily on verbal skills and may not detect minor cognitive impairments.

❖ MMSE

Available from: Folstein, M., Folstein, S.E., & Mchugh, P.R. (1975). "Mini-Mental State" a Practical Method for Grading the Cognition of Patients for the Clinician. *Journal of Psychiatric Research*, 12 (3), 189-198.

Draw a Clock

Instructions:

- “Draw the face of a clock, putting the numbers in correct position. I’ll then ask you to indicate a time after you are done.”
- Ask the client to draw in the hands at ten minutes after eleven or twenty minutes after eight.

Scoring:

- Draws closed circle: 1 point
- Places numbers in correct position: 1 point.
- Includes all 12 correct numbers: 1 point
- Places hands in correct position: 1 point.

Interpretation and clinical judgment is imperative and must be applied. Cognitively impaired people typically don’t draw a perfect clock.

- ✓ CDT of 4 indicates mild cognitive impairment.
- ✓ CDT of 2 puts patient in the moderate impairment.
- ✓ CDT of 1 reflects moderate-to-severe scores. Abnormal results suggest need for further assessment

❖ Draw a Clock :Available from:

Unwin, B. (2007). Know and understand: the risks for and causes of dementia. [power point slides]. Retrieved from: *Capital Conference, Department of Family Medicine, USUHS*. Website: <http://www.usuhs.mil.ppt>

Allen's Cognitive Level Screen (ACLS)

Description:

- 1) The occupational therapist demonstrates and verbally instructs the individual in the most simplest of three stitches.
- 2) The client is again demonstrated and prompted to complete the second, more complex stitch. Person can be given two demonstrations. May be unable to complete or may quit. Scoring of level then completed at this time.
- 3) When or if the person completes the first two stitches, the client is encouraged to attempt the last and most complex stitch independently. Once the individual has completed the leather-lacing task, the occupational therapist determines the appropriate cognitive level.
- 4) Utilizing this screening tool will enable the occupational therapist to assess and reassess, therefore determining any cognitive decline or improvement.
- 5) The therapist will consider the following:
 - At each higher cognitive level, the sensory cues used in performance are more complex resulting in behavior that is more organized
 - Belief that OT treatment is driven by person's best ability to function—goals and environment should reflect this
 - Ability vs. choice
 - Meaning, relevance, motivation to the individual
 - Social support system (caregiver) as influence

❖ ACLS: Available from:

S & S Worldwide

www.allen-cognitive-levels.com

For more information re: the Allen Model and application contact:

Allen Cognitive Advisors, LTd.

Debbie Olin

1923 Paso Roble Way

Madison WI 53716

Overview of Six Ordinal Cognitive Levels

Adapted from: Earhart, C.A., Allen, C.K., & Blue, T. (1993) Allen Diagnostic Manual: Instruction manual, Colchester, CT: S & S Worldwide.

Allen Level	Info. Processed	Activity Capacity	Caregiver Assistance
Level 6	Abstract, complex, hypotheticals, ideas, symbols, numbers, written info.	Complicated, plan ahead, anticipate, situational awareness, effect on others=IADLs	None
Level 5	Complex with error, end product or outcome	Low-level complex, parts of complicated, self-care routines	Simplify, monitor, restrict hazards, complete complex tasks together
Level 4	Concrete, visual	Concrete activities Few steps Visual outcomes Routines with set-up, reminders Basic awareness, effects on self	Eliminate or simplify complex activities, restrict hazards, solve problems, give reassurance. Expect misinterpretation or no reasoning
Level 3	Manual actions associated with objects	Use of objects & Parts of self-cares	Step-by-step, set-up, remove hazards, simple directions, sequence, refocus
Level 2	Gross body mvmts, touch	May move to assist or resist cares, may feed self	Total care, prevent falls, provide stimuli & comfort in environment
Level 1	internal	Reflexive Actions	Total care, attend to comfort

❖ Additional Assessments as determined by therapist's judgment and scoring from prior tests that are recommended are as follows:

Additional Assessments as per Client Need

Allen Diagnostic Module (ADM)

Description:

The ADM consists of craft projects and is utilized for moderate to higher functioning individuals and to evaluate new learning. The goal is to assess the person's capacity to adapt to environments. Specifically, the ADM addresses individuals with cognitive levels 3 to 6 (manual, goal directed, exploration, and planned actions). Another main purpose of the ADM is to reconfirm the determined initial ACL level of the client, and to track improvement or decline in ability.

Therapist predetermines the craft project used by matching the determined ACL level/mode. Clients are instructed to try to work individually and are prompted to try to figure out each step with the least amount of cueing. Some may use written instruction where some will need hands-on assist. This will vary with each person's cognitive level. The length of the ADM varies with the complexity of the craft projects and time ranges anywhere from 15 minutes to several hours.

Scoring: Each individual's completed craft is scored via the therapist after the client has left the room. The ADM manual consists of specific scoring guides and is used to assist the therapist in obtaining an accurate score. The rating criterion ranges from 3.0 to 5.8.

❖ **ADM: Available from:**
www.allen-cognitive-levels.com

For more information re: the Allen Model and application contact:
Allen Cognitive Advisors, LTd.
Debbie Olin
1923 Paso Roble Way
Madison WI 53716

Assessment of Motor and Process Skills (AMPS)

Description:

The AMPS is used to identify specific ADL motor and process skills that affect performance of daily living tasks. The occupational therapist observes the task performance and evaluates the process skills in order to determine; effort, efficiency, safety, and independence with the completion of a specific identified task.

Process Skills Include:

Initiation	Pace
Acquire	Sequence
Notice	Organize
Respond	Termination

Composed of:

56 ADL/IADL standardized assessment tasks

Scoring:

Evaluation of 15 motor and 20 process skills rated on a 4-point scale

1=deficit 2=ineffective 3=questionable 4=competent

Total maximum score is 36.

Additional Information:

The occupational therapist administering the AMPS may limit the choice to 2-3 familiar tasks, however with sufficient challenge. The main advantage of the AMPS is the ability to determine strength and problem areas. The AMPS is not used to identify the underlying cognitive and physical impairments. The AMPS is a reliable assessment to implement with individuals with dementia.

❖ AMPS: Available from:

AMPS Intl., Inc.
PO Box 42
Hampton Falls, NH 03844
<http://www.ampsintl.com>

Cognitive Performance Test (CPT)

- The therapist will examine an individual's cognitive operations while performing ADL's.
- The therapist should be well- practiced with a variety of performance levels prior to formal administration and should follow the standardized, performance-based manner of administration.
- The therapist can use the CPT to initially developed as baseline instrument to measure global function and to track change over time in individuals with Alzheimer's Disease
- Can be used in clinics, LTC facilities, in the home, & with a variety of Dx
- The therapist will formulate a document that will predict and explain patients capabilities to function in various contexts

The therapist can repeat most directions twice; and confirmations to client's questions re: correct procedure can be given any time. Be sure to allow client ample time before giving additional assistance

- Types of Assistance
 - Verbal cueing: non-specific
 - Verbal direction: specific; mainly used at levels 2 & 3
 - Demonstration: Physically demonstrating what you want client to do; level

Tasks:

Dress: Client ability to adequately and safely dress self

Shop: client ability to correctly identify & add/subtract money, sequence multi-steps, and make purchase correctly

Wash: Client ability to adequately perform grooming cares

Toast: Client ability to safely and effectively complete basic homemaking task

Phone: client ability to utilize written information, communicate needs

Travel: Client's ability to get from one location to another

Medbox: Client capacity to safely manage medications as is identified as a national concern.

Most recently added subtask

- Scoring according to level of cueing needing; refer to score sheets

Medbox: _/6 Toast_/5

Shop: _/6 Phone_/6

Wash: _/5 Dress_/5

Travel: _/6

– Total: _/39

– Ave. CPT or Cog. Level Score: ___/5.6

– Divide total score by # of tasks given

- ❖ Additional advantage is that practical activities will have more relevance to most individuals than craft activities.

❖ **CPT: Published in:**

Allen, C.K., Earhart, C.A., & Blue, T. (1992). Occupational therapy treatment goals for the physically and cognitively disabled. Bethesda, MD: American Occupational Therapy Association, 54-68.

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CHAPTER V

SUMMARY

The presentation of psychiatric illness in the elderly is often difficult to diagnose as it is presented differently than in the younger population. Observations yield overlapping psychiatric symptoms and dementia symptoms. Separate and treatable physical disorders may also be present. When initially admitted, an individual may display symptoms which are common among a range of diagnosis. These are commonly identified across performance areas including: instrumental activities of daily living (IADL), education, work, leisure, social interaction and basic activities of daily living (BADL). Process skills are often severely impaired in the elderly population and can be a major factor leading to admission (Cara & MacRae, 2005).

There are many occupational therapy assessments that can be used with older adults; however, key to the occupational therapy assessment are the skills to perform functional evaluations. The natural environment is ideal, but not always accessible (Cara & MacRae, 2005). This project is designed to provide therapists a resource for the evaluation process in occupational therapy. It is specifically useful to assist in differentiation of mental illness and dementia. Assessment data will be useful in the development of intervention goals suitable for the inpatient stay, as well as post-discharge.

Limitations and Recommendations for Future Action

This scholarly project provides the therapist with recommendations to use in assessment, goal writing, and placement, however, it is not meant to be a protocol in all mental health settings. It is specific to individuals involuntarily committed to an acute

care setting. Therapists considering use of this evaluation process will need to consider adjustments appropriate to the needs of their clinical setting. The project was based on two models, MOHO and Allen's Cognitive Disabilities Model. While understanding these models will provide needed structure, provision of assessments and supporting client-centered treatment is not limited to these models; the therapist may also consider other occupation-based models.

Implementation of Project

This project provides a guide for occupational therapists during admission of an individual throughout the evaluation process in an acute care setting. Administration of the evaluation process by a qualified is best conducted by a qualified OTR.

Conclusion

The effects of a mental illness or a dementia on the physical and psychosocial areas of a person's life can be overwhelming. It can affect performance of simple tasks in daily life or to the endangerment of their lives. Occupational therapists have a unique role in preserving and fostering mental/physical health in the older adult through an emphasis on meaningful occupation focused on life quality issues. An evaluation process such as that proposed here enables the therapist to achieve these goals.

Appendices

Appendix A

Stages of Alzheimer's Disease

Adapted from Merck Manual of Diagnostic and Therapy 18th Ed. (2008).

Early: Because dementia usually begins slowly and worsens over time, it may not be identified at first. Memory, especially for recent events, is one of the first mental functions to noticeably deteriorate. People with dementia typically have more and more difficulty doing the following: finding and using the right word, understanding language, thinking abstractly, as when working with numbers, performing many daily tasks, such as finding their way around and remembering where they put things, using good judgment. Emotions may be changeable, unpredictably and rapidly switching from happiness to sadness. Changes in personality are also common. Family members may notice unusual behavior.

Intermediate: As dementia worsens, the existing problems worsen and expand, causing the following to become difficult or impossible: remembering events from the past, learning and recalling new information, doing daily self-care tasks, such as bathing, eating, dressing, and going to the toilet, recognizing people and objects keeping track of time and knowing where they are, understanding what they see and hear which leads to confusion, controlling their behavior, and often getting lost. They may be unable to find their own bedroom or bathroom. They can walk but are more likely to fall. In about 10% of people, this confusion leads to a psychosis, such as hallucinations, delusions, or paranoia. As dementia progresses, driving becomes more

and more difficult because it require making quick decisions and coordinating many manual skills. People may not remember where they are going.

Late: Eventually, people with dementia become unable to follow conversations and may become unable to speak. Memory for recent and past events is completely lost. People may not recognize close family members or even their own face in a mirror.

When dementia is advanced, the brain's ability to function is almost destroyed. Advanced dementia interferes with control of muscles. People may have a much higher potential for fall-risk or cannot ambulate, feed themselves, or do any other daily tasks. People with dementia have a doubled to threefold risk for falls (Harlein, Dassen, Halfens, & Heinze, 2009). They identified eight risk factors: disease -specific motor impairments, impaired vision, motor impairments, severity of illness, behavioral disturbances, functional impairments, fall history, neuroleptics, and low bone mineral density. They become dependent on others and eventually unable to get out of bed. Eventually, people may have difficulty swallowing food without choking. These problems increase the risk of malnutrition, pneumonia (often due to inhaling secretions or particles from the mouth), and pressure sores (because they cannot move). Death often results from an infection, such as pneumonia.

Appendix B

Caregiver Education and Guidelines for Occupational Therapy

When an occupational therapist identifies the first symptoms of dementia, awareness of the following treatment guidelines for an individual should be considered: declining physical health, role loss, decreased self-esteem, disengagement, and conflicts with family. Declining physical health is known to affect future function. As individuals age, their roles may change creating a sense of loss which may lead to: decreased self-esteem, loss of identity and disengagement/or reduced pleasure (Aldridge, 2006).

Individuals with dementia require safety education, physical care, decreased stress, and increased cognitive stimulation. Safety is one of the most important concerns of persons with dementia as initially when the first symptoms appear they may be physically appearing normal; or there may be no outward signs as to the odd behaviors that are gradually becoming more overt. Physical care may gradually increase in later stages of dementia. An individual with dementia is able to realize the changes they have a decrease in functional performance of ADL's. Persons with dementia require decreased stress within their environment in order to maintain attention can complete specific tasks. An increase in cognitive stimulation is beneficial in activating the working memory. Once the early signs of dementia appear, caregivers can benefit from education regarding and individual's cognitive capabilities and performance. Therefore, caregivers can develop more of an understanding of specific needs and thus, be able to provide appropriate support as needed. Relevant information provided to caregivers will alleviate stress and begin the therapeutic process in caring for individuals with dementia (Aldridge, 2006).

Research has shown that high levels of mortality, psychiatric morbidity, and chronicity of depressed mood may require caretakers to have access to specialist resources such as geriatric consultation, psychiatry, occupational therapy, and physiotherapy (Sutcliffe, et al., 2007). Communication between the caregiver and the individual is vitally important to maintain overall functioning of the family system or care setting.

When an occupational therapist engages individuals into group activities, it is imperative to place the person according to their identified cognitive level in appropriate activities. A group experience can be adapted to maximize learning according to the purpose of the group and level of functioning. In the process of group activities, the occupational therapist needs to allow enough time for individuals to process new information and organize materials/tools. One-to-one interaction also can be calming. Studies show that activity later in life can stimulate cognition and/or working memory and with mental stimulation, people may be more apt to resist the damage caused by Alzheimer's disease (Aldridge, 2006).

Appendix C

Approaches to Problem Behaviors

Adapted from Cara & MacRae (2005), pp. 350-351

Outbursts & Anger

- Assure individuals who behave aggressively that you will help them and that you understand that they cannot control themselves at the time.
- Speak in a calm, even voice
- Offering food or drink is a distraction/calming effect as it is difficult to eat and be angry at the same time.
- Position yourself about four or five feet away and at an angle. Sitting or standing a little to the side rather than face them directly is less intimidating.
- Some people may be confused and angry, thus be prepared to accept some insults and verbal abuse.

Upsetting Reactions

- Use memory aids and highly structured routines to reduce confusion.
- Giving straightforward directions will reduce decision-making. Make lists.
- Reinforce each successful step and assist them one step at a time
- If a person is confused, slow down and allow them to calm before giving more direction.
- Hold a person's hands gently, patting on the arm or gently rocking can be soothing, along with quiet music.

- Try to distract a person with any other topics, especially when they are focused on a personal object.

Confusion

- Use nightlights as this can help a person see and locate familiar things, prevent falls, and protect against wandering.
- Sedatives and cold remedies as well as prescribed drugs have many side effects. These may include unsteadiness, falls, and confusion.
- Bring up important events from the past and gently assist with keeping facts reasonably accurate.
- Use simple cues, gestures and physical guiding to increase personal awareness. Keep explanations simple.
- Try to keep your mood and responses consistent when interacting.
- Provide special personal space and filled with familiar things, as many times, a confused person will go there and feel safe and secure.
- Be sure to schedule respite care regularly in the care giving routine so it becomes accepted and predictable. It is best for you and your loved one.

Depression and Anxiety

- This may be a common symptom. Try to rebuild self-esteem through reminiscence, participation in activities and decisions. Notice pictures and mementos. Ask about them and listen.
- Ask the physician as medications may help.
- At times, quiet, uncomplaining people may be quite depressed. Try to spend time talking with them.

- Be familiar with the factors that predispose people to depressions. They include problems with health, living situation, losses, and a family history of depressive illnesses.
- Most love a gentle touch with a reassuring smile as this projects a caring attitude.

Hoarding or Accusations of “Stealing” Behaviors.

- Because of memory loss, demented people frequently look for something that is “missing” such as clothes, personal items. This may cause them to accuse others of stealing.
- Many with dementia may be constantly looking for familiar things.
- Do not try to scold or rationalize with the person as this may cause more agitation.
- Distracting impaired person when he/she is somewhere he/she is not supposed to be can be more calming.
- Also a good tip: learn the impaired person’s hiding places.

Sundowner’s Syndrome

- This occurs when impaired people become confused, restless and insecure late in the afternoon and after dark.
- It may be best to set up a rigid daily routine as it can reduce anxiety about decision-making and future events.
- Try to alternate activity with programmed rest.
- Strive to keep daily activities within the person’s coping ability; meaning keep things simple.
- Prepare the impaired person for special events so it does not come as a shock.

- Taking an inventory of the person's daily experience such as: bright lights, noise from TVs, radios, and conversations, visitors and special events, odors, and the stimulation of personal contact with the caregiver, can impact the emotional well-being of the person.

Suspiciousness and Distrust

- This may occur most often with people when they cannot make sense of what is happening.
- Try to be as honest as possible without disrupting their expectations.
- Although difficult, do not argue about or attempt to rationally explain disappearances of the person's possessions.
- Try to attempt to look for an item if the person says that it is missing, but again attempt distraction in the meantime.

Appendix D

Case Illustration

Mrs. Smith is 72 years old, recently widowed. She had been residing in an assisted living facility since her husband's death (approximately one year ago.). Her husband had been handling the more complex tasks, such as their finances, driving, cooking, etc. She has three children; however, they live in other areas of the country. She has no prior psychiatric admissions but does regularly see a family physician. She was admitted to the psychiatric hospital via her caregivers. They reported Mrs. Smith was found wandering outdoors in inclement weather improperly clothed. She also had been wandering into neighboring apartments accusing others of stealing her belongings. Her caregivers found large amounts of numerous prescription bottles; some out-dated. She also had become increasingly unsteady and had several falls. She was suspicious, had angry outbursts, and was resistive to assistance. The caregivers request a psychiatric work up with medication regime or they will not allow Mrs. Smith to return.

Discussion

Mrs. Smith was admitted to an in-patient psychiatric unit under an emergency detention as she refused voluntarily. A court hearing was held and was admitted under an involuntary hold (48 hours). A doctor saw her and a medical work up was completed. She was found to have a urinary tract infection, high blood pressure, and borderline diabetes. Antibiotics were started and medications reviewed by the psychiatrist. Several medications were omitted (such as Ativan for irritable mood) as it was believed to be the

cause of unsteady gait. She began a low dose anti-psychotic medication. Nursing staff observed confusion as Ms. Smith repeatedly asked the same questions, was unable to locate her room (even with large signs posted), and was agitated/anxious with staff and other patients. An order for occupational therapy evaluation and treatment was completed.

Mrs. Smith was observed, interviewed and evaluated by a registered occupational therapist after chart review and consultation with the staff social worker. As she met the criterion for potential dementia (advanced age, no prior psychiatric admissions, confusion, agitation and falls), the specialized occupational therapy evaluation was attempted. She was unable to complete the written interview questions, but was able to answer portions verbally. The Model of Human Occupation Screening Test (MOHOST) and the Assessment of Communication and Interaction Skills (ACIS) were completed by the therapist for further evaluation and measure. The Allen's Cognitive Level Screen (ACL), Clock Draw, and Mini Mental State Exam (MMSE) were also completed. She was observed, involved in 1 to1 sessions, and in OT groups daily throughout her 3 week stay. Mrs. Smith also was evaluated twice weekly via the Allen's Diagnostic Module (ADM). In addition, prior to discharge, the Cognitive Performance Test (CPT) was administered to assist in residential placement versus a more structured environment.

Results

Mrs. Smith initially scored a 4.0 on the ACLS, which imply: moderate cognitive deficits, the clock draw as a score of 2 mild to moderate dementia. MMSE was also below 24, which indicates memory impairment. Also, her inability to complete a simple written worksheet and activity assessment also indicate cognitive loss. The twice-weekly ADM

assessment indicated some progress as her physical symptoms lessened. However, her STM loss and confusion continued although her agitation and mood improved. Scores improved as follows:

Initial ACL: 4.0

Clock Draw: 2

MMSE: 20 upon admission, upon discharge was 23

Draw a Person: moderate cognitive decline

MOHOST: administered upon admission overall scores indicated an "I" meaning she inhibited occupational participation. Upon discharge overall scores indicated an "A" meaning she would allow occupational participation.

ACIS: completed daily. Upon admission combined score of 1, which indicates deficit. Upon discharge was a score of 3, which indicates questionable.

ADM: Week 1 was 4.0, Week 2 was 4.2, and Week 3 was 4.4

Additional CPT: Demonstrated a score of 4.4 just prior to discharge

Mrs. Smith was much calmer and was acceptable of assist from caregivers the few days prior to discharge. A report was written for the assisted living facility indicating specific levels of care needed. Her son was appointed her guardian and representative payee for financial purposes as she was unable to manage. As per her repeated requests, Mrs. Smith was able to return to the assisted living situation, with increased outpatient care. The community Support Team (CSP-FOR) for older adults was increased to twice daily and will increase or/decrease as needed. Mrs. Smith does represent a developing dementia, but can be managed in an outpatient setting until further deterioration occurs (which is expected) but will be monitored further by OT's working in the CSP setting.

Appendix E
Dementia and Cognitive Assessments Chart

<i>Dementia Assessment</i>	<i>Purpose</i>	<i>Population</i>	<i>Time</i>	<i>Description</i>
Geriatric Depression Scale	Screening to rate level of depression	Older adults with mild to mod cognitive impairment	5-7 min	NOT a substitute for diagnostic interview. Has long and short form. Yes/no responses
Global Deterioration Scale	Screening that offers overview of cognitive function to caregivers	Degenerative dementia	Varies	7 stages of dementia to determine behavioral characteristics
Mini Mental State Exam	Multidisciplinary screening tool	Any adults who <u>may</u> have cognitive impairment	5-10 min	11 Questions and a drawing. Examples: what is the year, season, date, day, month? Name 3 objects. Count backwards from 100 by 7 or spell the word "world" backwards. Recall the 3 objects. Name a pencil and watch. Copy the design.
Barthel	Screening to determine function status and hours of care for ADLs	Adult clients with cognitive deficit but without severe aphasia	5 min	Interview and answers: "can do myself, can do with help, can not do"

Brief Kingston Standardized Cognitive Assessment	Screen for cognitive dysfunction. Bridge between cognitive screens and evals	Seniors mostly	30 min	Orientation: Orientation/memory Word Recall: Immediate short term memory for 10 words Delayed Recall: Delayed short term memory for 10 words Word Recognition: Recognition memory with delay Abstract Thinking: Ability to form abstractions Spatial Reversal: Spatial orientation—mental manipulation Clock Drawing: Spatial orientation—construction Perseveration: Ability to follow alternating patterns
Ross Information Processing Assessment	The primary edition of the RIPA assesses immediate memory, recent memory, spatial orientation, recall of general information, temporal orientation, organization, problem-solving, and abstract reasoning.	For geriatric individuals with brain injury, dementia, and other neuropathologies.	45-60 min	Comes in a kit that you would purchase. There is a version available for children also that focuses on LD and other cognitive deficits. Profile key areas basic to communicative and cognitive-linguistic functions. Assess treatment efficacy and document progress. Administer individual subtests in 10 minutes. Two supplemental subtests determine the existence of a coexisting aphasia, anomia, or alexia.
Reality Comprehensive Clock Test (RCCT)	Assess visual task perf, visual spatial, numbering, orientation/memory	Gero, children, cognitively impaired people	10-30 min	Draw a clock following an example drawing
Kohlman Eval of Living Skills (KELS)	Determine function in 17 skill areas	Many settings and populations	20-30 min	Self care, safety and health, money, transportation and telephone, work and leisure

Comprehensive Trail-Making Test	Standardized: visual, sequencing, attention, concentration, cognitive flexibility	Ages 11-74	5-10 min	5 trail-making tasks, each one gets more complicated with distracters (added circles to trail)
Cognitive Performance Test (CPT)	Standardized evaluation to determine cognitive level based on Allen. Uses occupational tasks to assess cognition. It does not assess occupations. Separate from Allen assessments and interventions	People with dementia. Much work done with Veteran's in development of CPT.	60-75 min	7 subtests: Toast, shopping, dress, medbox, travel, wash, phone. Scoring done verbatim and calculates average score of all 7 tests to determine exact level of functional cognitive perf.
Cognitive Assessment of MN (CAM)	Standardized test to quickly screen and eval wide range of cognitive skills	Brain-injured adults	<60 min	Within the hierarchy are 17 subtests to assess, including: <ul style="list-style-type: none"> • Attention span • Memory orientation • Visual neglect • Temporal awareness • Recall/recognition • Auditory memory and sequencing • Simple maths skills • Safety and judgement
Allen Cognitive Levels (ACL)	Screening to determine cognitive level	Adults with mental health issues, dementia, brain injury	15 min	Leather lacing with verbatim instructions and scoring. Running, whip, and cordovan stitches.

Kitchen Task Assessment	Functional measure to record level of cognitive support needed	Adults with cognitive problems but there is a Kid's version also.	20 min	Make pudding or cook oatmeal. Kid's: make play dough.
St. Louis University Mental Status (SLUMS) exam	Screen for detecting mild cognitive impairment and dementia. More sensitive than Mini-Mental Exam	Adults with cognitive deficit	15 min	Pilot study in J of American Geriatric Psych. Answer questions, name animals, recognize shapes and size, repeating, delayed recall, etc.
Montreal Cognitive Assessment (MOCA)	Rapid screen for mild cognitive dysfunction	Adults with cognitive deficit	10 min	Trail making, draw a cube, clock, name animals, recall of words, language, similarity between banana, orange, and fruit, delayed recall, orientation.
Cognistat:	Exam of neurobehavioral cognitive status	Adults with cognitive dysfunction	45 min	Questions and answers with some functional tasks for consciousness, orientation, attention, language, constructional ability, memory, calculations, reasoning, and medications

The following information was adapted from NDOTA Fall Conference 2008
www.ndota.com

Additional information was added from www.acadcom.com/scripts/prodView.asp?idProduct=548
Galtier Health Ctr (2009) aging@slu.edu (2009)
www.mocatest.org (2009)
www.mocatest.org/validation_study.html (2008)
Northern California Neurobehavioral Group, Inc

Permission to include this table is granted by Cindy Janssen, MOT, OTR/L, Assistant Professor, Occupational Therapy, UND School of Medicine & Health Sciences

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