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Parkinson Disease and Rehabilitation Administration and Services

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PARKINSON DISEASE AND

REHABILITATION ADMINISTRATION AND SERVICES

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TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

CHAPTER 1

INTRODUCTION

An individual whose major is Rehabilitation Administration and Services (RAS) has a duty to ensure that individuals with disabilities or diseases are offered support through psychological, medical, and independent living services. Additionally, these programs must deliver results and confirm their effectiveness for the individuals afflicted with a disease or disability. In order to provide or establish the appropriate rehabilitation plan for an individual, one needs to acquaint themselves fully with diseases and disorders. This paper explores Parkinson's disease (PD) and reasons why it is important to the field of Rehabilitation Administration and Services.

Based on the National Institute of Neurological Disorders and Stroke (NINDS), the United States alone has about 500,000 people that suffer from this disease and 50,000 new cases are recorded annually. Furthermore, the statistics provide are expected to increase with the age of the population. PD is a worldwide disease that affects those aged in their 70s and 80s. Stricken individuals that suffer from this disease have differing symptoms then other patients. Parkinson's victims predominantly affect older individuals but in rare cases, it is seen in younger patients as well. Young-onset Parkinson is the term used to describe those individuals between 21 and 40 that have early signs of Parkinson (Rana, Siddiqui & Yousuf, 2012). The terminology will be discussed later in the paper.

There is a multitude of information about Parkinson's, ranging from its different stages to its life-changing emotions. Such multitude includes the construction of PD, how it is made up and the problems affecting the area that leads to Parkinson, the symptoms which can be seen at an early age and seen upon a person. Understanding the interpretation of the disease and an

individual is diagnosed, can range from symptoms being present to the use of diagnosing it using a measurement scales. Medication is very important because it can be used to help keep symptoms under control and help with treating the symptoms. Continued research is essential because there are a host of new, as well as old, diseases from which individuals are suffering. In order to provide the most effective and promising services we need continuous research furthering background information on the diseases or disabilities. Only when we have fully researched the disease and its effects on various individuals, can services be provided (Buck *et al.,* 2010).

Many people suffering from Parkinson's disease have been documented as placing themselves in social isolation, later culminating in depression and in worse cases, suicide (Tuite *et al.*, 2009). It is imperative that this distressing scenario be addressed because there are many ways to deal with situations like this such as group therapy, seeing a psychologist or doctor. Social concerns are associated with many diseases and individuals handle their diagnoses in varying ways, leading to a myriad of obstacles.

Table 1

The potential needs of individuals with Parkinson's disease

Potential Needs of Individuals with Parkinson's Disease
Support Groups
Counseling Services
Case Management Services
Therapy
Vocational Assessments
Palliative Care
Individual Care Plan
Assisted Living

As shown in table 1, these potential services could possibly be provided to those individuals with PD. Individuals need services in order to get through some complicated times with their disease.

Individuals with this disease are faced with obstacles every day, along with different interference that can affect their lives. Some of these obstacles include vision problems, cognitive impairment, impact on emotions and life. Vision problems can lead to motor functioning. An individual with vision problems will have a hard time seeing, distinguishing colors, and not being able to see their family member and light sensitivity. Vision is an obstacle for PD patient because this will not allow them to be capable of seeing.

Cognitive impairment can later develop in the stage of PD, causing the patient not to respond well to the treatments and medications. The situation can progress into a more complicated problem. The impairment can affect memory and thinking within the brain. Depression, stress and medications can contribute to these changes. Emotions change throughout the stages of PD and medications can sometime be a factor to these changes. Some medications can cause a patient to feel nausea, experience sleep problems, cause low blood pressure and confusion. Levodopa, dopamine agonists (DA) and catechol-O-methyl transferase (COMT) can cause these different side effects within PD.

According to the National Institute of Neurological Disorders and Stroke (NINDS), research is being conducted and research is being supported through grants to medical institute. Grants that are being administered are to help with additional research next to the National Institute of Health (NIH). Researchers are working on new ways to improve drugs, therapies and treatments. Research that is being conducted through the NINDS, are using test studies to develop new therapies and to better understand how the disease advances. The FDA approved rasagiline in May of 2006 and approved it to be used alongside with the drug levodopa in more advance stages of PD (Schapira, 2011).

To better understand Parkinson's, one must study the anatomy, pathophysiology, stages of the disease, differing types of related disorders, causes, symptoms (in-depth descriptions), diagnoses, medications, treatments, rehabilitation aspects, as well as the emotions exhibited by its elderly sufferers. The ensuing research paper will offer insights to what Parkinson is, how it develops, and how it can be managed or controlled. Parkinson's can be a precursor to other disorders that affect its victims.

This research is needed because it will provide information and understanding on how individuals are impacted by this disease and how RAS can provide services. Many rating scales for PD have been used to determine the level of severity and the progression of the disease. The main evaluation scales used for rating PD is the Unified Parkinson Disease (UPDRS), Modified Hoehn and Yahr scale, Schwab and England Activities of Daily Living Scale and Abnormal Involuntary Movement Scale (AIMS) (Palmer *et al.*, 2010). Literature will be provided on these different scales further in details. These scales can also be given to family members who are impacted by this disease.

The paper will contribute to insight on why it is important to know about this disease and how the Rehabilitation Administrator can improve services and programs.

The objectives of the research are:

1. Provide an understanding of what this disease is and historical facts.
2. Provide knowledge and understanding of the impact that PD has on patients as well as the impact on their family members.
3. Provide different coping mechanisms for handling PD.
4. Provide information to individuals on how to manage obstacles that comes along with PD as the disease progresses.

The purpose of the paper is to provide more knowledge on PD as it is now. Research is being conducted, with variables and factors associated with this disease is changing as well. PD is one of those diseases that have been around for many years and scientist and researchers are trying to find a cure. The following four areas are being investigated because it will accommodate the literature of PD and the overview of the disease.

The purpose of the paper:

1. Conduct research into the cause, treatments, medications and lifestyles of PD.
2. Discuss the anatomy of this disease so there is a better understanding of how the disease influences a person psychologically and mentally.
3. Provide different therapeutics to support a person with PD.
4. Arrange information on cognitive, motor and psychiatric impairments for those with this disease.

RAS goals/role is to achieve an individual independence, live more independently and provide support through counseling. RAS can help these individuals who suffer from this disease by assuring the appropriate programs and services are being provided. Services can include vocational rehabilitation, psychological services and individualized services. Counselors are trained with classes and examinations on how to treat those with PD. The proper educational classes can prepare a counselors and a RAS the tools for serving those with PD as well as others with different diseases or disabilities. A counselor has to be certified in order to provide services and fulfill the services to those with PD and other diseases and disabilities. Different institutes have different course work and requirements needed to fulfill one goal of becoming a counselor or a Rehabilitation Administrator.

Definitions of Terms:

Akinesia- loss of motor function that leads to abnormal muscle movement (Merriam-Webster, 2012).

Anticholinergic- blocks the impulses through the nerves; it also blocks the combing neurotransmitter (Lindahl & MacMahon, 2011).

Apathy- lack of interest or suppression of emotions or concerns for many things that other individuals find exciting (Buck, Trautman & Clark, 2010).

Apomorphine- is in the dopamine agonist group; this drug is used to help with difficulty of movements, walking and sometimes speaking (Lindahl & MacMahon, 2011).

Autonomic dysfunction- is a term that describes the malfunction of any disease (Merriam-Webster, 2012).

Autonomic Nervous System (ANS) - is a part of the nervous system that controls different actions, such as beating of the heart and blood pressure (Merriam-Webster, 2012).

Basal ganglia- are a group of nuclei that that helps the brain function (Barone, 2010).

Bradykinesia- extremely slows movement (Hermanns, 2011).

Catechol O-methyltransferase (COMT) - is an inhibitor that is taken with levodopa. A large amount of levodopa that goes to the brain causes the dopamine to increase due to this drug (Lindahl & MacMahon, 2011).

Central Nervous System (CNS) - part of the nervous system that consists of the brain and spinal cord. The brain and spinal cord serve as the development center and works all the body control. CNS receives messages as well as sending messages to the peripheral nervous system (Merriam-Webster, 2012).

Cognitive impairment- affects the ability to think and cause weakness of the memory and/or judgment (UCSF Medical Center, 2012).

Compulsive behavior- is a behavior that occurs when an individual does not want to behave a certain way but they feel they have to behave in that order (Heisters & Bains, 2012).

Corticobasal degeneration (CBD) - a neurological disease that is affiliated with brain degeneration, it also leads to loss of brain tissue within the cortex, causes cognitive dysfunction (Dalvi, 2012).

Deep brain stimulation- a medical treatment that involves an electrical stimulus device to help control tremors (Heisters & Bains, 2012).

Dementia- loss of personality and intellectual capacity due to decrease neurons in the brain (Heisters & Bains, 2012).

Depression- a mood disorder that causes sadness, anger and unhappiness that can affect daily activities of life (Merriam-Webster, 2012).

Dopamine – a neurotransmitter in the central nervous system and the ganglia that help keep movement regulated (Heisters & Bains, 2012).

Dopamine Agonists (DA) - stimulate the receptors that are in the nerves and it act like a dopamine (Heisters & Bains, 2012).

Globus pallidus- is an output nuclei that receives other basal ganglia input and send output destination to the thalamus (Foltynie & Hariz, 2010).

Glutamate antagonist- is used to treat symptoms of Parkinson; however, it is not a popular drug (Heisters & Bains, 2012).

Hallucinations- sensing things and objects that appear real but instead, it is created in the mind (Merriam-Webster, 2012).

Impulsive behavior- is a behavior that takes place based on tendency and acting quickly without thinking things through (Heisters & Bains, 2012).

Juvenile Parkinsonism- is a form of Parkinson disease that affects those under the age of 20 (Hermanns, 2011).

Levodopa- a substance that is used in treating Parkinson's disease. It crosses blood brain barriers that later turns into dopamine (Lindahl & MacMahon, 2011).

Monoamine oxidase B (MAO-B) - are inhibitors that is used to treat depression (Heisters & Bains, 2012).

Motor impairment- limitation in muscle movement and body movement (Usability Glossary, 2012).

Multiple system atrophy (MSA) - is a condition where similar symptoms as Parkinson's occurs. MSA is more dangerous to parts of the nervous system that controls blood pressure and heart rate (Dalvi, 2012).

Neurobehavioral- an assessment of a person state between behavior and the nervous system (Merriam-Webster, 2012).

Neurons- impulses conducting cells that are the main function of the nervous system (Merriam-Webster, 2012).

Neuropsychiatric disorders- a disorder that has psychiatric and neurological features (Merriam-Webster, 2012).

Pallidotomy- is a surgical procedure that is placed in the globus pallidus to abort small brain cells (Merriam-Webster, 2012).

Parkinson Disease- a neurologic progressive disease of the Central Nervous System. It develops over time and tremor becomes noticeable in the hands. The condition becomes worse as time progresses. The brain cells that produces dopamine later breakdown and self-destruct (Parkinson's disease Foundation, 2012).

Progressive supranuclear palsy (PSP) – is a Parkinson-plus syndrome that causes nerve cells that has been damage due to movement disorder (Dalvi, 2012).

Reinforcement learning- learning new things by interacting within the environment (Merriam-Webster, 2012).

Social isolation- lack of interaction with different people, environment and social conversation Portillo & Cowley, 2011).

Social rehabilitation- process which an individual becomes aware of his or her social limitations and later develop coping mechanisms to help him or her to enjoy social life situations (Portillo & Cowley, 2011)

Striatum- is the largest nucleus within the basal ganglia (Merriam-Webster, 2012).

Substantia nigra- a pigmented area within the midbrain that has dopamine producing nerve cells (Foltynie & Hariz, 2010).

Subthalamic nucleus- the second most important input nucleus to the basal ganglia (Foltynie & Hariz, 2010).

Thalamotomy- is a procedure that destroys a portion of the thalamus (Merriam-Webster, 2012).

Thalamus- is part of the brain that sends sensory impulses to the cerebral cortex (Merriam-Webster, 2012).

Tremor- shaking of the body, limbs from a disease that can cause weakness (Merriam-Webster-, 2012).

Unified Parkinson's disease Rating Scale (UPDRS) - is a scale that rates the course of Parkinson's disease and is categorized into five sections (Palmer *et al*., 2010).

Summary of Chapter 1

Many terms including compulsive behavior, depression, the Central Nervous System (CNS) and dementia has a specific meaning with PD. Based on any research, there are many terminology associated with different diseases or disabilities. As an RSA, research does not stop at the terms but provides accurate services and programs. Just alone from the previous chapter individuals with this disease are faced with obstacles everyday along with different interference that can affect their lives. Having the appropriate knowledge, can be used to help those who have fallen victims of this disease. In addition to having the knowledge, knowing the terms are essential because they will help you have a better understanding of PD and how to distinguish between one symptom and another one. The research may be of a great deal of importance in providing this literature to individuals that has suffered from PD.

CHAPTER 2

OVERVIEW OF LITERATURE

Parkinson is a condition that date back to ancient times. According to the Western medical literature, physician Galen described it as the "shaking palsy" in 175 A.D. However, an Englishman and London doctor named James Parkinson, who in 1817 described the disease in his detailed essay, entitled "An Essay on the Shaking Palsy (Goetz, 2011)." After this essay, Parkinson's disease was recognized as a medical condition. Mr. Parkinson essay was based on three of his patients he observed for himself in his practice and three people that were around his neighborhood. The essay held descriptions of the disease symptoms and his theory that the problem was in the medulla of the brain. The purpose of the essay was encouraging other individuals to study the disease in more details. After 60 years, Jean Martin Charoot a French neurologist studied more about the disease. Mr. Charoot was the first to see the importance of the disease and the first to name it Parkinson's disease after James Parkinson (McCoy, 2009).

In the 1940s and 1950s, surgery was conducted on the basal ganglia of the brain, which proved to be helpful because improvements were shown, based on those who had the symptoms (McCoy, 2009). The Parkinson's disease Foundation was founded in 1957 (Parkinson's disease Foundation, 2012). The foundation's mission was to help those who suffered from PD and to help fund the foundation for further research, which led to other organizations and foundations to help with identifying the causes of the disease. In the 1960s, it was identified that those with Parkinson's had a chemical indifferences in their brain (McCoy, 2009). Research on the disease has increased phenomenally. Since there is no cure for Parkinson, the symptoms itself needs to be controlled with the different medications and treatments.

Progression of Parkinson's Disease

Parkinson disease is a chronic (long duration) progressive degenerative (declining in quality) neurological disorder that affects the way an individual move and the Central Nervous System (CNS) (Hermanns, 2011). Parkinson's influences the speech motor skills and coordination of an individual. PD is a complex condition that can results in distressing and disabling symptoms (Johnston & Chu, 2010). PD also affects a person socially, biologically and psychologically. It is also affiliated with a group called motor system disorders (Buck, Trautman & Clark, 2010). This particular group is involved with lose of dopamine that produces brain cells (Hermanns, 2011).

Parkinson's occurs when there is a problem with a nerve in the brain. With the disease, the nerve cells (neurons) are known as substantia nigra. Substantia nigra is mostly affected when the brain has the ability to generate movements. It is then interrupted by the neurons in the substantia nigra. Dopamine is a chemical in the brain made from the nerve cells that are destroyed (Heisters, 2012). Dopamine controls muscle movements in the body (Bains & Heisters, 2012). Without the correct amount of dopamine, the brain messages cannot be sending appropriately. Action of dopamine and decrease stimulation of the motor cortex is important when symptoms appear.

Prevalence of Parkinson's Disease

Yearly about 60,000 Americans and 7 to 10 million people worldwide are diagnosed with Parkinson. Approximately, one million people alone in the United States have PD and many cases are unknown or undetected (Parkinson's Disease Foundation, 2009). An exact count of Parkinson is impossible because some people with the early stage symptoms thinks it is a result of regular aging based on the Parkinson's Disease Foundation. The disease is about 50 percent

higher in men then in women (Hermanns, 2011). The average age for this disease to become recognized is 60 years old and it gradually increases with age. With the increase of age, new cases affect one percent of people older than 60 and three percent older than 85 (Hermanns, 2011). The information stated is important because people need to have an idea of when this disease occurs and who is infected. Having the correct knowledge, one can prepare a person over the age of 60 and up of what to expect. The information can help an individual live more effectively with this disease. If there are any signs leading up to this disease the individual family and readers can have information on what is next for this disease.

The first appearance of the disease occurred between the ages of 50 and 60. Over 10 to 15 years of age the disease increased disability. Early on-set Parkinson is shown before the age of 50 and about 5 to 10 percent of people with it have early symptoms (Hermanns, 2012). An early stage of the disease is inherited, sometimes not always but it has been showed to be due to a specific gene mutation. Juvenile Parkinsonism is a condition where Parkinson symptoms occur before the age of 20. According, to some researchers, it is a higher case in developed countries. This is so because toxins are in those developed countries and have very high exposure to pesticides.

Biological Construction

The construction of this disease is predominantly based on the basal ganglia (Foltynie & Hariz, 2010). Basal ganglia are a group of functionally strong nuclei that helps with the motor function as well as the emotional behavior and cognitive function of the forebrain (Barone, 2010). The basal ganglia are connected with different areas of the brain such as the thalamus and the cerebral cortex (Foltynie & Hariz, 2010). These disruptions analyze numerous symptoms that occur in this disease. The disruptions also affect the movement and attention process

(Foltynie & Hairz, 2010). Reinforcement learning and Pavlovian behavior responses are believed to be linked to a set of functions that affects the ganglia (Barone, 2009). The high levels of dopamine are what keep the coordination of the body movements together. As the levels decreases it allows for symptoms to develop even further and new symptoms makes appearances in the individual (Barone, 2009).

The ganglia have four main components that make up the area: striatum, substantia nigra, globus pallidus and subthalamic nucleus (Foltynie & Hariz, 2010). Of the four components, the striatum is the largest. It appears in the center part of the ganglia. The striatal circuits are important because it demonstrate a high quality of cognitive behaviors as well as complex motor behaviors.

Substantia nigra reticulate and globus pallidus internus are believed to be a link between the development of the thalamus and the hypokinetic of PD. Globus pallidus internus and substantia nigra reticulate causes abnormalities, which causes different motor areas in the cortex and thalamus to become active.

Stages

Parkinson's Disease is consists of five progressive stages. An individual can progress through these stages in order or skip stages depending on the progression speed. This decision will help the individual family become aware of the treatments and have a knowledgeable understanding of the condition, how it develops and progresses. As the stages, escalate the symptoms increase.

The Parkinson disease stages, includes administering different medications based on an individual symptoms, support and rehabilitation. The medications that are being provided are to help produce more activity within the brain. Taking the right medications can increase

independent function, not only in the body but also in the muscles and movements. The rehabilitation team is to help individuals with self-care, activities and devices (if necessary). The rehabilitation counselor provides insight and stability on treatments the individuals has received. The role of the RAS is to provide necessary programs or services to help those individuals become use to any devices they are using and help the individual is more comfortable with using the devices.

Psychological counseling is to help individuals deal with different emotions such as depression, isolation and hallucinations that can occur from time to time. These emotions can be side effects of the medication or just the individual. Many cases of PD such as dementia and fear of disability can have a person go through withdraw with their surroundings. Those caring for these individual should be familiar with the symptoms, treatments and side effects of PD so the family can provide comfort to that person. Manual dexterity can be a vocational challenge for someone with PD. Depending on the occupation, a few patients can return to work based on the severity of his or her prognosis. A vocational counselor can help determine what sort of work can be done or achieved.

Stage One

Stage one, is the beginner stage of PD. Generally, an individual in this stage has very mild symptoms but they show no sign of having this disability. Tremors and shakiness is the first sign of symptoms in this stage. Some family and friends can see changes in the individual's posture, facial expressions and their balance. Present symptoms can affect everyday activities within this stage.

Stage Two

Stage two, is the mild to moderate PD. The individual with the disease starts to have bilateral symptoms on both sides of their body. Posture and their walking ability become more noticeable. Individuals will start having signs of rigid muscles that can cause pain. Arrival of the symptoms set off disturbance of daily living and activities. Completing tasks in this stage begin to appear noticeable.

Stage Three

Stage three, is the moderate stage. Individuals in this stage show clues of body movements slowing down. The function of this stage is independently stable. Tremors and rigidity muscles can become defective as time moves on. The equilibrium can show early impairment signs immediately upon standing or walking. Speech problems, smiling or blinking are more evident in this stage.

Stage Four

Stage four, is the advanced stage. Assistance may be needed in this stage. While the symptoms become extremely noticeable, this blocks the person ability to maintain a decent life and care for them. Stage four patients can still walk to some degree. The tremors are still in the person but not severe. Body rigidity can be unrelenting. Dementia debut in this stage.

In Parkinson, dementia has been referred to as the cognitive impairment. After an individual has been, diagnosed with the disease as lease one or two years later, the patient will develop some signs of dementia. Loss of thoughts, memories and disorientation are the common sign of dementia. In Parkinson, dementia has been referred to as the cognitive impairment and takes place in the later stages of the disease. It alters the language, memory, social judgment, mental skills and reasoning. Confusion is a main issue with the patients. Confusion can become

worse at night and eventually develop into hallucinations or delusions. Communicating with the patient with these symptoms it is imperative to speak clearly and calm.

Stage Five

Stage five, is the disabled stage. This stage is the disable stage because mental and physical ability declines. Individuals cannot walk or stand in this stage and are usually bound by a wheelchair. At this stage, it takes over bodily movements and muscle use. Consistent care is needed around the clock.

One in three Parkinson patients will develop some forms of dementia. Approximately, 80% of the patients will have some symptoms after they have been diagnosis with Parkinson (Heisters & Bains, 2012). Corticobasal degeneration (CBD), multiple systems atrophy (MSA) and progressive supranuclear palsy (PSP) is common disorders that are a part of Parkinson-plus disease (Dalvi, 2012). In some cases Parkinson-plus is more rapid than the typical Parkinson (idiopathic) is (Dalvi, 2012).

Hallucinations affect about one-half of individuals with Parkinson. Hallucinations can affect one of five primary senses, which are odorous (smelling), visual (seeing things), gustatory (unusual taste), auditory (hearing) and tactile (skin feeling sensations). Patients with the disease sometimes have hallucinations, which are usually a visual one. Commonly known to take place in the early morning or late at night, when the person wakes up in the morning or when the person gets ready to fall asleep. Some people having these hallucinations have a hard time distinguishing hallucinations from reality. Once the patients start to believe the hallucinations are real, they are considered delusional. Delusions and hallucinations are considered psychotic symptoms of Parkinson (Siri *et al*., 2010).

Symptoms

Like any other disease, not every patient has the same symptoms at the same time. Symptoms differ with each patient based on which stage they are in. It can take about 20 years to see symptoms in some individuals and some may have the rapid symptoms (where you can see them early). Meanwhile, symptoms start becoming more evident on one side of the body, based on the complex of the symptoms and how they progress into complications that are more serious. Once the symptoms become more evident physical appearance starts to decline.

The primary symptoms of this disease are slowness of movement, rigid muscle stiffness (sometimes-freezing muscle stiffness). Loss of physical movement (akinesia), tremors and slowing of physical movement (bradykinesia) are the main components of the motor symptoms of PD. Not every patient will experience tremor, more than half the patients will have this experience. The disease advances slower as movements decline as well.

Tremor is an involuntary shaking of the body or limbs commonly seen in the hands arms, legs and voice. Stress and anxiety are top factors that can cause the tremors to become worse. Due to the muscle pain it can hinder stretching and relaxation. Tremors can make it difficult to complete daily living activities. Due to problems within the brain that controls muscle movements, tremors appear in such areas that were previously stated.

Depression and pain can affect a person's daily activity. Depression is the common problem that people with PD has. There are approximately, 50% of PD patients diagnosed with depression. Physicians believe that depression is part of the disease process. Depression can be treated with antidepressant medications. Seeking the medication can make it easier in coping with Parkinson's. Pain is a terminology that develops when the joints and muscles begin to ache

due to movements. Pain is associated with the rigidity symptoms and abnormal postures. Many exercises can help with aching joints and muscles.

Nonmotor symptoms have a comprehensive extension of symptoms. Autonomic dysfunction, neurobehavioral problems, neuropsychiatric disorders and sensory disturbances are just among the symptoms. An indispensable process called pathophysiologic causes nonmotor symptoms. Nonmotor manifestations can develop in prime and later PD. Fatigue, sleep disorders, constipation, swallowing and sweating and apathy are common nonmotor symptoms (Heisters, 2012).

Sleep problems affect many individuals with Parkinson's. The patients can wake-up very frequently throughout the night and have problems going to bed. After three or four hours of sleep, a person wakes up feeling as if they had a full night of sleep. Some patients may have a sleep attack where they just fall asleep suddenly. Emotional dreams and nightmares can occur during sleep problems. The most dangerous act a PD patient can do is taken over the counter drugs without consulting with their physician.

Bowel and bladder problems can work improperly due to the autonomic nervous system (ANS). The autonomic nervous system provides an individual smooth muscle activity (Bains & Heisters, 2012). Constipation is due to poor eating diet or not drinking enough fluids. Some medications used for the disease can cause constipation problems. The bowel and bladder can lead to urine retention.

Chewing and swallowing often becomes difficult to achieve. The muscles you use to swallow may become problematic in the later stage of Parkinson. Swallowing becomes difficult and eating becomes a challenge. Saliva and food can back-up in the throat causing the individual

to choke or drool. Prior to determining if swallowing is a problem, the patient would need to see a speech pathologist.

Apathy is an absence or suppression of passion, excitement or emotion. It lacks interest or concern for things that others find exciting or moving. Apathy is considered a sample for nonmotor symptoms and goes beyond behavioral, affective and cognitive concerns. In addition, it also slows down the fulfillment of daily living. Lack of productivity, effort and dependence are factors that contribute to behavioral concerns (Buck, Cark & Trautman, 2010). Inadequacy of response leads to positive or negative thoughts or actions.

Interpretation

Diagnosing PD is based on the individual's medical history and their symptoms that are present. Examinations are for observing and interviewing the patient to understand what types of symptoms has developed. Motor movements, reactions and muscle reflexes are involved in this examination. The doctor will check your vision, your muscle reflexes and strength. No test has been produced to diagnose this disease.

Two of three symptoms have to be present at the time of diagnosis, which is tremor at rest, rigidity and bradykinesia (Heisters, 2012). Tremor is based on the inspection of the movement. The rigidity testing is the movement of the upper limbs, head, neck and lower limbs. Bradykinesia involves extremely slow movement and is based on how fast you can tap your foot up and down and how fast you can tap your fingers together.

While assessing them, the patient has to be relaxed and comfortable. Postural instability (Antonini *et al*., 2010), which is sometimes called impaired balance/posture, is referred as the pull test. Physician checks your balance in this assessment. The physician stands behind you and gently pulls you backwards to see if you maintain balance without falling.

One technique used to diagnosis Parkinson's and measure its progression is the Unified Parkinson's Disease Rating Scale (UPDRS) (Palmer *et al*., 2010). The UPDRS is used to check how severe the symptoms are within the disease. While patients took the examination, administrators saw for themselves if there were any abnormal behavior such as shaking or body movements. The scale is compounded of four components phase one mentation, behavior and mood, phase two activities of daily living, phase three motor examination and phase four discussing the complications (Kleiner-Fisman, Stern, & Fisman, 2010).

Medication

As the disease progresses over time, different treatments will be needed. Treatment and effects are different among everyone with Parkinson's. Symptoms varying among people, doctors will begin to prescribe drugs when the symptoms begin to surface and affect daily activities. The overall goal of medications is to treat the neurotransmitter. Each patient will have a carefully well thought out medication plan to help control their symptoms. If patients do not receive their medications on time, various consequences can occur. A huge consequence of not receiving medications is the ability to walk or move which could be problematic. Some treatment for early on-set Parkinson's are levodopa, dopamine agonists (DA), apomorphine, anticholinergic, monoamine oxidase B (MAO-B) inhibitors, glutamate antagonist and catechol-O-methyl transferase (COMT) inhibitors.

Levodopa is the main medication used to treat symptoms and signs for Parkinson's. This particular drug works more effectively than any other drug. The drug reinstate the dopamine that was absent in the patient (Lindahl & MacMahon, 2011). Levodopa can be issued at any stage of the disease (Bains & Heisters, 2012). Levodopa dispenses aid in life expectation, daily living

and aspect of life. Patients will later struggle with dyskinesia and motor fluctuations after being on the drug for so long (Antonini *et al.*, 2010).

Dopamine receptor agonist can postpone motor fluctuations from surfacing. About 40-50% of the patients that had treatments over five years will have some form of motor complications that comes to surface (Antonini *et al.,* 2010). About 80% of those patients who were treated over ten years will have motor complications happen to them. According to Antonini (2010) explained "three potential mechanisms have been proposed to explain the development of motor fluctuations in levodopa-treated patients." These three mechanisms are peripheral factors such as impaired gastric emptying and competition with dietary protein for levodopa absorption; presynaptic factors related to nigrostriatal dopaminergic neuron loss and subsequent handling of levodopa by other neuronal and glial cells; and postsynaptic and downstream changes occurring as a results of pulsatile stimulation of dopamine receptors. (p.121)

Even though the drug works better, there are still negative side effects. One possible side effects is where the body becomes slow and very stiff to move around. Dyskinesia is the abnormality of voluntary muscle movements and is another possible side effect that can occur. Loss of appetite, sleepiness, vomiting, hallucinations and psychological problems are common side effects to this drug. The goal of this drug is to control the symptoms and keep the side effects to a minimum.

Dopamine agonists (DA) are another common drug used for the treatment of this disease. Dopamine agonist acts as a stimulus for the dopamine receptors (Lindahl & MacMahon, 2011). Just like Levodopa, the drug can be prescribed at any time in Parkinson's. Occasionally, DA can

become less sensitive to the receptors. Sleepiness, low blood pressure, stuffy nose and constipation are among the side effects of this drug.

Apomorphine is a major drug among DA (Lindahl & MacMahon, 2011). The drug acts fast to treat rare episodes of immobility with PD. Apomorphine is a drug that is injected when the muscles are frozen and you are unable to do your regular daily activities. Receiving this shot can reduce the regular amount of medications you are taking. Patients that take dopamine agonists can possibly have compulsive and impulsive behaviors as a side effect. Compulsive behavior is an act, which the person does not want to do things but do it anyway because they feel the need to. Impulsive behavior is where individuals act quickly to certain events without thinking or taking the right precautions. These behaviors are the undesired side effects of apomorphine and they can cause harm to the patients. If these behaviors are even suspected of happening with a patient, action has to be done.

Anticholinergies has been around for several years to help the tremor in Parkinson's. It sends information from the nerves to the muscles to allow movements. Anticholinergies best works in the early stage of Parkinson when the symptoms appear mild and calm (Bains & Heisters, 2012). It can become problematic to withdraw from this drug. Lindahl and MacMahon suggest that this medication is no longer recommended but at some time, it was used for treatments.

Monoamine oxidase B (MAO-B) inhibitors are another dopamine that breaks down the secreted dopamine (Bains & Heisters, 2012). The enzyme that breakdown are called monoamine oxidase type B (MAO-B) (Lindahl & MacMahon, 2011). This inhibitor can be taken alone or among other drugs that helps with the disease. Patients taking these inhibitors and other drugs

should be aware that it could cause the blood pressure to rise. Some side effects include insomnia, aching joints, depression and severe headaches.

Glutamate antagonist is not a common drug used for the disease. However, it can be used for treating dyskinesia's, rigidity and tremors. Amantadine is a glutamate antagonist drug that slows down the dopamine activity (Lindahl & MacMahon, 2011). This drug can cause confusion and hallucinations. Bains and Heisters suggest that glutamate antagonist and amantadine are used infrequently and that a patient would not likely come across these medications.

Catechol-O-methyl transferase (COMT) inhibitors are used with levodopa (Lindahl & MacMahon, 2011). These inhibitors help keep the disease symptoms under control. The inhibitors help the enzyme to breakdown the levodopa in the patients system (Bains & Heisters, 2012). Side effects include chest pain, dizziness and confusion.

Therapeutics

Even though there is no cure for Parkinson's there are some surgical procedures an individual can seek out. Before the drug Levodopa was discovered, surgery was the common treatment for PD. Since Levodopa is the new treatment, surgery was only considered for a few people with Parkinson's. Surgery was only used if the individual did not respond well to the drugs being used and for those who had more advance Parkinson's. Some surgical procedures include deep brain stimulation, pallidotomy and thalamotomy.

Non-drug therapies are also good for patients. These types of non-drug therapies had a positive influence of individual's daily activities (Heisters, 2012). It is, important that the patients have a unique designed therapy program that can help with motor, balance and movements. A dietician can be an advisor for someone with PD. The dietician can consult for a

healthier diet. Managing symptoms through non-drug therapies can improve regularly daily activities.

Deep brain stimulation (DBS) is the most common late symptoms neuro-surgical procedures (Lindahl & MacMahon, 2011). This type of treatment is surgically implanted into different parts of the brain by an electrode. Pulse generator (PG) is an electrical device the doctor use to put under your skin to send stimulation pulses to the brain that can help sub come different symptoms of PD (Heisters, 2012). PG can also be used on the right or left side of the brain. DBS stimulates one of three brain parts: the thalamus, globus pallidus and the subthalamic nucleus. The most common area among these parts is a tiny section under the thalamus.

This stimulation help reduce tremor, bradykinesia and rigidity the subthalamic nucleus and the globus pallidus. In some cases, DBS lower the need for other drugs and Levodopa, which can lead to a reduction with involuntary movements. However, the stimulation does not help with speech problems. The stimulation can help improve quality of life, sleep, stride length and velocity. About five percent saw a difference in this procedures then they did using the medication. The symptoms and movements of PD are improved over time.

Murdoch (2010) stated that, “Pallidotomy and Thalamotomy were surgical procedures within PD. Between the two procedures, Pallidotomy was the most common. Furthermore, pallidotomy disrupts the connections between the thalamus and the globus pallidus, improving the common symptoms of rigidity, tremor and bradykinesia.” (p. 61) According to researchers, it helps reduce the amount of Levodopa that some patients may need. The primary goal of the thalamotomy is to remove part of the brains thalamus and to help reduce the tremor that occurs.

A person with the disease have symptoms that can change on a daily basis and some of the side effects of the drugs being taken can slow down there activity and movement. A physical therapy, physiotherapy, occupational therapy and speech therapy plays an important role with someone that has the disease. This therapist has responsibilities as being an individual that help those overcome physical impairments. These impairments are discussed with their appropriate therapist.

Physical therapy can help deal with exercises and stretches that can loosen the muscles. Exercises can improve flexibility, posture endurance and strength. Exercising is important and it helps people with PD also, it helps with the early and latest stages of PD as well. Daily exercise can help increase endurance, control weight improve range of motion and flexibility, reduce the risk of being constipated, maintain coordination and muscle strength and improve cardiovascular fitness. It is known that exercises can improve your mood, confidence and give you a sense of well-being.

Physiotherapy provides techniques for handling movements more easily based on evaluation (Bains & Heisters, 2012). These techniques can be taught early or late in the stages. Massages and special exercises can be a lot more helpful and useful weather then using drugs. Daily activities can become more easy and improved through the correct and proper physiotherapy. Implementing patient education is important to physiotherapy.

Occupational therapy (OT) help patients cope and plan more effective movements in their daily living activities. OT can take the pressure off those family members who are caring for those who have the disease. Some activities can include dressing, combing your hair, writing, bathing and cooking. Treatment through OT can take place through all stages of the disease. OT goals are to help improve your balance, strength and walking just as a physical therapist would.

They also help assist with using walking devices (walkers and canes) properly. In addition to assisting with devices, they also evaluate home safety precaution to help reduce risk of falling. Changes that a person may need an occupational therapist can assist them.

Speech therapy is to help patients with their speech and the way they communicate with other people. With the disease, your speech can become soft and you start to lose your voice. The therapist helps with problems in such areas as vocal quality, articulation intelligibility and voice loudness. Different techniques can help improve or strengthen the patient's voice and their communication. About half of the patients with this disease experience some form of communication problems that has to be address.

The goal of the speech therapist is to make sure the patient overcome the softness of their voice. The therapist also develops speech and breathing exercises. The therapist will help you design ways to help you with your speech such as exercising your speech so you can sound clearer, exercising to help you practice your pitch changes when you communicate, breathing to improve your voice and different ways to keep your speech rate regular. Techniques can be established to help with these problems. The therapist can assess for dysphasia and help the patients with recommendations for preventing aspiration.

Exercises are the most important key to any diseases. It improves quality of life and increases the individual mobility. Exercises decreases muscle cramping but improve motor movements. Anxious and depression mood can become better doing exercises. Before any exercises can be conducted one need to consult a physician. Numerous exercises can increase better mobility in the arms, legs, hands, wrist, face, shoulders and muscles (Georgy, Barsnley & Chellappa, 2012). Exercises can decrease symptoms and lead to a healthier lifestyle. Some techniques that can help with balance and flexibility are Yoga and Tai Chi.

Exercising programs can be designed for each patient with the help of a Physical Therapist. The PT will evaluate your current state and certain exercises you can already do. Once the PT has everything they need from the evaluation then a safe and professional plan can be established. The program can focus on balance difficulties, muscle pain, problems with bathing, writing, dressing and issues walking or maintaining mobility. If the patient has a caregiver then the PT will teach the caregiver how to do the exercises.

Due to changes in the body, individuals coping with long-term disease suffer greatly from social isolation. Social isolation can affect relationships within families, a family framework and lives. Social rehabilitation is a process that takes place during long-term affliction. Social rehabilitation is the process through which a person becomes aware of his/her own social limitations and consequently, develops activities to cope with and enjoy social life situations in familiar and/or other environment (Portillo & Cowley, 2011). Social needs have to be address and handled during the initial stages of Parkinson or else the problem will not subside. The socializing aspects can have success while it can cause relapses.

Social rehabilitation is grouped into three categories in order for this rehabilitation to occur; they are internal criteria, active behavior criteria (ABC) and external implications of social rehabilitation (Cowley & Portillo, 2010). Internal criteria deals with cognitive and psychological internal issues that patients and their families go through in order to establish a positive outlook on social life. Patients had to adapt to their physical self and their disability they had, establish their social concerns and draw a line between their social activities and their disability problems. ABC is used to promote social activities that patients are faced with every day. This criterion takes place after the internal criteria. ABC is related to the patient accomplishment of socializing and enjoying the social life benefits. For these items to be

effective patients had to continue having a healthy social affiliation, arrange social decisions as well as choices and just enjoy any activities. External implications of social rehabilitation were for patients and their caregivers to make other individuals aware of any activities that were being completed in an appropriate way.

Support

Support groups are a form of coping. Other individuals and their families that have PD can help you understand the disease much better. These groups provide comfort and confidence to talk about problems and feelings. Some people go because they need help or more support other than from their families. Not only receiving valuable information from the group but also different ways to cope with PD from other individuals and how they cope with PD and/or some other diseases can be beneficial. Therapist plays an important role on the impact of Parkinson's, helping families and individual cope with a disease. Education courses can be conducted to help with understanding the disease, medication and there side effects, symptoms overview and the stages.

The caregivers play an important part of the patient life so the courses are very vital for them. Caregivers have to provide social and psychological support to the person they are caring for (McLaughlin *et al*., 2010). Sometimes caring for a family member can be difficult and sometimes beneficial all because support is being provided. Many burdens come with being a caregiver for example stress, which is a common burden. Stress comes from a numerous of problems such as physical and emotional sources. Everyday problems such as caring for an individual, financial problems and fear concerning the family member with PD future can cause stress (McLaughlin *et al.,* 2010). It is important to remain focus and relax when dealing with these problems. Stress management can have a big impact on those who are under stress.

Once the illness start becoming more progressive and the elderly get up in age, the caregivers feel they have to accommodate more emotional, physical and social support (McLaughlin *et al.,* 2010). These accommodations can lead to distributing medications, personal care and driving them around. Limitations of accommodating those with PD are financial issues, doubts for the future and depression. Information has to bestow on the individual who is caring for the person with PD. The information includes identification, effects of PD, medications and side effects.

Life goals are beneficial to have especially for someone with Parkinson's (McNamara, Durso & Harris, 2006). A chronic illness can cause a patient not to worry about things that are going on around them but focus more on the negative aspects. It can be very helpful against mood disorders and depression. Elderly, worry about life but with life goals they can live a healthy life. An elderly living with a disease or have an illness can affect their thoughts on their life and cause them to think negatively.

There are numerous inventories that can measure where a person mood, anxiety, depression are at. The Rivermead Life Goals Questionnaire was designed to have an outlook on where the importance of life goals lies. It could be difficulties in their life activities, hobbies or arrangements. The Scales for Outcomes in Parkinson's disease (SCOPA) is a battery test used for assessing nonmotor and motor symptom (Buck, Trautman & Cark, 2010). The scale checked for cognitive dysfunction, depression and pain. It also addressed daily activities of life. The Medical Coping Modes Questionnaire (MCMQ) is used to assess coping (Evans & Norman, 2009). The MCMQ questionnaire was to help measure coping and see exactly where the coping mechanism lies.

Summary

An obstacle an RSA could face is developing the right program for a patient. Every patient will not have the same symptoms as someone else. Provided with the correct knowledge and understanding there is a key place to begin with treatments. Many medical individuals are involved with PD. These medical individuals have roles to maintain and provide the right information and guidance. PD comes with several information and ways to cope with this disease. In latest news, exercise is improving mobility and keeping PD patients fit. Different types of exercises such as stretching, working on the treadmill and developing a workout plan is beneficial.

Once the symptoms have been identified, treatments can begin on each staff part. After these symptoms have been identified then necessary, resources can become available and used. Family members, not just those who are affected with this disease play an important part in any disease. These family members provide the support that the diagnose patient needs to help get them through rough times.

CHAPTER 3

DISCUSSION AND IMPLICATIONS

The goal of this research was to identify different obstacles among individuals with Parkinson Disease and ways to handle these obstacles, understand the medications, treatments and the impact it has on someone with PD and their emotions. Particular information can be useful with what type of services the individual may need.

Social isolation is the lack of interaction with different people, environment and social conversation. With patients being diagnosis with this disease and sometimes not having the proper knowledge of PD, most patients think they are going to die. With this thought, it causes those to separate themselves from family members and social events. Isolation can lead to more concern in addition to the disease.

Group therapy is a main key factor in guiding an individual through social isolation. Some support can come the National Parkinson Foundation. The National Parkinson Foundation (NPF) ensures that PD individual is provided with the best possible care and knowledge of the advancing disease. The NPF provides counseling to help those dealing with isolation and depression. The treatment the NPF is utilizing is physical and psychological therapies. Talking with someone that is going through this issue can be beneficial. He or she can provide insight on the disease and how to live with it and how to continue to be socially active and self-involved. The individual can provide support as well as guidance into what aspect of the disease is crucial to focus on.

Parkinson is one of many diseases that are yet to have a cure but research is still being conducted to find this cure. With the disease having a major impact on those over 65 years old, support is the main key to help an individual get through these hard times. With older

individuals, they need plenty of support and care based on how severe this disease has become to them. The literature that was provided was to illustrate an in-depth closer look at the disease. There is an understanding of how this disease progresses, the effects it has on someone body and their movements.

Education and knowledge on how to help those with PD can be received at a higher education and in training. Training can be provided in the clinics, physician offices, hospitals and treatment centers. On-the-job training is needed because there are equipment's, documents and materials that can have a positive impact on becoming more familiar with the employment position. On-the-job training is more effective because you have hands on tools as well as working situations. Orientation training is a training that every new employee goes through. Previously mentioned, orientation training is provided to help employee develop their skills and interpersonal skills. Internship training can also be provided through undergraduate and graduate education. Internship training provides the basic knowledge for fulfilling the employment as well as gaining knowledge about the position and the requirements.

Counseling sessions can also help those who are working with patients with PD as well as help them with managing their obstacles. Research on the disease can help an individual become more familiar with PD. This can allow someone to have some knowledge of what PD is and whom this disease infects. Experiences are needed in order to provide the right assessments, treatments and services. Counselors or therapist can provide different methods in handling obstacles. These methods can include motor improvement (gaining strength in arms or legs) and mental improvement (overcoming depression and social isolation).

RAS's, main duty is to support and serve those with disabilities through effective programs and services. These RAS's also oversees grant programs that can help individuals live

more independently through counseling, development, competitive employment, psychological and medical services. Grant programs provide funds to state agencies and rehabilitation centers. Vocational rehabilitation is a crucial part of RAS. The vocational rehabilitation is what determines what types of services are needed (individualized services or job training).

RAS mission is to maintain rehabilitation programs and services providing the right amount of knowledge needed to make sure these programs succeed (Rehabilitation Services Administration, 2012). In order to succeed with these programs, knowledge of different diseases and disabilities will help an RAS plan or produce the right services for these individuals. Providing adequate and effective services to individuals one needs to know about his or her background information and his or her history with the disease. These programs, counseling services, individual services and different therapies (physical, speech and occupational) should provide the most effective ways to help these individuals.

A Rehabilitation Administrator can be influence by physical and emotional effects. These effects can be from the job or from their patients. RAS help those with PD by ensuring specialized programs and funding those programs based on their needs is efficient and effective. RAS also direct and coordinate these programs or services to support those that has fallen victim of this disease as well as other diseases and disabilities. Once the individual start receiving treatments, the RAS provide their input on the treatments and the quality of these treatments. They do this to make sure the programs are effective and progress is being made.

It is important that the family knows the information about the disease that their family member has and what the programs or services are that can be provided. Some information about this disease the families need to know is the symptoms, treatments, stages and ways to cope with PD. The information is essential because having this knowledge of treatments and

diagnosing, the disease can be treated early before the symptoms get unfavorable. Knowing the ways to cope with the disease will definitely have an impact of the family. The impact would involve the family more than expected. To help deal with PD the individual would need all the support from their family to help them get through this rough ordeal. An additional role of an RAS is providing guidance to the families and a description of the services. Services are based on the client's needs; placing an individual into a program cannot be done until the needs are known and evaluations are done as well.

Knowing about the stages and the medications that can help with PD is beneficial. Having this knowledge can help the person with the disease as well as others around them. The appropriate path can help a patient deal with this disease in a timely manner. Accurate and updated information can be received from the Parkinson Disease Foundation and the National Institute of Neurological Disorders and Stroke.

Based on the Parkinson Disease Foundation and other foundations, research is still being conducted to find a cure for PD. In today's society, medications are being established to help keep symptoms under control. An experimental drug called GM 1 ganglioside has slowed down PD as well as improve symptoms (Progression of Parkinson's Disease, 2012).

In conclusions, materials that were covered in the research are very essential. Different diseases or disabilities, research has to be done in order to gain insight before any work can be done. Conduct research in any form of work that is needed to provide effective knowledge and understanding of the work. After doing, this research there is a better understanding of what PD is as well as the job description of RAS. More knowledge and information should be conducted within the classes to give more insight on diseases or disabilities and how it affects an individual role as an RAS major. In addition to this, practicing on developing grants, programs and

interacting with the clients would be a great exercise to do to give those who are studying RAS an opportunity to become familiar with the job description.

Summary

As an RAS, the work is never done. Their work consists of making sure that those who they their serving are taking care of to better themselves. They only not do work for their patients they are serving but they do for the community by putting the message out in the society about their role and services. RAS maintain and direct different services weather it is in the private sector or the public sector. Relationships and leaderships are maintained throughout their careers and the services they provided.

As research is continuing to be done, more knowledge is being provided to those individuals with PD. These individuals have many ways to seek out information, support and treatments to help them understand their disease. Research is continuing until there is a cure for this disease but until now medications has been establish to help with symptoms that occur. The Parkinson Disease Foundation website is a great place to receive updates on new and improved information as well as information on the disease.

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