Occupational Assessment of Neurologic Conditions

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Strokes (the third leading cause of death) are divided into two main categories, ischemic and hemorrhagic, based on the cause. In this report, Harry, a 52 year old male, experienced an ischemic stroke during a surgical procedure. The area of Harry's brain affected by the stroke was his anterior cerebral artery (ACA), the frontal (front) and parietal (top middle) region of his brain (Gillen, 2001). Because of the deficits Harry experienced due to the damage to his brain from the stroke, he was referred by his doctor to an occupational therapist (OT). Occupational therapy is a branch of medicine in which patients receive therapy using everyday objects and tasks to help them regain their abilities to function in their community. These objects/tasks range from the patient putting on his/her own sock, to brushing his/her own hair.

According to the American Occupational Therapy Association (2008), "[s]upporting health and participation in life through engagement in occupation" is the basis for Occupational Therapy intervention. But more important than this is finding the occupation that provides a purpose and meaning to the client. This is achieved through a collaborative relationship between the therapist and the client (American Occupational Therapy Association, 2008). This paper describes the effects of this collaborative treatment effort on Harry and his wife, and on his recovery.

Two of the frameworks used by OTs are the Occupational Therapy Practice Framework: Domain and Process (American Occupational Therapy Association, 2008) and the Conceptual Framework for Therapeutic Occupation or CFTO (Nelson & Thomas, 2003). These two frameworks provide the therapist with a guide as to how to gather relevant information from the patient, as well as how to break this information down into understandable categories. These categories, used in this report, provide a greater level of understanding about Harry and his progress while in therapy.

Client Medical Information

Harry, a 52-year-old male, experienced an ischemic stroke (usually caused by a blood clot) to his ACA during a heart bypass surgery to fix an 85% blockage in one of his arteries. His wife reported she was told he died twice on the operating table.

Harry received physical therapy at two different hospitals, both of which told his wife he should be placed in a nursing home, as he would never walk again. Harry's current form of mobility is a wheelchair, due to his contralateral lower extremity weakness (opposite side from where the blood clot occurred), and he is belted to the chair to prevent his falling out. Harry is able to stand with moderate assistance for 30 seconds during transfers; he has confusion, difficulty with attention, and abulia (absence of willpower). He also talks barely above a whisper, and has trouble articulating (sounding out) his words. He performs slower movements with his left UE (upper extremity or arm). Prior to his physical therapy

sessions, he had complete spasticity (constant muscle spasms) in his right UE after surgery, but he has reached a Brunstrom stage 3. His right LE (lower extremity or leg) was completely flaccid (no muscle tone), and his left LE had moderate hypotonicity (low muscle tone). Currently his left LE has mild hypotonicity, and his right LE shows signs of some spasticity, Brunstrom stage 2.

As Harry's wife has seen her husband slowly improve, she refuses to consider placing him in a care facility. Due to insurance limitations, Harry does not receive home health care services at this time. Harry is currently seeking the services of an occupational therapist and a speech therapist. His wife is his primary caretaker, and they currently live in a one-story, two-bedroom home in the suburbs. His wife reported that adaptations were made after his release from the hospital in the form of a small ramp leading into their side door, adding a shower bench to their bathroom, and eliminating floor rugs. He has one daughter who is about to have his first grandchild. She lives nearby and occasionally comes to relieve her mom in caring for Harry, but with only one month to her due date, she is no longer able to assist in lifting Harry.

Harry was placed on early retirement from his job at a car manufacturer, where he had assembled screws and worked in the electrical department for the past 35 years. He also had experience in wiring houses for electricity, which he would do as favors for family and friends in his free time. He has only a high school diploma, but likes to learn new things by reading books and magazines (mostly concerning car manufacturing and construction).

After initial screening of Harry's MRI and CT scan confirmed a left CVA (cerebral vascular accident or stroke) affecting his ACA, his medical history also noted he has high blood pressure and is a smoker. Harry is also 90 pounds overweight and is a borderline diabetic. Both Harry's doctor and previous medical staff indicated Harry also experiences difficulty with incontinence (inability to control his bladder) and constipation, as well as some right side neglect.

Client Assessments

An assessment, a series of questions asked by the therapist or activities performed by the patient in order to attain a baseline of the client's abilities, is conducted during an initial therapy meeting. Assessments are usually repeated at certain intervals throughout the therapy sessions to determine the progress made by the client as well as to determine whether a particular intervention is benefiting the client (Alotaibi, Reed, & Nadar, 2009).

Standardized Assessments

Assessments conducted with Harry and his wife included the Canadian Occupational Performance Measure (COPM), Minnesota Manual Dexterity Test, NIH Stroke Scale, Barthel Index, Purdue Pegboard, Berg Balance Scale, and the Sickness Impact Profile. Results from the COPM and Sickness Impact Profile showed difficulties with sleep/rest, eating/feeding, mobility, communication, and recreation abilities and satisfaction levels. The NIH Stroke Scale displayed difficulties with neglect, language, right side extremity motor deficits, and moderate level of consciousness problems. It also showed no difficulties with vision/gaze or facial palsy. The Minnesota Manual Dexterity Test and Purdue Pegboard showed limitations in Harry's fine and gross motor skills, grasp, and dexterity with the right UE. Harry also had some difficulty with using bilateral hand movements and grasping with his left UE. The Barthel Index reported assistance needed to perform feeding, bathing, grooming, and mobility. He had occasional bladder accidents, and occasionally needed enemas for production of bowel movements. He could perform some of his own dressing and toilet use, but still needed assistance. He also needed major help in transferring from bed to wheelchair, although he could sit in a static position. The Berg Balance Scale showed low scores in every area of dynamic balance. To provide a greater level of understanding, Harry's wife was included in the questionnaire, as Harry had limited verbal and written

communication levels as well as difficulties with attention. A skin assessment was also conducted and there was no sign of skin breakdown (pressure sores).

Goniometry and MMT

Due to the results of these assessments, Harry was given a manual muscle test, functional range of motion (ROM), and goniometry assessment. The results confirmed some spasticity in the right UE, minimal spasticity in the right LE, and mild to moderate hypotonicity in his left LE. Harry's ROM was within functional limits (WFL) for his left UE, but showed a 60-degree deficit in shoulder flexion, 52-degree deficit in shoulder abduction, and 20-degree deficit in elbow extension. Harry showed no functional ROM limitations in either LE, but could not actively move his left LE past 30 degrees in hip flexion. He also could not abduct his hip more than 15 degrees. Harry's right LE was unable to actively move against gravity, but when placed on a gravity-eliminated plane, was able to move and sustain motion. However, he still could not abduct his hip past 5 degrees and could not flex his hip past 10 degrees. His MMT results showed 2-/5 for his right UE, and 4/5 for his left UE. His left LE results showed 2+/5, and his right LE showed 2+/5, but his right LE results were 2-/5.

Therapist Interventions

Based on the results of the assessments and desires of the client, interventions (treatment plans) are designed by the occupational therapist. The treatment plans are then conducted by either the occupational therapist or occupational therapy assistant. The intervention itself must be related to the client's need to achieve a level of physical, social, and mental health. It also needs to help the client achieve the goals he/she has for rehabilitation (American Occupational Therapy Association, 2008).

Presentation of Assessment Results

Upon presenting the assessment results to the client and his wife, the occupational therapist educated them on what the results meant in regards to Harry's current functioning. She also took this time to further educate them on Harry's condition (specifically the prognosis or common outcomes of ischemic strokes). The therapist also asked what they both would like to see happen with Harry's therapy. At this point, Harry's wife began to cry, stating, "This is the first time anyone asked me what I wanted." She went on to say she felt no one had listened to her during his previous sessions, even though she had lived with him for 31 years. The therapist was able to maintain an open posture and remained attentive to both Harry and his wife. Due to both the therapist's attitude and inclusion of the client and his wife in the intervention planning, a collaborative relationship was built.

During this meeting it was decided by Harry and his wife and the therapist that focusing on Harry's bladder incontinence and bowel constipation would be the most important area, followed closely by his ability to sit in the wheelchair without the use of the seatbelt while it is moving, as this would help their comfort levels while moving about both their home and community. Also his ability to stand without assistance for more than 30 seconds would help his wife and daughter in transferring, showering, and toileting Harry. Another area they would like to see improvement in eventually was Harry's ability to feed and groom himself (i.e., shaving, brushing hair and teeth, and washing face). Harry also stated he would like to be able to read a book independently, as he currently can't turn the pages and has to have his wife or daughter do this for him. He also has trouble comprehending what is written due to his high distractibility. They both expressed the desire for Harry to walk again, but also decided this was not as important at this time.

Based on her 11 years of experience, the occupational therapist chose to use an inductive approach to Harry's treatment (DeJong, 2004). The bottom-up aspects of her interventions (individual parts that make up the whole task) implemented both the Neurodevelopmental and Biomechanical Frames of Reference. Frames of reference are used by thera-

pists to determine how or in what ways to help the client achieve his or her goals. The Neurodevelopmental Frame of Reference focuses on helping the client relearn what "normal" movement feels like, whereas the Biomechanical Frame of Reference concentrates on improving the client's strength and endurance (Bohnen, 2011). Exercises that included kinetics and physiological principles were chosen for implementation in his therapy (Foster, 2005).

Occupational Therapy Practice Framework

The Conceptual Framework for Therapeutic Occupation (CFTO), which consists of multiple sections, is used to analyze the client's needs, abilities, and any other environmental or social factors that may affect rehabilitation. The Occupational Form, which is part of the CFTO, examines the physical and sociocultural aspects, the messages behind each physical feature (Nelson, 1997; Nelson & Thomas, 2003).

Physical Features. The physical features of Harry's interventions included the home environment as well as the clinical setting. Harry lives in a one-story, two-bedroom house with his wife. The five stairs leading up to his side door have been adapted to a ramp for his wheelchair. Harry's current means of transportation both within the community and within his home is a wheelchair. His bedroom has also been adapted in that he currently has a hospital bed with side rails to prevent his falling out in the night. His neighborhood is in the suburbs of the city, with both paved streets and sidewalks. However, there are high curbs with few inclines for wheelchair accessibility.

Harry is driven to therapy by his wife two times a week in their minivan. He is rarely taken into the community otherwise, as he becomes uncomfortable with public opinion of the "seat belt" on his wheelchair used to keep him from falling. Harry's medium-sized city houses multiple grocery and clothing stores, as well as a medium-sized hospital. There are accessibility aids at all of these locations in the form of motorized wheelchairs, handicap parking, wide aisles, elevators, and automatic doors. Local restaurants are not as accommodating. Some have wider doorways and handicap parking to meet the city codes, but few have automatic doors, low thresholds to maneuver wheelchairs over, or wider aisles.

At the clinic there are no threshold heights to negotiate and the doors have an automatic opening mechanism to enter the waiting room. The clinical setting of Harry's therapy includes a large room where multiple other forms of therapy are being conducted, including physical and occupational therapy. The distraction level has been reduced (but not eliminated) by having Harry come during the lunch hour or closer to the end of the day. The therapy sessions occur in the far right corner at a wooden table surrounded by six chairs (much like a dining room table in a home). On the table is a basket of assessment tools such as measuring tapes, ink pens, stopwatches, and bandage tape. Also on the table are two bottles of ultrasound gel, a hand sanitizer bottle, and the patient's chart. On the wall behind the table are two white bookshelves that contain a plethora of therapy equipment, such as cones, beading kits, kinesio tape, and hand grippers. On the wall to the side of the table are the ultrasound machine, ice pack cooler, hot pack unit, and a metal cart holding towels.

The walls are painted a medium/light yellow, and a door behind where Harry sits has a window. The rest of the room contains multiple other pieces of physical therapy equipment, such as treadmills, plinths, and weight machines.

Sociocultural Dimensions. Harry's wife is his primary caregiver, and attends every therapy session with him. He is about to become a grandfather for the first time; thus his daughter is no longer able to provide physical assistance due to pregnancy. Harry's son-in-law is a truck driver and depended on Harry to be on call if his wife needed anything while he was gone on his trips. Harry's parents are both in an assisted living center due to his mother's diagnosis of osteoarthritis and his father's diagnosis of dementia. Prior to his stroke, Harry and his family would visit the facility every Saturday, but since his stroke, he is able to go only once a month. Harry was retired from his place of employment as an assembler of small parts in a large car manufacturer. He also had worked in the electrical

department at that same company. Harry is a member of his local church, and prior to his stroke assisted with their building maintenance at no cost.

OT Practice Framework Contexts

Much like the CFTO, the OT Practice Framework is made up of multiple aspects of the person and his/her life. However, the Practice Framework has a unique, more in-depth way of analyzing patient information (American Occupational Therapy Association, 2008). As Harry's world is made up of multiple contexts (environments), it is critical to take each contextual element into consideration when planning therapeutic treatments.

Cultural contexts. Harry is a white male with some Hispanic background. He was a middle class factory worker prior to his stroke, but due to retirement he is now in the lower socioeconomic class. The cultural aspects used with his interventions included increasing his grip strength and finger dexterity (movement) in order to help him regain his ability to read and cook tamales with his wife, as well as regain his ability to type emails and search the Internet.

Physical contexts. Harry's physical context includes paved community streets and cement sidewalks around his home. His home is a one-story, two-bedroom house with a ramp leading up to the side door where he enters, and five steps leading to the front door. He lives in the outlying area of a medium-sized city and has access to its shops (grocery stores and restaurants) via his wife transporting him in their minivan. He currently navigates his surroundings via a manual wheelchair which his wife or daughter push for him. Harry's environment also includes the therapy clinic where he receives treatment two times a week.

Social contexts. Harry is a retired factory worker who put together screws and performed electrical work on new cars at a major manufacturer. Prior to his CVA, he enjoyed getting together with his coworkers on Friday night and watching sports at a local sports bar. He also interacted with his fellow church members at Sunday Mass, and enjoyed talking to his Priest. He is currently limited in his communication abilities, but still interacts with his parents, wife, daughter, and son-in-law, as well as his doctor, nurse, occupational therapist, and speech therapist.

Personal contexts. Harry enjoys working with his hands performing home maintenance tasks such as mowing the lawn, fixing electrical problems, and helping his wife cook. His favorite activity within the kitchen is making tamales from his grandmother's recipe. He also enjoys helping his neighbors with their home repairs and small building projects.

Spiritual contexts. Harry grew up in a culture where hard work was not only expected to create income but was also accepted behavior for a young married male. This role was ingrained in Harry's belief system from a young age and continues to play a major role in his ideology of life satisfaction. The community culture within which Harry resides is made up of multiple ethnic and racial backgrounds, and also differing work ethics. Harry stated he is Catholic, and his wife mentioned while they are accepting of other people's beliefs, they really feel strongly about their faith. Harry finds comfort receiving the sacraments and the blessing from the Priest at the conclusion of the services.

Temporal contexts. The time in which Harry is the most alert and aroused is first thing in the morning and after his nap in the afternoon. His therapy sessions have been scheduled as often as possible around these times, as this is also when the clinic is the least busy and thus the least distracting for him. As Harry is not returning to his previous employment, the focus of the therapy sessions was on occupations he could engage in during his retirement years.

Virtual contexts. Harry had only recently begun using a cell phone to "keep his wife happy." His wife reported he is still not familiar with it, and often forgets to turn it on. He has been using the Internet for around seven years and enjoyed finding news articles online and emailing his daughter and his friends from work. He said he preferred emailing people over talking on the phone, but if he was "forced" to, he could call someone. The virtual aspects of the interventions for Harry were based on his enjoyment of typing emails and browsing the Internet using fine motor movements in his hands.

Activity Demands

Activity Demands are a second segment of the Occupational Therapy Practice Framework. Once the contexts have been defined, this framework allows the therapist to determine what parts are needed to successfully complete an activity. These are often based on activities the patient needs to do each day (American Occupational Therapy Association, 2008).

Objects and their properties. The therapist used a variety of tools in Harry's therapy sessions. These included a gait belt, hand grippers, large foam pegboard with large pegs, the Purdue pegboard (pins, collars, washers, tweezers, and pegboard), a bucket with rice in which were hidden small objects (jacks, coins, army men, balls, plastic bugs, etc.) he would find with his affected hand, an ice pack, weights with Velcro straps to attach to a limb, computer/typewriter keyboard, a grip master for his fingers, a take-home exercise sheet with both pictorial and written instructions, and a small pop-on bead kit.

Space demands. The space demands for Harry within his physical contexts are enough room for him, his wheelchair and whoever is pushing his chair or transferring him. This includes room to maneuver through doorways, down sidewalks and aisles in the grocery store, in elevators at the hospital, and in his bedroom, bathroom, living room, and kitchen. Also important to keep in mind is the added space he requires when being transferred from his minivan to his wheelchair and vice versa.

Social demands. Harry must be able to communicate with his wife, daughter, son-in-law, doctor, nurse, occupational therapist, and speech therapist. Harry also must be able to communicate (either verbally, in writing or through gestures) in an appropriate and socially acceptable manner. He also needs to be able to block out background noise and events in order to accomplish required tasks.

S**equence and timing.** Harry requires longer periods of time to process what is being said, yet he has difficulties with blocking out distractions. He appears to have no sequencing issues at this time.

Required actions. Harry requires general supervision within the home environment, as he has good static sitting balance but is unable to mobilize himself in his wheelchair. He requires close supervision during showering, eating, and toileting. In order for Harry to achieve his goals of bladder and bowel control, he will need to be able to sense when he needs to use the restroom, and be able to communicate this to his caregiver in time to reach the restroom. For Harry to be able to sit in his wheelchair without the safety belt on, he will need to increase his proprioception (ability to sense where his body is in space) and motor skills and his ability to maintain his balance while sitting. This is also true for his desire to stand for longer periods of time to assist in his own transfers.

His motor, proprioception, sensory, and praxis (ability to plan actions) skills will be needed to master his desire to perform his own grooming activities independently. Fine motor skills are required in his wrist and fingers to read a book or magazine independently. He would also require cognitive and sensory skills in order to turn the pages. In order to interact within his community, Harry needs to have good social and emotional performance skills as well as some form of communication.

Required body functions. Increased muscle control in his urinary and bowel tracts are required to assist in independent toileting and elimination of "accidents." Good oral or writing abilities in order to communicate with his caregiver, doctor, and therapist are also requirements for Harry. Good core muscle tone is also important for Harry's balancing abilities and his ability to stand without falling. His ability to stand requires good muscle strength and endurance in his hips, legs, and feet, as well as good joint stability. Harry also requires good muscle tone and control in his arms, wrists, and fingers in order to turn pages while reading.

Required body structures. For Harry to meet his goals he must have at least one hand free as well as his first three digits, to turn the pages of his book. He must also have two legs to be able to stand for longer than 30 seconds unsupported. Harry must also have his digestive organs, such as his colon, small intestine, and bladder, to perform bowel and

bladder management. Harry must also have the use of both eyes for performing grooming as well as reading activities. He must also have the use of his vocal chords and no limitations in his breathing to communicate verbally with those around him.

Meaning Found in Client Interventions

Analyzing the meaning found in these interventions requires a return to the CFTO, in which the person finds a reason to continue attempting to participate in the activity. It is made up of perceived meaning (the ability to "buy into" what is being done), affective meaning (emotional response to activity), and the symbolic meaning (how it fits into their roles in life) (Nelson & Jepson-Thomas, 2003; Nelson, 1997). The meaning Harry found in his interventions appears to be greater due to the therapist's use of education, consultation, preparatory methods, occupation-based activities, and purposeful activities. While it is difficult to know exactly how Harry found meaning in his interventions, it was clear through his engagement and improvement that he did just that.

Perceived

Harry's perceived meaning from his interventions may have come from the therapist's use of consultation, in which she did not simply inform them what would happen, but asked Harry and his wife to assist her in finding what would work for Harry. She took the opportunity to educate both of them on his current status and his possible future outcomes. Then she consulted with them both on how they as a team could achieve these.

Affective

Harry's affective meaning was shown through his attempts to communicate with his wife and the therapist, as well as his continued participation in the interventions. Harry continued to be engaged in the occupation-based activities and the purposeful activities, such as the PNF (specific arm pattern movements) patterns she used. He was even attempting to assist the therapist in his prepatory methods portion when she used ice to facilitate finger and wrist movements.

Symbolic

As with Harry's affective meaning, his symbolic meaning was also achieved through using his roles. His desire to return to cooking with his wife, and his desire to not be a burden, as he was supposed to be the caregiver as a husband, father, and grandfather, were used to enhance his engagement. His desire to hold his new grandbaby was implemented in the exercising of his upper extremities using the weights. The therapist told him to think of how heavy a new baby is, and these weights would help him to be strong enough to hold that baby. In Harry's lower extremities, the therapist also used weights. This was symbolized to Harry as a means of strengthening his legs so he could help his wife and daughter in transferring him and showering him. The use of the hand gripper, foam peg board, and beading kit were to help Harry with strengthening his hands and fingers so he would be able to email his friends. Not all aspects of the interventions may have appeared on the surface as having symbolism in Harry's recovery, but the therapist used education as well as therapeutic use of self, especially on those activities that kept Harry motivated to continue treatment.

Effects of Therapy on Developmental Structure of the Person

Impact on Performance Skills

Harry's motor skills have been improved through the implementation of PNF patterns, the Purdue pegboard, and the home exercises. He has improved in his ability to remain balanced in his wheelchair both stationary and moving without the use of his seatbelt. His ROM has also improved in that Harry can now perform self-grooming activities with

his left UE using a built-up handled comb and toothbrush and frequent rest breaks. Through the use of Affolter's hand-over-hand technique, Harry is currently working on his ability to use his right UE, as he has reached a Brunstrom stage 4. He is also able to bend his left LE 45 degrees in hip flexion, which has helped him increase his ability to help with his transfers. Harry's LE muscle strength is now a 3/5 for both the left and right extremities.

Due to his improved muscle strength, he is now better able to control his incontinence. Henry is also better able to detect when he needs to use the restroom for both his bladder and bowel and has had only one accident in the last two weeks. Harry has improved in his finger dexterity and wrist movements, but is still unable to type on the keyboard in controlled movements. Harry has also shown improvements in his focus and attention by being able to read and comprehend three pages of a builder's magazine in one sitting. Harry has experienced some minor periods of depression, but has overall been able to control his emotions and communicative responses to those he comes in contact with. Harry still struggles with his communication skills, and no improvement has been seen concerning this.

Impact on Performance Patterns

Harry has shown improvements in his ability to perform symbolic acts. He is now able to stand with assistance to receive the blessing from his Priest, and was able to hold his new grandson with moderate assistance. Henry has come to realize he can still be a husband and father and take care of his family without having to work. He still experiences frustration at having to instruct his family and neighbors on how to do a task, instead of being able to perform it himself. Harry has begun a new routine with his wife in which they both work on eating better and exercising more together. His wife stated they now both look at the labels of the foods they eat for lower sugar and sodium content. Harry's wife also mentioned he is able to do his exercises independently and she performs them with him. Harry has also been able to increase his visits to his parents' assisted living home to three times a month.

Impact on Client Factors

Harry's muscle power and endurance has been greatly improved through the therapy interventions. He has regained control of his movements, although they are still unskilled. He has reduced his muscle flaccidity and spasticity and is able to reach and hold objects as well as maintain his balance while doing so. He is still experiencing some limitations in his joint mobility as his hip abduction has not improved, and his affected elbow will "catch" sometimes if he tries to move too quickly. Harry's standing endurance has increased (due to the increased muscle tone) so that he is now able to stand for 2 minutes and 10 seconds with no assistance. He still experiences difficulties with the sit- to-stand movements and requires moderate assistance. Harry has had no problems with skin integrity, and has experienced only minor illness (a cold) during his treatment sessions.

Impact on Areas of Occupation

The Occupational Therapy Framework defines Areas of Occupation as "various kinds of life activities" that people engage in. These occupations include anything from rest and sleep to leisure activities. They also include Activities of Daily Living (skills in dressing, grooming, feeding, etc.), Instrumental Areas of Daily Living (skills in community mobility, financial management, shopping, etc.), and social participation abilities (American Occupational Therapy Association, 2008). Harry's engagement in his daily activities has been greatly improved through the therapist's use of the Neuro-developmental and Biomechanical Frames of Reference to guide Harry's treatment. Harry has specifically increased his focus and attention and is now able to read articles on home improvement and has increased his participation in neighborhood events. Through the implementation of the Purdue pegboard and the large foam pegboard for increasing hand function, Harry is better able to grip his comb and toothbrush and can now brush his own teeth and comb his own hair. Harry is also able to assist in his own transfers and showering through the usage of LE strengthening exercises using weights strapped to his legs. He is able to help his wife with

some household cleaning tasks (vacuuming and clearing the table after a meal), but is still unable to independently take care of his grandson. He and his wife report he is getting a better night's sleep and is more alert and awake in the morning. Harry has also begun going to the local senior center one day a week for their game day, where he is able to play checkers and bingo. Harry has shown no improvement in his verbal communication; however, he is using more gestures and facial expressions when trying to communicate.

Effects of Therapy on Client Sense of Purpose

Intrinsic Motivation

Harry's intrinsic motivations came from his role as husband, father, and grandfather as well as his belief that as such he was supposed to work and take care of his family. He felt he should be helping his wife in the kitchen and not be such a "bother" to her. He also strongly desired to be strong enough to hold his new little grandbaby when he or she came.

Extrinsic Motivation

The therapist implemented therapeutic use of self in order to assist the client in finding meaning within their planned therapy sessions. She was encouraging without becoming excessive, so that Harry and his wife would be encouraged enough to continue participating, yet not dependent upon her for praise and motivation. She communicated a knowledgeable perception of Harry's condition, yet listened and used both Harry's and his wife's thoughts on his goals and experiences. Through her insights, the therapist was also able to educate Harry and his wife about what to expect with his condition, and also what was a reasonable outcome to strive for. She encouraged them to try to achieve their goals, but was also able to both compassionately and professionally provide them with some realistic hindrances that might appear (depression, subluxation of the joints, damage to the muscles, and possibility of needing adaptive equipment to achieve goals) (Gillen, 2001).

Harry also had extrinsic motivation from his wife, daughter, and son-in-law. All three were encouraging and supportive of his recovery, and at times forced him to do his home exercises even when he did not feel like it. His Priest also would visit and ask Harry when he was going to return to helping with the church maintenance. Some of his neighbors would stop by and ask him how to do some home maintenance things, and ask him for his advice on which car to buy.

Effects of Therapy on Client Occupational Performance

Impact on Areas of Occupation

As stated previously, Areas of Occupation are any life activities engaged in by the client (American Occupational Therapy Association, 2008). Through the interventions designed by the therapist and approved by Harry and his wife, Harry has shown improvements in his daily activities. He can now help care for himself, as he is able to comb his hair and brush his teeth independently using built-up handles and frequent rest periods. He is also able to perform upper and lower extremity dressing with moderate assistance from his wife, and can feed himself some foods, such as crackers, tuna fish, peanut butter and jelly sandwiches, oatmeal, and drinks (via a straw). He still has some difficulties with utensils, but has shown improvement and acceptance of using built-up handles to eat with. Harry has reported he is sleeping better at night, and feels more rested afterwards. He is able to turn pages of books made with thicker/rougher paper (construction paper type) and has enjoyed increasing his knowledge level through reading. Harry has also been able to participate more within his community. The therapist informed Harry and his wife about some programs offered in the community, and they both have begun attending the local senior center once a week for their game day. Harry has also been able to go grocery shopping with his wife without feeling as self-conscious about his wheelchair.

Harry has not been able to return to making tamales in the kitchen with his wife (which was a large part of his cultural and personal context or history), but has been able to help clear the table and vacuum the floor with her help. His wife reported housework is more fun for both of them as she has him hold the dirty dishes while she pushes him to the sink, or he holds the vacuum cleaner handle and she pushes him back and forth. Harry also stated he feels a greater level of worth and satisfaction with himself and his relationship with his wife as they both work together. Harry can now be left in the house alone if his wife needs to work outside, as they have implemented a baby monitor system in case he needs her. He also discovered he enjoys painting, a leisure activity he had always wanted to try but never had time.

Overt and Covert Occupational Performance

Harry's covert occupational performances are harder to detect. He reports he is writing a story in his head about his experiences and would like to be able to type again so he can record it. He also said he likes to imagine what his paintings will look like before he actually paints them.

Harry's observable overt occupational performance improvements include his increased use of facial expressions, his performance of grooming activities, his ability to maintain balance while being mobilized in his wheelchair, his turning pages in a book while reading, and his reaching and grasping the spoon while trying to eat. He also performs overt occupations at the senior center while playing games. He has reported to the therapist that he also holds a large paintbrush and paints pictures for his wife while she is gardening.

Conclusion

Harry has displayed improvement in all of his goals at some level or another. Throughout the course of his rehabilitation, Harry and his wife experienced both obstacles and successes, yet through it all, the hope in his ability to hold his first grandchild and "be the man of the house" was the force that drove them on to find the right therapy interventions for him. The therapist implemented a client-centered intervention through the implementation of not just physical activities, but those that held a sense of purpose or meaning; she included Harry's wants and skills, appropriate occupation-based activities, preparatory methods, and most importantly, therapeutic use of self. Collaboration with both the client and his wife played a key role in the success of his outcomes. Harry and his wife were motivated to keep going through their new-found trust in the therapist, due to her request that their wants and desires be expressed as well as incorporated into his therapy. As the therapist determined the interventions for Harry based upon both her clinical experience as well as both his and his wife's preferences (including occupational activities that had a purpose and meaning to the client), she was able to achieve the best outcome for her patient.

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