Goal Setting for Occupational Therapists and Patients with spinal cord injuries

Thesis

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By

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Abstract

An injury to the spinal cord causes immediate changes and can be overwhelming to the patient and their family. During inpatient rehabilitation, it has been observed that there is a significant difference between the expectations of the patient and the rehabilitation team member. [7, 9]

Studies have focused on patient goal setting and how this impacts patient participation, discharge planning, and alignment of patient and therapist goals. Studies have shown that expectations of patient's are never examined. These support the current study by explaining how important it is for the rehabilitation professional to understand factors that impact patient participation and how goals play a big part in discharge planning. [9, 12] The purpose of the study is for occupational therapists to learn about patients with spinal cord injuries, patient identified meaningful activities, therapist's goal setting skills, and how the content of goals changes during inpatient rehabilitation. A pre-test/post-test pre-experimental design was used to test the research hypotheses. Eligibility was established by the researcher as the patient was admitted to The Ohio State University Medical Center, Dodd Rehabilitation Hospital. The sample was based on patient admissions from April 2009 through July 2009. The sample consisted of eight individuals who have a spinal cord injury as a result of a traumatic or non-traumatic event. The Flinn Performance Screening Tool (FPST) was used to identify the disability issues of patients with a spinal cord injury. Patient admission and discharge FPST scores were gathered plus the FPST scores of the occupational therapists on admission and

discharge. Other information collected included; patient attendance to occupational therapy treatment, patient demographics, and discharge needs. Key personnel were used to administer the FPST and with the patient, were blinded to the anticipated results of the study. The occupational therapist completed the FPST on each patient at admission and at discharge. These scores were blinded to the patient and were entered into a database by the key personnel so that the occupational therapist was blinded to the results.

The data analysis included a frequency distribution to identify the commonly reported FPST items. A hit ratio was used to compare the FPST responses between the patient's and the occupational therapist and between the FPST responses from the patient's at admission and at discharge. The classification accuracy was established at .375 due to limited preliminary data to compare, the large number of FPST items, and the low risk to the patients involved in the study.

The top four categories reported by the patient's were care for others, bathing/showering and financial management followed by community mobility. The top three categories from the OT's perspective were bathing, feeding, and meal preparation. The categories with the highest hit ratios were personal devices and feeding. Seventy-two percent of the patient admission FPST scores were in agreement with the occupational therapists admission FPST scores. The categories with the highest hit ratios were personal devices and care for others. Seventy-six percent of the patient admission FPST scores were in agreement with the discharge FPST scores.

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Major Field: Allied Medicine

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Chapter 1: Introduction

Background of the problem:

An injury to the spinal cord causes immediate changes to a patient's life and can be overwhelming to the patient and their family. Inpatient rehabilitation is one of the first places where patients' and their families are introduced to new skills and resources needed to manage these life changes. When working with patients with a spinal cord injury during inpatient rehabilitation, some team members have observed a significant difference between their achievement expectations and the patient's. Schonherr, Groothoff, Mulder, and Eisma (2000) found, "studies that actually evaluate functional prognosis are rare and expectations of patient's were never examined."

The present study examines one occupational therapists' current practice of goal setting for patients with a spinal cord injury. This study reports patient identified meaningful activities that will make up rehabilitation goals: specifically, how patients identify these activities and how they change over time. This study identifies activities that the occupational therapist defines as meaningful to the patient's rehabilitation based on the initial evaluation. After the patient and occupational therapist identify the meaningful activities, there needs to be collaboration to formulate goals. If goals are not discussed between the patient and the therapist, valuable inpatient rehabilitation time could be compromised.

Occupational Therapy and Goal-Setting

Recently, the health care industry has changed its focus to providing patient centered care. Therapists are even being asked to document goals and the patient-therapist collaboration on goals and treatment plans. This documentation has shown that the patient-therapist collaboration on treatment goals can shorten the patient length of stay and improve goal attainment. (Neistadt, 1995**)**

Occupational therapists set goals based on their clinical experience, the level of spinal cord injury, and clinical practice guidelines. Understanding that patients need access to and participate in meaningful activities is unique to occupational therapy. Defining problems and concerns of the patient and their families as it applies to occupational performance is also unique to occupational therapy intervention. With knowledge of problem areas and patient identified meaningful activities, goals for occupational therapy intervention can be better suited for each individual patient. (Trombly & Radomski, 2002)

Melville, Baltic, Bettcher, and Nelson (2002) referenced the Occupational Therapy Code of Ethics, the Commission on Accreditation of Rehabilitation Facilities, Health Care Financing Administration, the Joint Commission on Accreditation of Healthcare Organizations, and selected authors in occupational therapy regarding the importance of active patient participation as an important part of occupational therapy. This information supports the current study by focusing on the patient's participation in goal-setting and how it falls under the domain of occupational therapy practice.

Significance of the problem:

Assessing patients' priorities on admission is essential in developing collaboration between the patient and their occupational therapist. A majority of occupational therapists

use informal interview to determine patient priorities at admission. However, the patient goals obtained from this type of interview are vague and lack a clear focus about function and meaningful occupation. These findings suggest that therapists are setting treatment goals without specific input from the patient. Assessment of patient identified meaningful activities have been found to improve rehabilitation outcomes, increase patient motivation and participation, enhance meaningfulness to treatment, and improve team work (Neistadt, 1995).

Occupational therapy goals are made up of a series of objectives that compliment the rehabilitation program. Pedritti and Early (2001) define objectives as a statement of intent describing a proposed change in a patient that should reflect the patients' needs and priorities. Objectives or meaningful activities are comprised of an action and the object of the action. The object of the action must provide some meaning to the patient. Without having clearly defined objectives there is no basis for selecting appropriate individualized intervention strategies. For something to be meaningful it must be defined as such by the individual. Occupational therapists believe that meaningfulness motivates the patient to engage in therapy longer and will increase the therapeutic benefit of the task. (Trombly & Radomski, 2002)

By understanding the needs of patients with a new spinal cord injury, the rehabilitation process can be more effective in preparing patients to return to their home and community. Giving the patient an opportunity to share what is important to them will allow them to feel like part of the team and the treatment to be patient centered. Playford et al. (2000) found that there are many different types of goal-setting approaches. They suggested that in order for goal-setting to be successful for the patient, their needs must

be addressed. When the patient and therapist are aligned, discharge planning can be more efficient. The patient will be aware from the beginning what to expect of their functioning by discharge. By knowing this information, the patient and their family will feel more satisfied with having their needs met by the estimated discharge date. (Melville 2002, Bradley 1999, Neistadt 1995, Northen 1995, Wee 2006, & Schonherr 2000)

There is a need in occupational therapy to communicate openly about goal setting and to help each patient develop realistic expectations for activities and participation in inpatient rehabilitation (Wee, 2006). Goal setting and implementation of personalized goals in the rehabilitation program need to be examined. This will improve the way occupational therapists work with spinal cord injury patients, will implement patient goals more effectively into the rehabilitation plan, and will increase patient participation.

In the current study, the occupational therapist must address the following questions; what are the most important meaningful activities for each patient? What activities does the patient define as meaningful? Are patient and therapist meaningful activities similar? Do the patients' meaningful activities change from admission to discharge? In order to increase patient learning and participation in the rehabilitation process, should more time be spent working on goal setting?

Purpose of the study

The purpose of this study is to examine one occupational therapist's current goal setting practice. The goal is for therapists to learn more about the spinal cord injury population; patient identified meaningful activities as content of rehabilitation goals, goal setting skills, and how the content of their goals changes during the inpatient rehabilitation stay. Learning how to change the rehabilitation process is important so that

patient opinions are incorporated into treatment planning, patient participation increases, and functional outcomes are improved. This study is essential for patients with a spinal cord injury, patient families, occupational therapy students, occupational therapy personnel, rehabilitation program directors, and members of the spinal cord injury rehabilitation program.

A goal of the current study is to improve clinical practice related to goal setting which in turn can improve the quality of a patient centered occupational therapy treatment plan. Patients with a spinal cord injury need to understand the rehabilitation process and goals from the beginning of their stay rather than prior to discharge. If a patient has not participated in identifying their goals and does not fully understand their goals for inpatient rehabilitation, treatment and discharge planning can be a frustrating, time consuming process for both the patient and therapist. For example, if a patient with complete tetraplegia is admitted to inpatient rehabilitation with the expectation of walking in 6 weeks, the patient and the therapist are not working towards the same outcomes. In contrast to the patients' goals, the therapist would be more focused on transfer techniques, self care tasks, equipment needs, and family/caregiver training.

If the study is not done, collaboration with patients about their goals in the initial interview process will continue to be overlooked. Occupational therapy practice will not expand its knowledge of how to implement patient goals effectively. As a result, patients with spinal cord injuries will not be challenged and functional outcomes will not improve. Patient participation may be inconsistent and not reach its highest potential of increasing functional outcomes. Without examining how patient goals are made and how they change over time compared with the occupational therapy goals, patients will

struggle to understand the main purpose of rehabilitation while lowering satisfaction in their rehabilitation as they continue to focus on unrealistic expectations.

Study Objectives:

There are four objectives of the study. They include:

1. To describe the meaningful activities that are reported by patients with spinal cord injuries as the most important for their inpatient rehabilitation goals.
2. To describe the meaningful activities an occupational therapist defines as important to the goals of patients with a spinal cord injury.
3. To identify the similarities and differences in meaningful activities between patients with spinal cord injuries and their treating occupational therapist.
4. To compare the initial and discharge patient identified meaningful activities.

Research Questions:

Based on the objectives of the study, four research questions have been identified and are as follows:

1. What meaningful activities do patients with a spinal cord injury view as being important to the content of inpatient rehabilitation goals?
2. What meaningful activities does an occupational therapist view as being important to patients with a spinal cord injury?
3. What are the similarities and differences between the meaningful activities identified by patients with a spinal cord injury and an occupational therapist?
4. What are the similarities and differences between the patients identified meaningful activities at admission and at discharge?

Research approach:

This descriptive, patient-centered study will impact occupational therapy practice in a positive way. Occupational therapy is unique because of its focus on patient identified meaningful activities to drive intervention. Engagement in occupation is the targeted end objective of occupational therapy intervention. This study describes the meaningful activities of patients with a spinal cord injury and the meaningful activities for the patient identified by the occupational therapist. Goal setting is a necessary step towards occupational participation and the importance of patient and family involvement in occupational therapy is reflected in professional standards such as occupational therapy practice models (Northen, Rust, Nelson, & Watts, 1995).

Research Design:

A pre-test/post-test pre-experimental design was used to test the research hypotheses. Pre-experimental designs are so named because they follow basic experimental steps but fail to include a control group. In other words, a single group is often studied but no comparison is made between an equivalent non-treatment groups. A benefit of this design is the inclusion of the pre-test scores to determine a baseline.

Limitations:

Limitations in pre-experimental designs include threats to internal and external validity. The impact of both types of threats will be discussed.

Internal Validity. Internal validity refers to a study's ability to determine if a causal relationship exists between one or more independent variables and one or more dependent variables. In other words, is the change, or lack of change caused by the treatment?

History is a threat to internal validity in this study. History refers to any event outside of the research study that can alter or affect patient's performance. The psychosocial barriers and other medical complications each patient is experiencing may affect how the patient performs in the rehabilitation process. To assist with the psychosocial issues, each patient will be given the opportunity to work with a rehabilitation psychologist on adjustment to disability. There are also support groups available to the patient and to their families. The social worker and discharge planner will assist the patient and their families with financial issues that may affect the patient's performance in the rehabilitation process. Other medical complications such as pain, low or high blood pressures, autonomic dysreflexia, pressure ulcers, and blood clots will affect patient participation. Some medical complications can cause one to two days of bed rest where other medical complications cause patients to be moved back to the acute care hospital. All patients discharged early will be omitted from the study but those on bed rest will continue to participate when able.

Testing is a threat to the internal validity of a study when a single group is given a pretest and then the same test as a posttest. The concern is that each participant will perform better on the second test due to practice with the first. In this study, the pre and post-test is survey based to gather information related to patient identified meaningful activities. It is not testing a skill or re-measuring a skill that the patients will get better at over time; it is to gather information on how the patient identified meaningful activities change during inpatient rehabilitation.

Instrumentation is a threat when the measurement device(s) used in the study change during the course of the study, changes in scores may be related to the instrument

rather than the independent variable. This is controlled by having identical pre- and posttests.

Selection refers to the manner in which subjects are selected to participate in a study and the manner in which they are assigned to groups. In this study, there is only one group participating in treatment. This group of patients will be informed of the study, must fit the inclusion criteria, and provide written or verbal consent to participate.

Researchers want to learn something new or learn about support of a belief or theory. The researcher involved in this study is the occupational therapist treating each patient, there may be biased toward the results wanted. This bias can effect observations and possibly even result in blatant research errors that skew the study in the direction wanted. This threat will be controlled by using key personnel to administer the pre and post test, collect the data, and enter the data into the identified database for analysis. The key personnel are unaware of the anticipated results.

Mortality, or patient dropout, is always a concern to researchers. Mortality can drastically affect the results of a study depending on the rate or quality. As this study will occur in a hospital setting, patients are dealing with multiple diagnoses that often may require a discharge back to the acute hospital. An early discharge to the community or another care site can also occur because of insurance issues or patient choice. All of these patients will be omitted from the study. It will be noted when a patient leaves the study early and the reason for leaving.

External Validity. External validity refers to the generalizability of a study. In other words, can it be stated that the results of this study, consisting of a sample of patients

with a spinal cord injury, truly represent the entire population of patients with spinal cord injuries?

There are many different treatment diagnoses within the spinal cord population. The intent is to include every patient with complete or incomplete, traumatic or non-traumatic injuries, tetraplegia, and paraplegia. Because of this variation, age, gender, and socioeconomic status will be examined to show equality of groups.

Demand characteristics are a threat to the external validity of this study. This threat occurs when patients are provided with cues to the anticipated results of a study. When subjects become wise to anticipated results, they can begin to exhibit performance that they believe is expected of them. This study will make sure that the patients are not aware of anticipated outcomes by limiting the administration of the pre and posttests to the key personnel who are unaware of the anticipated outcomes. The key personnel will follow the direct protocol of the instrument.

For the purpose of the study, the following definitions of terms are used:

1. **Activities of Daily Living** require basic skills and include functional mobility, self-care, and functional communication, management of environmental hardware and devices, and sexual expression. **(**Pedretti and Early, 2001)
2. **Clinical practice guidelines (CPGs)**, is systematically developed statements to assist practitioners and patient decisions about appropriate health care for specific circumstances.
3. **Discharge Plan**, defined by the Dodd Rehabilitation Hospital program. A discharge plan includes: discharge location, required supervision, equipment needs, caregiver education and training, anticipated level of care.
4. **Flinn Performance Screening Tool (FPST)**, a tool to screen the disability issues of clients with a variety of orthopedic diagnoses treated in an industrial rehabilitation clinic. The scores highlight the limitation of valued life activities reported by the clients instead of focusing on the impairment that resulted from their specific diagnoses.
5. **Function**, viewed as the ability to perform activities required in one's occupations has become increasingly important to society in describing the performance or change in individuals. (Hinojosa J & Kramer P, 1997)
6. **Functional Goals**, The result or achievement toward which effort is directed; aim; end." (OT Practice Framework)

7. **Goal Setting**, the ability to set goals is essential to effective problem solving; and by default, is essential to self-management, and self-determination. A goal is a statement of general purpose or intent.
8. **Inpatient Rehabilitation**, they provide an intensive rehabilitation program and patients who are admitted must be able to tolerate three hours of intense rehabilitation services per day.
9. **Instrumental Activities of Daily Living** require more advanced problem solving skills, social skills, and more complex environmental interactions. These tasks include home management and community living skills (Pedretti and Early, 2001)
10. **Meaningful activities**, an activity that is meaningful or has a purpose defined by the individual.
11. **Occupation**, a collection of activities that people use to fill their time and give life meaning, is organized around roles or in terms of activities of daily living, work and productive activities, or pleasure, for survival, for necessity, and for their personal meaning. It is the individualized, unique combination of activities that comprises an individual's occupations. (Hinojosa J & Kramer P, 1997)
12. **Occupational Performance**, ability of individuals to perform and be satisfied with performance in purposeful daily activities in their environment, developmental stage, and societal roles. (Trombly and Radomski, 2002)
13. **Occupational Therapy** helps people improve their ability to perform tasks in their daily living and working environments. Occupational therapy practitioners work with individuals who have conditions that are mentally, physically, developmentally, or emotionally disabling. They also help individuals to develop, recover, or maintain

daily living and working skills. Occupational therapy practitioners not only help individuals to improve basic motor functions and reasoning abilities, but also compensate for permanent loss of function. The goal of an occupational therapy practitioner is to help individuals have independent, productive, and satisfying lives.

14. **Outcomes**, Important dimensions of health attributed to interventions, including ability to function, health perceptions, and satisfaction with care.
15. **Paraplegia**, injury in the spinal cord in the thoracic, lumbar, or sacral segments, including the cauda equina and conus medullaris.
16. **Purposeful activities** have been described in many different ways: as something all people engage in; as tools or media that therapists use to enhance or facilitate performance; and vehicles for bringing about change. Purposeful activities are seen as part of the process of occupational therapy. Purposeful activities are subset of occupations in that they are goal directed and serve as a major tool in the process of occupational therapy. (Hinojosa J & Kramer P, 1997)
17. **Realistic rehabilitation goals** are goals that match the current situation as it truly is. This involves the patient and the therapist having an awareness of the current circumstances and understanding how this will impact the life of the patient and the rehabilitation process.
18. **Spinal Cord Injury (SCI)** is an insult to the spinal cord resulting in a change, either temporary or permanent, in its normal motor, sensory, or autonomic function. The International Standards for Neurological and Functional Classification of Spinal Cord Injury is a widely accepted system describing the level and the extent of injury based on a systematic motor and sensory examination of neurological function.

19. **Tetraplegia** (replaced the term quadriplegia), injury to the spinal cord in the cervical region with associated loss of muscle strength in all 4 extremities.

Chapter 2: Literature Review

Playford et al. (2000) suggested that there is little consensus about how goal setting should take place in current literature. The authors held a workshop where a wide range of disciplines attended from a variety of settings. The workshop asked the participants to describe current goal setting practice, difficulties associated with goal setting, and lessons learned from these difficulties without specific reference to the different approaches used. At worst, they found that goal setting maybe primarily formulated by the professional and were not sensitive to patients' needs. When goal setting is tied to an assessment process it is clearly directed by the professional. The authors concluded that goal setting is an appropriate activity for both the clinician and the patient to work on together in order for it to be successful.

Melville et al. (2002) conducted a study to investigate patients' perspectives on the validity of the Self-Identified Goals Assessment (SIGA). This assessment is used by occupational therapists in subacute rehabilitation centers and nursing facilities. As part of the study, Melville et al. discussed why active patient participation is an important part of occupational therapy. They referenced the Occupational Therapy Code of Ethics, the Commission on Accreditation of Rehabilitation Facilities, Health Care Financing Administration, the Joint Commission on Accreditation of Healthcare Organizations, and several other authors in occupational therapy. This information supports the current study

by focusing on the importance of active patient participation in goal-setting and how this falls under the domain of occupational therapy.

Bradley, Bogardus, Tinetti, and Inouye (1999) explored the goal-setting process in clinical medicine. They discovered that the goal-setting process gets little attention in the medicine based literature, despite its importance to desired patient outcomes. The authors discuss factors that are essential to the goal-setting process including characteristics of the patient, the diagnosis, the patient's family, and the clinician. They suggest that when goals are not articulated, the rehabilitation plan and expectations are not clear. When the goals are not clearly agreed upon, there could be disagreements between the patient, family, and clinician impairing the success of the program.

Neistadt (1995) conducted a survey study with a convenience sample of 269 occupational therapy directors in adult physical rehabilitation facilities throughout the United States. The purpose of this study was to assess the patients' priorities on admission as the essence of the programs success. As part of his literature review, Neistadt (1995) discussed why goal setting and patient therapist collaboration is valued in occupational therapy. After receiving 70.2% of the survey responses, he concluded that occupational therapists have not yet successfully translated their values about the patient-therapist collaboration into a formal set of procedures for practice. Ninety-nine percent of the respondents answered yes to routinely identifying patients' priorities for treatment on admission. 95% stated they use informal interview, 12% use an interest checklist, 28% use a schedule of typical activities before injury, and 35% use the Occupational Performance History Interview (OPHI). Neistadt (1995) further explained that while informal interview is important in the beginning to learn about our patients and to

develop rapport, the quality of information is going to vary from therapist to therapist. Much of the formal assessments offered in occupational therapy textbooks and journals are not being utilized.

When Neistadt (1995) asked if the information provided by the patients was detailed enough to suggest treatment activities, of those surveyed, 56% said yes, 24% said no, and 9% said only with prodding from the therapist. When asked to paraphrase a typical example of patients' priorities on admission, 4 major themes came up; self-care, walking, to go home, and to use their upper extremities.

Wade published an editorial in 1998 that discussed how goals are central to the process of physical rehabilitation. The author reported that a problem with this topic is the lack of consistent vocabulary used in the literature. The investigator goes on to define goal, goal planning, and goal setting. Wade (1998) also completed a thorough search using Medline and Embase and found evidence that supported patient's active involvement in setting goals as a way to promote behavioral changes and the use of specific interventions assist in facilitating this change. The findings suggest that setting both long and short term goals is more effective and with significant patient involvement there is increased success.

Northen et al. (1995) discussed how occupational therapy values patient and family involvement so much to include it in the accreditation criteria of the American Occupational Therapy Association (AOTA), Commission on Accreditation of Rehabilitation Facilities (CARF), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and in the occupational therapy practice framework. They also discuss how client centered practice is of primary concern of occupational therapists.

They endorsed the view that patients have the right to participate in their care and goal-setting enhances that right. The authors conducted a preliminary study to determine whether occupational therapists involve patients and their families in a goal setting process and to identify the methods that were used. They concluded that occupational therapists working in physical dysfunction are including their patients and families in the goal-setting process however are not maximizing the potential for involvement. Therapists may not be aware of the importance of exploring the relationship between patients' concerns and formalizing effective treatment goals.

Wee (2006) identified how to set rehabilitation goals that maximized activities and participation of persons with spinal cord injury. The main ideas included understanding factors that impact activities and participation of spinal cord injury patients in rehabilitation, the need to identify measurement tools that report these factors and the mechanism to develop realistic expectations for activities and participation after spinal cord injury. Wee (2006) suggested that patients with a spinal cord injury and their health care professionals need to work together in setting rehabilitation goals. Health care professionals need to share what is achievable and together with the patient can problem solve appropriate activities to pursue.

Schonherr et al. (2000) completed a descriptive analysis study to explore the predictions of professionals and patients regarding functional outcomes and level of independence after spinal cord injury. One purpose of the study was to enlarge the role of the patient in selecting realistic rehabilitation goals. The findings of this study were to include patient opinions and predictions when evaluating functional prognosis. The predictions of independence in self care and mobility skills were assessed eight weeks

after admission and again at discharge. After the eight weeks in the program, the patients have learned more about their injuries which may have affected their answers to the survey. Patient predictions were compared to the professional predictions at eight weeks and at discharge using the same survey. They used six activities including eating, upper body dressing and lower body dressing, walking, stair climbing, and transfers. The most reliable prediction of functional outcome after a spinal cord injury was when the expectations of both the professional and the patient were combined.

Duff, Evans, and Kennedy (2004) completed a retrospective audit of 65 newly injured spinal cord patients. They wanted to consider the effectiveness of goal planning program for patients with a spinal cord injury and to address some of the current evidence gaps in goal setting. They stated that having the patient's involvement in setting goals is fundamental to the effectiveness of rehabilitation and to ensuring lasting change. They used The Needs Assessment Checklist (NAS) specifically designed for the SCI population to assess patient attainment in core rehabilitation areas. The goal planning program included multiple goal planning meetings with the team ranging in number from 4-9 during a patient's stay. They concluded that the needs assessment and goal planning framework are effective in planning spinal cord injury rehabilitation and in reflecting the individual's needs. Further systematic analysis of this process could potentially lead to more efficient rehabilitation and the identification of care pathways within clinical areas.

In summary, the literature review suggests that occupational therapists have not yet successfully translated their values about patient-therapist collaboration into a formal set of procedures for practice. This study is examining one occupational therapist's current practice of using informal interview to gather each patient's ideas on what they

expect to achieve during rehabilitation. The key to setting rehabilitation goals is to have patient centered input in the rehabilitation process by allowing each patient to identify activities that are meaningful to them. Schonherr et al. (2000) found that the most reliable prediction of functional outcomes after a spinal cord injury was when the expectations of both the therapist and the patient were combined. The literature suggests the need for further analysis of goal setting and needs assessment practice to potentially lead to more effective rehabilitation.

Chapter 3: Methodology

Introduction

The literature review from Chapter 2 suggests the need for further analysis of goal setting and needs assessment practice to potentially lead to more effective rehabilitation. It is suggested that occupational therapists need to define a way for patients to identify meaningful activities and collaborate with the occupational therapist on setting goals for rehabilitation. Having active patient participation in the goal setting process will increase patient satisfaction and rehabilitation outcomes.

Chapter 3 includes a description of the research hypotheses, instrumentation, and statistical procedures. The purpose of this study is to examine one occupational therapist's current goal setting practice. The goal is for therapists to learn more about patients with a spinal cord injury, patient identified meaningful activities as content of rehabilitation goals, therapists' skills in goals setting, and how the content of their goals changes during the inpatient rehabilitation stay. Learning how to change the rehabilitation process is important so patient information is incorporated into treatment planning, patient participation increases, and functional outcomes are improved. This study is essential for patients with spinal cord injuries and their families, occupational therapy personnel and students, rehabilitation program directors, and members of spinal cord injury rehabilitation programs.

R*esearch Hypotheses*

Research Question 1. What meaningful activities do patients with a spinal cord injury view as being important to the content of inpatient rehabilitation goals?

Using descriptive analysis, this research question will identify the activities that patients view as meaningful for inpatient rehabilitation before participating in the rehabilitation program as measured by the initial Flinn Performance Screening Tool (FPST) items.

Research Question 2. What meaningful activities does an occupational therapist view as being important to patients with a spinal cord injury?

Using descriptive analysis, this research question will identify the activities the occupational therapist views as being important for patient rehabilitation goals after the initial evaluation and prior to treatment of the patient as measured by the initial FPST items.

Research Question 3. What are the similarities and differences between the meaningful activities identified by patients with a spinal cord injury and an occupational therapist?

Hypotheses 3. The null hypothesis states that in the population there is no agreement between the patient identified meaningful activities as measured by the FPST at admission and the occupational therapy identified meaningful activities as measured by the FPST at admission. In the null and alternative hypotheses "P_A" represents the patient meaningful activity variable at admission and "O_A" represents the occupational therapy meaningful activity variable at admission.

$$H_O: P_A \neq O_A < .375$$

The alternative hypothesis states that in the population there are agreements between patient and occupational therapy identified meaningful activities.

$$H_A: P_A = O_A \geq .375$$

Research Question 4. What are the similarities and differences between the patients identified meaningful activities at admission and at discharge?

Hypothesis 4. The null hypothesis states that in the population there are no differences between patient identified meaningful activities measured by the initial FPST scores and the patient identified meaningful activities measured by the discharge FPST scores. In the null and alternative hypotheses "P_A" represents the patient meaningful activity variable at admission; "P_D" represents the patient meaningful activity variable at discharge

$$H_O: P_A = P_D < .375$$

The alternative hypothesis states there are differences in FPST items identified on admission as being meaningful and the items identified at discharge.

$$H_A: P_A \neq P_D \geq .375$$

Subject Selection

The researcher is the occupational therapist working with each of the eight patients included in this study. Based on inclusion criteria, eligibility was established by the researcher as the patient was admitted to the spinal cord injury service at The Ohio State University Medical Center, Dodd Rehabilitation Hospital. Within the first seventy-two hours, the researcher contacted each patient, provided education on the study, and asked for consent to participate. The researcher provided written educational information and a verbal description of the study. All written information was available in English and Spanish, however all patients who participated in the study spoke English. The

written information was provided in a flyer format with clear, concrete information about the study. Once the patient has made a decision to participate, they were provided with a consent form to sign with a witness. If they did not want to participate in the study, they continued to receive the traditional rehabilitation program. Participation was not mandatory and the patient was not penalized for not participating in the study. The same occupational therapy services were rendered to all patients with a spinal cord injury even if they chose not to participate in the study.

Sample

The sample was based on patient admission to Dodd Rehabilitation Hospital from April 2009 through July 2009 and consisted of individuals who had a spinal cord injury as a result of a traumatic or non-traumatic event and included patients with a complete or incomplete injury. The targeted number of patients to recruit was thirty. Data was gathered from all of the adult patients admitted to the spinal cord injury service that provided consent to participate in this study and met the inclusion criteria.

The inclusion criterion is:

1. 18 to 80 years of age
2. Admitted to the Spinal Cord Injury Service at Dodd Rehabilitation Hospital
3. Current diagnosis of complete, incomplete, tetraplegia, or paraplegia, traumatic, or non traumatic injury
4. Not receiving Speech Therapy
5. Complete Spinal Cord Injury Program where the average length of stay is four-eight weeks. (Completion of the program occurs when the patient is discharged on the date recommended by the team and to the recommended discharge location.)

The exclusion criterion is:

1. Patients requiring Speech Therapy because of cognitive impairments
2. Early discharge to acute hospital or community

Instrumentation

1. FPST

   The Flinn Performance Screening Tool (FPST) was used to identify the disability issues of patients with a spinal cord injury. Its original purpose was for patients with a variety of orthopedic diagnoses. The scores on the FPST highlight the limitations in valued life activities reported by the patient instead of focusing on the impairment that result from their specific diagnoses. This screen was used to gather data on patient related goals and what activities patients with acute traumatic, non traumatic complete, incomplete spinal cord injuries describe as meaningful. This tool was used separately by the occupational therapist to identify what functional tasks were most meaningful for each patient during the inpatient rehabilitation process.

   Three hundred and one of the three hundred and seventy-eight photographs with English and Spanish captions were used to identify limitation in twelve self-care and ten home and outside categories prior to the evaluation process. The work hardening category was excluded from the study to narrow the focus.

2. Patient Attendance in OT treatment

This information was used to examine if the patient identified meaningful activities correspond to participation in OT treatment sessions. The occupational therapist documented; date, number of treatments attended, number of OT treatment offered that day, and length of stay.

3. Discharge Categories

   The discharge plan includes: the discharge date, discharge location, expected level of care, equipment needs, caregiver education and training, and if continued therapy is required.

4. Patient Demographics

   This information includes: gender, age, race, level of education, employment status, occupation, and marital status.

Procedures

The researcher evaluated and provided occupational therapy treatment to each patient. The researcher had been a licensed occupational therapist for six years and employed at the Ohio Stated University Medical Center, Dodd Rehabilitation Hospital for six years. Of the six years, the researcher had been working with patients with a spinal cord injury for three years.

The occupational therapy evaluation occurred in the first seventy-two hours of the patient's admission and included an informal interview, assessment of pain, observation of functional tasks, visual screening, cognitive screening, range of motion, and manual muscle testing. The informal interview was used to gather information on home setup, family/caregiver support system, if the patient owns any rehabilitation equipment, current work status, driving status, leisure interests, and patient goals. The researcher then

completed the FPST for each patient who provided consent to participate within the first ninety-six hours of their stay and again at discharge. The key personnel administered the FPST to the patient at admission and discharge and both the patient and the occupational therapist were blinded to the results. The key personnel and the patients were blinded to the FPST results of the occupational therapist.

A graduate student in occupational therapy served as the key personnel. She has a strong foundation in the biological and physical sciences including chemistry, biology, anatomy, physiology, has a Bachelor of Science degree, and had several work and volunteer opportunities focused on occupational therapy treatment with a variety of patient diagnoses. The key personnel was trained on the administration of the FPST and provided with an opportunity to demonstrate her competency in administering the FPST prior to working with each patient.

The key personnel and patient completed the admission FPST within the first ninety-six hours of their stay and the discharge FPST during the last ninety-six hours of the patient's stay. The two sessions with each patient lasted less then 50 minutes. These sessions were always scheduled around the patient's therapy schedule so it would not interfere with their rehabilitation program. The key personnel were responsible for collecting the patient data and logging the data. The key personnel was also responsible for entering the occupational therapists FPST results into the database to keep the results of the admission and discharge FPST blinded to the occupational therapist and to the patients.

The following data was collected by the researcher and the key personnel:

1. Patient demographics

2. Admission FPST scores by the patient
3. Admission FPST scores by the occupational therapist
4. Discharge FPST scores by the patient
5. Discharge FPST scores by the occupational therapist
6. Patient attendance to OT treatment
7. Patient length of stay
8. Discharge needs

The data gathered from the FPST, patient attendance in OT treatment, length of stay, patient demographics, and discharge planning needs do not include any identifying information. Patient medical record numbers were not included with the data collected for the study. If the patient disclosed any information not related to the study (i.e. harm to self or others), the principle investigator was bound by the Occupational Therapy Code of Ethics to report such concerns to the physician.

For the data analysis, FPST items were defined as meaningful activities if fifty percent of the patients identified them as important and not satisfied with their performance. Those items are listed in tables 1 and 2. If less then fifty percent of the patients identified a specific activity on the FPST as being important but not satisfied with their performance of the activity, the item was viewed as "not meaningful" and was excluded from tables 1 and 2. Table 1 identifies the ADL items from the admission FPST and table 2 identifies the IADL items from the admission FPST.

In a similar way, FPST items were meaningful if the occupational therapist identified a task as important and not satisfied with patient's performance in four out of eight patients. Those items are listed in tables 3 and 4. Table 3 identifies the ADL items

from the admission FPST reported by the occupational therapist. Table 4 identifies the IADL items from the admission FPST reported by the occupational therapist. The hit ratios were calculated for each category and for the total FPST responses for ADL and IADL tasks. Those analyzes are listed in tables 5 and 6.

Intervention

Dodd Rehabilitation Hospital of The Ohio State University Medical Center is a sixty bed facility that houses all rehabilitation staff and services for the departments of Neurorehabilitation Nursing, Psychology, Physical Therapy, Occupational Therapy, Speech Therapy, Therapeutic Recreation, and Social Work. The major purpose of Dodd Rehabilitation Hospital is the restoration of functionally impaired individuals. One of the primary services offered at Dodd is a specialty in treatment of a spinal cord injury. The spinal cord injury service has sixteen beds and provides; patient focused care, medical diagnosis and treatment, patient care resource management, respiratory therapy, system of care coordination, rehabilitation nursing services, pharmacy services, all therapeutic disciplines, dietetic services, prosthetic and orthopedic prescriptions, social work support, peer support groups, family counseling, community reentry outings, post-discharge follow up, and durable medical equipment evaluations.

Through intensive physical and occupational therapy sessions, patients with a spinal cord injury learn how to direct their care, transfer, maximize mobility, participate in activities of daily living, move in bed, explore leisure interests, educate family and caregivers, and communicate needs. Through rehabilitation nursing, the patients are learning their medications, how to manage bowel and bladder functions, skin care, and sexuality. The discharge planner and the social worker provide counseling on financial

issues and assist with coordinating care. All disciplines are focused on teaching the patient and their caregivers how to manage life with a spinal cord injury.

All patients admitted to the spinal cord service participated in the spinal cord rehabilitation program. Each patient works daily with a physical therapist, occupational therapist, rehabilitation psychologist, rehabilitation nurse and personnel, and the medical team of doctors. Each patient had a minimum of three hours of therapy a day and attended spinal cord education classes offered five times a week. These classes include topics such as; anatomy, medical complications, adjustment to disability, nutrition, sexuality, home modification, leisure exploration, wheelchair options, and skin care. The spinal cord education classes were based on information provided in the "Yes You Can" book given to each patient at admission to the program. Each patient included in this study worked with the same occupational therapist, the researcher, who was responsible for completing the FPST for each patient at admission and discharge. The key personnel were responsible for administering the FPST to each patient on admission and discharge. Data entry was completed independently by the key personnel to keep the results blinded to the occupational therapist.

Data Analysis/Statistical Analysis

Four research questions were developed to address the purpose of the study. The analysis will be described for each research question. Descriptive statistics was used for research questions one and two. A hit ratio will be calculated for research questions three and four. A hit ratio is the percentage of responses where there is agreement between the patient and the occupational therapist and the patient admit and discharge FPST scores. The hit ratio will be calculated by the number of FPST items in agreement divided by the

total number of items in each of the twenty-seven FPST categories. (Hair, Anderson, Tatham, & Black 1998)

RQ1. The first research question will identify the activities that patients view as meaningful for inpatient rehabilitation before participating in the rehabilitation program as measured by the initial FPST items. Frequency distribution was provided for the most commonly reported FPST items.

RQ2. The second research question will identify the activities the occupational therapist views as being meaningful for patient rehabilitation goals after the initial evaluation and prior to treatment of the patient as measured by the initial FPST items. A frequency distribution was provided for the most commonly reported FPST items.

RQ3. The third research question will examine the similarities and differences between the patient and occupational therapist identified meaningful activities. A hit ratio will be calculated between each patient's ratings and the occupational therapists ratings of items from the FPST. The chance accuracy may be low due to limited comparison preliminary data, the large number of FPST items, and the low risk to the patients involved in the study. Therefore, chance estimates were established a-priori at thirty percent. Since the classification accuracy should be at least one-fourth greater than that achieved by chance (Hair et al. 1998), the classification accuracy will be established at .375 a priori. The data will be reported for each FPST category and as a total score for ADL and IADL tasks.

RQ4. The fourth research question will examine the similarities and differences between the initial and discharge patient identified meaningful activities. A Hit Ratio will be calculated for each patient rating scores on admission and discharge. An average hit ratio of all patients will be provided for each category. The total and average hit ratios will be calculated for the twenty seven categories. The data will be reported for each FPST category and as a total score for ADL and IADL tasks.

In addition to the analysis of the research questions, the descriptive properties of the sample and the instruments will be examined.

Chapter 4: Results

This chapter summarizes the results of this pre-test/post-test pre-experimental design. Chapter four describes the characteristics of the patients and the analysis from the four research questions will be provided. A hit ratio of .375 was selected a-priori for comparison of the reported FPST items by the patient and the occupational therapist at admission and at discharge.

Patient Demographics

Based on the inclusion and exclusion criteria, the final sample included eight patients. Over the three month data collection period, twenty-seven patients with a spinal cord injury were admitted, seventeen of these patients did not meet the inclusion criteria, and two patients left the study early and were excluded. The largest barrier to meeting the targeted sample size of thirty was the high patient acuity and occurrence of a duel diagnosis. If a patient had a duel diagnosis of traumatic brain injury and spinal cord injury, speech therapy was consulted to provide cognitive treatment. Patients with a traumatic brain injury were excluded secondary to cognitive deficits and the possible impairment of the ability to reason.

Of the eight patients who participated in the study, four were diagnosed with complete paraplegia. Of these patients, three white males. Two had a high school degree, one had a bachelor's degree and one had less than a twelfth grade education. Two of the patients were employed, one was unemployed, and one was a high school student. Only

one of the patients was married. At discharge, three of the patients with paraplegia did not require supervision at home. One received home health care and three were scheduled to receive outpatient therapy. Two of these patients' had family participate in training prior to discharge. Three of the patients discharged with a manual wheelchair, and one required a power wheelchair. Two required a transfer board and three required a bed side commode and shower seat. None of the patients with complete paraplegia utilized the Independent Living Apartment (ILA) prior to discharge. This apartment is often used by patients and their families to complete a one or two night stay off the nursing unit to practice all of the new skills they learned from training with nursing, physical therapy, and occupational therapy.

Four patients were diagnosed with tetraplegia. Three of the patients were white males, one was African American female. Two had a high school diploma and two had a bachelor's degree. Three were employed and one was retired. Two of the patients were single, one widowed, and one was married. Three of them did not require supervision at home. All four of these patients had their families in for training and two used the ILA prior to discharge. All four patients were scheduled to receive outpatient therapy. Three of the patients required the use of a power wheelchair at discharge and one required a walker. Three of the patients utilized a transfer board and a hospital bed. All four required a shower seat and fifty percent a bed side commode.

The average age of all eight patients was forty-three. Each of the patients received a majority of their OT treatment during their inpatient rehabilitation hospitalization (95%) and their average length of stay was thirty days.

Research Question One

The first research question identified the meaningful activities that patients with a spinal cord injury viewed as being important to the content of inpatient rehabilitation goals. When four of the eight patients identified a specific item on the FPST as important, but not satisfied with their performance, it was included in the analysis. If three or fewer patients identified a specific item on the FPST as important, but not satisfied with their performance, the activity was viewed as "not meaningful" and was excluded from the analysis. Table 1 included the meaningful Activities of Daily Living (ADL) activities reported by the patient and table 2 identifies the meaningful Instrumental Activities of Daily Living (IADL) activities reported by the patient.

Number of Patients	Meaningful Activities: ADL	Number of Patients	Meaningful Activities: ADL
7	Wash hair	5	Get in/out of tub
7	Wash entire body	5	Get in/out of shower
6	Get clothes from closet	5	Open/close drawer
6	Manage underwear	5	Don/doff boots
6	Donning pants	5	Get on/off toilet
6	Don/doff socks	4	Care for toenails
6	Don/doff shoes	4	Apply deodorant
6	Tie shoes	4	Brush teeth
6	Turn in bed	4	Use toilet paper
6	Get up/down floor	4	Donning shirt
6	Stand	4	Tucking shirt in
6	Walk	4	Fasten pants
6	Up/down steps	4	Zip pants
5	Dry entire body	4	Get in/out of bed

Table 1. Patient identified ADL items from FPST

Number of Patients	Meaningful Activities: IADL	Number of Patients	Meaningful Activities: IADL
7	Get items from top shelf	4	Carry pail
6	Remove items from freezer	4	Wash floors
6	Remove items from oven	4	Make bed
5	Exercise regularly	4	Change bed sheets
5	Get in/out of soft chair	4	Move furniture
5	Get items bottom shelf	4	Take out trash
5	Reach items on top shelf	4	Remove items refrigerator
5	Push grocery cart	4	Remove pan from stove
5	Perform sex	4	Barbeque on grill
5	Carry hot pan	4	Pour hot liquids
5	Lift a child	4	Serve food
5	Care for parent	4	Carry bulky items
5	Swim	4	Use bank machine
4	Obtain medication	4	Pay bills
4	Loose/gain weight	4	Check smoke alarm
4	Climb ladder	4	Play with child
4	Get in/out of car	4	Put child in/out car seat
4	Drive	4	Reach supplies
4	Pump gas	4	Get items in/out of washer
4	Get items from trunk	4	Vacuum
4	Lift pail		

Table 2. Patient identified IADL items from FPST

Based on the admission FPST results, the meaningful activities identified by the patients with a spinal cord injury during inpatient rehabilitation fall within sixteen categories; personal hygiene, bathing/showering, toilet hygiene, dressing, health management, functional mobility, community mobility, sexual activity, home management, meal preparation, shopping, financial management, safety procedures, child rearing, care for others, and leisure.

Research Question Two

The second research question identified the meaningful activities that the occupational therapist viewed as being important to the content of inpatient rehabilitation

goals. When the occupational therapist identified a specific item on the FPST as important for four of the eight patients, but not satisfied with their performance, it was included in the analysis. If an item was identified for three of fewer patients, the activity was viewed as "not meaningful" and was excluded from the analysis. Table 3 included the meaningful ADL activities reported by the occupational therapist and table 4 includes the meaningful IADL activities reported by the occupational therapist.

Number of Patients	Meaningful Task: ADL	Number of Patients	Meaningful Task: ADL
8	Get in/out bed	7	Wash entire body
8	Turn in bed	6	Dry entire body
8	Get on/off toilet	6	Handle soap
8	Get in/out tub	5	Wash hair
8	Get in/out shower	5	Manage shirt
8	Get in/out car	5	Fasten pants
8	Use toilet paper	4	Get up/down floor
8	Manage underwear	4	Brush teeth
8	Manage pants	4	Apply deodorant
8	Put socks on/off	4	Zip zippers
8	Put shoes on/off	4	Squeeze toothpaste
8	Tie shoe laces	4	Get up/down floor

Table 3. Occupational therapist identified ADL items from the FPST

Number of Patients	Meaningful Task: IADL	Number of Patients	Meaningful Task: IADL
8	Drive	4	Drink from a cup
8	Remove items refrigerator	4	Drink from a glass
8	Get items from top shelf	4	Manipulate pills
7	Remove pan from stove	4	Hold the phone
7	Remove items from oven	4	Write your name
7	Get items bottom shelf	4	Put items in/out washer
7	Reach supplies	4	Put items in/out dryer
6	Get clothes from closet	4	Remove items freezer
5	Use a fork	4	Carry hot pan
5	Use a microwave	4	Open/close box
4	Use a spoon	4	Open/close jar
4	Cut meat	4	Open bottle
4	Open packets	4	Get grocery items

Table 4. Occupational therapist identified IADL items from the FPST

Based on the admission FPST results, the meaningful activities that are most meaningful to patients with spinal cord injuries during inpatient rehabilitation from the occupational therapists perspective include twelve categories; personal hygiene, bathing/showering, toilet hygiene, dressing, feeding, health management, communication devices, functional mobility, community mobility, home management, meal preparation, and shopping.

Research Question Three

The third research question identified the similarities and differences between the meaningful activities identified by patients with a spinal cord injury and an occupational therapist.

The null hypothesis states that in the population there are no agreements between the patient identified meaningful activities as measured by the FPST on admission and the occupational therapy identified meaningful activities as measured by the FPST on admission. The classification accuracy was established at .375 due to limited preliminary data to compare, the large number of FPST items, and the low risk to the patients involved in the study. The data will be reported for each FPST category and as a total score for ADL and IADL tasks. In the null and alternative hypotheses "P_A" represents the patient meaningful activity variable at admission and "O_A" represents the occupational therapy meaningful activity variable at admission.

$$H_O: \ P_A \neq O_A < .375$$

The alternative hypothesis states that in the population there are agreements between patient and occupational therapy identified meaningful activities.

$$H_A: \ P_A = O_A \geq .375$$

The hit ratio was calculated for each category and by the total ADL and IADL. The findings can be found in Table 5.

ADL and IADL Categories	Hit Ratio	ADL and IADL Categories	Hit Ratio
Personal Devices (ADL)	0.95	Bathing/Showering (ADL)	0.71
Feeding (ADL)	0.92	Functional Mobility (ADL)	0.69
Social Participation (ADL)	0.88	Home Management (IADL)	0.69
Spirituality (IADL)	0.88	Clean up (IADL)	0.69
Personal Hygiene (ADL)	0.86	Meal Preparation (IADL)	0.68
Communication Devices (ADL)	0.83	Sexual Activity (ADL)	0.67
Safety (ADL)	0.81	Financial Management (IADL)	0.67
Dressing (ADL)	0.80	Child Rearing (IADL)	0.67
Leisure (IADL)	0.80	Safety Procedures (IADL)	0.63
Health Management (ADL)	0.78	Shopping (IADL)	0.58
Toilet Hygiene (ADL)	0.75	Sleep (ADL)	0.50
Volunteer (IADL)	0.75	Community Mobility (ADL)	0.48
Care for Pet (IADL)	0.75	Care for others (IADL)	0.38
Education (IADL)	0.72	**Total for 27 Categories**	19.52
		Category Average	0.72

Table 5. Hit ratios of patient and OT identified meaningful activities

The categories with the highest hit ratios were personal devices and feeding. The categories with the lowest hit ratios were community mobility and care for others. Seventy-two percent of the patient admission FPST scores were in agreement with the occupational therapists admission FPST scores.

Research Question Four

The fourth research question identified the similarities and differences between the initial and discharge patient identified meaningful activities from the FPST.

The null hypothesis states that in the population there are no differences between patient identified meaningful activities as measured by the admission FPST scores and the patient identified meaningful activities as measured by the discharge FPST scores. In the null and alternative hypotheses "P_A" represents the patient meaningful activity

variable at admission; "P_D" represents the patient meaningful activity variable at discharge

$$H_O: P_A = P_D < .375$$

The alternative hypothesis states there are differences in FPST items identified on admission as being meaningful and the items identified at discharge.

$$H_A: P_A \neq P_D \geq .375$$

The hit ratios were calculated for each category and by the total ADL and IADL. The findings can be found in Table 6.

ADL and IADL Categories	Hit Ratio	ADL and IADL Categories	Hit Ratio
Personal Devices (ADL)	0.94	Health Management (ADL)	0.76
Care for others (IADL)	0.88	Meal Preparation (IADL)	0.75
Leisure (IADL)	0.83	Clean up (IADL)	0.75
Care for Pet (IADL)	0.81	Volunteer (IADL)	0.75
Spirituality (IADL)	0.81	Child Rearing (IADL)	0.74
Safety Procedures (IADL)	0.81	Toilet Hygiene (ADL)	0.69
Feeding (ADL)	0.81	Safety (ADL)	0.69
Communication Devices (ADL)	0.80	Education (IADL)	0.69
Dressing (ADL)	0.80	Bathing/Showering (ADL)	0.67
Sexual Activity (ADL)	0.79	Community Mobility (ADL)	0.66
Social Participation (ADL)	0.79	Shopping (IADL)	0.66
Home Management (IADL)	0.77	Sleep (ADL)	0.63
Functional Mobility (ADL)	0.77	Financial Management (IADL)	0.62
Personal Hygiene (ADL)	0.77	**Total for 27 Categories**	20.44
		Category Average	0.76

Table 6. Hit ratios of patient FPST scores from admission and discharge.

The categories with the highest hit ratios were personal devices and care for others. The categories with the lowest hit ratios were sleep and financial management. Seventy-six percent of the patient admission FPST scores were in agreement with the discharge FPST scores.

Chapter 5: Journal Article

Goal setting for occupational therapists and patients with spinal cord injuries

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Study Design: A pre-test/post-test pre-experimental design.

Objectives: To describe patient identified meaningful activities as important to the content of their inpatient rehabilitation goals. To describe the meaningful activities an occupational therapist defines as important to the goals of these patients. To identify the similarities and differences between patient and OT identified meaningful activities. To compare the initial and discharge patient identified meaningful activities.

Setting: Inpatient rehabilitation center, Columbus Ohio

Methods: The Flinn Performance Screening Tool (FPST) was used to identify commonly reported ADL and IADL limitations. Frequency distributions were calculated for commonly reported ADL and IADL items for the patients and their therapists. Hit ratios were calculated for each category between the patients and their occupational therapist at admission and between the patients at admission and discharge.

Results: The top four categories reported by the patient's were care for others, bathing/showering, financial management, and community mobility. The top three categories from the OT's perspective were bathing, feeding, and meal preparation. The highest hit ratios by category for the total ADL and IADL responses between the patients and the occupational therapists were personal devices (95%) and feeding (92%). The highest hit ratios for patient responses at admission and at discharge were personal devices (94%) and care for others (88%).

Conclusion: The FPST was important to the success of identifying activities that are meaningful to patients and shows promise in identifying activities for the primary focus of each patient's goals.

Keywords: spinal cord injuries, goal setting, occupational therapy, rehabilitation, meaningful activities

Introduction

An injury to the spinal cord causes immediate changes to a patient's life and can be overwhelming to the patient and their family. During inpatient rehabilitation, some team members have observed a significant difference between their achievement expectations and the patient's. The present study examines one occupational therapists current practice of goal setting for patients with a spinal cord injury.

Understanding that patients need access to and participate in meaningful activities is unique to occupational therapy. Therapists are being asked to document goals and the patient-therapist collaboration on treatment goals. [7, 8] Some studies have focused on patient goal setting and how this impacts patient participation, discharge planning, and alignment of patient and therapist goals. They have shown that expectations of patients are never examined.[10] The findings support the current study by explaining the importance for the rehabilitation professional to understand factors that impact patient participation and how goals play a big part in discharge planning.

Occupational therapists have not yet successfully translated their values about patient-therapist collaboration into a formal set of procedures for practice. There is little consensus about how goal-setting should take place. The key to setting rehabilitation goals is to have patient centered input in the rehabilitation process by allowing each patient to identify activities that are meaningful to them. The most reliable prediction of functional outcomes after a spinal cord injury was when the expectations of both the therapist and the patient were combined. The literature is asking for further analysis of goal setting and needs assessment practice to potentially lead to more effective rehabilitation. [1, 2, 6, 7, 8, 9, 10, 11, 12, 13]

Materials and Methods

A pre-test/post-test pre-experimental design was used to test the research hypotheses. Based on inclusion criteria, eligibility was established by the researcher as the patient was admitted to the spinal cord injury service at The Ohio State University Medical Center, Dodd Rehabilitation Hospital. Within the first seventy-two hours, the researcher contacted each patient, provided education on the study, and asked for consent to participate. The researcher provided a flyer with written educational information and a verbal description of the study. If they did not want to participate in the study, they continued to receive the traditional rehabilitation program. Participation was not mandatory and the patient was not penalized for not participating in the study. The same occupational therapy services were rendered to all patients with a spinal cord injury.

The sample was based on patient admission from April 2009 through July 2009 and consisted of individuals who had a spinal cord injury, ASIA A, B, C, or D, as a result of a traumatic or non-traumatic event. The targeted number of patients to recruit was thirty. Each patient was between eighteen and eighty years old. Each patient in the study was required to complete the spinal cord injury program where the average length of stay is four-eight weeks. The exclusion criterion included patients who required speech therapy because of cognitive impairments. Patient who left the study early due to a discharge to the acute hospital or community were excluded from the study.

Based on the inclusion and exclusion criteria, the final sample included eight patients. Over the three month data collection period, twenty-seven patients with a spinal cord injury were admitted, seventeen of these patients did not meet the inclusion criteria, and two patients left the study early and were excluded. The largest barrier to meeting the

targeted sample size of thirty was the high patient acuity and occurrence of duel diagnoses. If a patient had a duel diagnosis of traumatic brain injury and spinal cord injury, speech therapy was consulted to provide cognitive treatment. Patients with a traumatic brain injury were excluded secondary to cognitive deficits and the possible impairment of the ability to reason.

The Flinn Performance Screening Tool (FPST) was used to identify disability issues of patients with a spinal cord injury. The scores on the FPST highlight the limitations in valued daily activities reported by the patient instead of focusing on the impairment that result from their specific diagnoses. Three hundred and one of the three hundred and seventy-eight photographs with English and Spanish captions were used to screen limitation in twelve self-care and ten home management categories. The work hardening category was excluded from the study to narrow the focus to self care and home management tasks. This tool was used to gather data on patient related goals and what activities patients call meaningful. This tool was used separately by the occupational therapist to identify what functional tasks are top priorities for each patient during the inpatient rehabilitation process.

The occupational therapy evaluation occurred in the first seventy-two hours of their stay and included an informal interview, level of pain, observation of functional tasks, visual screening, cognitive screening, range of motion, and manual muscle testing. The informal interview was used to gather information on home setup, family/caregiver support system, currently owned rehabilitation equipment, current work status, driving status, leisure interests, and patient goals. The researcher then completed the FPST on each patient on admission and at discharge. Key personnel were instructed to meet with

each patient within the first ninety-six hours of admission and the last ninety-six hours prior to discharge to complete the FPST. The occupational therapist did not have access to the patient FPST scores gathered by the key personnel. The patients did not have access to the occupational therapists' FPST scores. Data entry of the patient and occupational therapists FPST scores was completed independently by the key personnel.

Data was collected on patient demographics, the admission FPST scores by the patient and the occupational therapist, discharge FPST scores by the patient and the occupational therapist, patient attendance to OT treatment, patient length of stay, and discharge needs: discharge location, expected level of care, equipment needs, and caregiver education and training, and if continued therapy is required. The data collected did not include any identifying information or medical record number. If the patient disclosed any information not related to the study (i.e. harm to self or others), the principle investigator was bound by the Occupational Therapy Code of Ethics to report such concerns to the referring physician.

All patients admitted to the spinal cord service participated in the spinal cord rehabilitation program. Each patient worked daily with a physical therapist, occupational therapist, rehabilitation psychologist, rehabilitation nurse and personnel, and the medical team of doctors. They had a minimum of three hours of therapy a day and attended spinal cord education classes offered four times a week. These classes included topics such as; anatomy, medical complications, adjustment to disability, nutrition, sexuality, home modification, leisure exploration, wheelchair options, and skin care. The spinal cord education classes were based on information provided in the "Yes You Can" book given to each patient on admission.

Statement of Ethics

We certify that all applicable institutional and governmental regulations concerning the ethical use of human volunteers were followed during the course of this research.

Results and Discussion

The results of this pre-test/post-test pre-experimental design are shown below in tables 1-6. Eight patients participated in this study. When fifty percent of the patients identified a specific activity on the FPST as being important and currently not satisfied with their performance of the activity, it is listed as "meaningful" in tables 7 and 8. If less then fifty percent of the patients identified a specific activity on the FPST as being important and currently not satisfied with current performance of the activity, it is viewed as "not meaningful" and was excluded from tables 7 and 8.

Number of Patients	Meaningful Activities: ADL	Number of Patients	Meaningful Activities: ADL
7	Wash hair	5	Get in/out of tub
7	Wash entire body	5	Get in/out of shower
6	Get clothes from closet	5	Open/close drawer
6	Manage underwear	5	Don/doff boots
6	Donning pants	5	Get on/off toilet
6	Don/doff socks	4	Care for toenails
6	Don/doff shoes	4	Apply deodorant
6	Tie shoes	4	Brush teeth
6	Turn in bed	4	Use toilet paper
6	Get up/down floor	4	Donning shirt
6	Stand	4	Tucking shirt in
6	Walk	4	Fasten pants
6	Up/down steps	4	Zip pants
5	Dry entire body	4	Get in/out of bed

Table 7. Patient identified ADL items from FPST

Number of Patients	Meaningful Activities: IADL	Number of Patients	Meaningful Activities: IADL
7	Get items from top shelf	4	Carry pail
6	Remove items from freezer	4	Wash floors
6	Remove items from oven	4	Make bed
5	Exercise regularly	4	Change bed sheets
5	Get in/out of soft chair	4	Move furniture
5	Get items bottom shelf	4	Take out trash
5	Reach items top shelf	4	Remove items refrigerator
5	Push grocery cart	4	Remove pan from stove
5	Perform sex	4	Barbecue on grill
5	Carry hot pan	4	Pour hot liquids
5	Lift a child	4	Serve food
5	Care for parent	4	Carry bulky items
5	Swim	4	Use bank machine
4	Obtain medication	4	Pay bills
4	Loose/gain weight	4	Check smoke alarm
4	Climb ladder	4	Play with child
4	Get in/out of car	4	Put child in/out car seat
4	Drive	4	Reach supplies
4	Pump gas	4	Get items in/out of washer
4	Get items from trunk	4	Vacuum
4	Lift pail		

Table 8. Patient identified IADL items from FPST

Based on the admission FPST results, the meaningful activities identified by the patients with a spinal cord injury during inpatient rehabilitation fall under the following sixteen categories; personal hygiene, bathing/showering, toilet hygiene, dressing, health management, functional mobility, community mobility, sexual activity, home management, meal preparation, shopping, financial management, safety procedures, child rearing, care for others, and leisure.

If the occupational therapist identified a task as important and not satisfied in the patient's performance of the task for fifty percent of the patients, it was included in tables 9 and 10. If the task was identified for less then fifty percent of the patients, but not

satisfied with their performance, it was viewed as "not meaningful" and was excluded from tables 9 and 10. Table 9 identifies the ADL activities and table 10 identifies the IADL activities.

Number of Patients	Meaningful Task: ADL	Number of Patients	Meaningful Task: ADL
8	Get in/out bed	7	Wash entire body
8	Turn in bed	6	Dry entire body
8	Get on/off toilet	6	Handle soap
8	Get in/out tub	5	Wash hair
8	Get in/out shower	5	Manage shirt
8	Get in/out car	5	Fasten pants
8	Use toilet paper	4	Get up/down floor
8	Manage underwear	4	Brush teeth
8	Manage pants	4	Apply deodorant
8	Put socks on/off	4	Zip zippers
8	Put shoes on/off	4	Squeeze toothpaste
8	Tie shoe laces	4	Get up/down Floor

Table 9. Occupational therapist identified ADL items from the FPST

Number of Patients	Meaningful Task: IADL	Number of Patients	Meaningful Task: IADL
8	Drive	4	Drink from a cup
8	Remove items from refrigerator	4	Drink from a glass
8	Get items from top shelf	4	Manipulate pills
7	Remove pan from stove	4	Hold the phone
7	Remove items from oven	4	Write your name
7	Get items bottom shelf	4	Put items in/out washer
7	Reach supplies	4	Put items in/out dryer
6	Get clothes from closet	4	Remove items freezer
5	Use a fork	4	Carry hot pan
5	Use a microwave	4	Open/close box
4	Use a spoon	4	Open/close jar
4	Cut meat	4	Open bottle
4	Open packets	4	Get items from shelf at grocery

Table 10. Occupational therapist identified IADL items from the FPST

Based on the admission FPST results, the meaningful activities that are most meaningful to patients with spinal cord injuries during inpatient rehabilitation from the

occupational therapists perspective include twelve categories; personal hygiene, bathing/showering, toilet hygiene, dressing, feeding, health management, communication devices, functional mobility, community mobility, home management, meal preparation, and shopping.

The Hit Ratios were calculated for each category and by the total ADL and IADL responses in Table 11. Table 12 includes the hit ratios calculated for each category and by the total ADL and IADL tasks identified by the patient on admission and discharge.

ADL and IADL Categories	Hit Ratio	ADL and IADL Categories	Hit Ratio
Personal Devices (ADL)	0.95	Bathing/Showering (ADL)	0.71
Feeding (ADL)	0.92	Functional Mobility (ADL)	0.69
Social Participation (ADL)	0.88	Home Management (IADL)	0.69
Spirituality (IADL)	0.88	Clean up (IADL)	0.69
Personal Hygiene (ADL)	0.86	Meal Preparation (IADL)	0.68
Communication Devices (ADL)	0.83	Sexual Activity (ADL)	0.67
Safety (ADL)	0.81	Financial Management (IADL)	0.67
Dressing (ADL)	0.80	Child Rearing (IADL)	0.67
Leisure (IADL)	0.80	Safety Procedures (IADL)	0.63
Health Management (ADL)	0.78	Shopping (IADL)	0.58
Toilet Hygiene (ADL)	0.75	Sleep (ADL)	0.50
Volunteer (IADL)	0.75	Community Mobility (ADL)	0.48
Care for Pet (IADL)	0.75	Care for others (IADL)	0.38
Education (IADL)	0.72	**Total for 27 Categories**	**19.52**
		Category Average	**0.72**

Table 11. Hit ratios of patient and OT identified meaningful activities

ADL and IADL Categories	Hit Ratio	ADL and IADL Categories	Hit Ratio
Personal Devices (ADL)	0.94	Health Management (ADL)	0.76
Care for others (IADL)	0.88	Meal Preparation (IADL)	0.75
Leisure (IADL)	0.83	Clean up (IADL)	0.75
Care for Pet (IADL)	0.81	Volunteer (IADL)	0.75
Spirituality (IADL)	0.81	Child Rearing (IADL)	0.74
Safety Procedures (IADL)	0.81	Toilet Hygiene (ADL)	0.69
Feeding (ADL)	0.81	Safety (ADL)	0.69
Communication Devices (ADL)	0.80	Education (IADL)	0.69
Dressing (ADL)	0.80	Bathing/Showering (ADL)	0.67
Sexual Activity (ADL)	0.79	Community Mobility (ADL)	0.66
Social Participation (ADL)	0.79	Shopping (IADL)	0.66
Home Management (IADL)	0.77	Sleep (ADL)	0.63
Functional Mobility (ADL)	0.77	Financial Management (IADL)	0.62
Personal Hygiene (ADL)	0.77	**Total for 27 Categories**	**20.44**
		Category Average	**0.76**

Table 12. Hit ratios of patient FPST scores from admission and discharge.

This study aimed at providing descriptive information on patient and OT identified meaningful activities. It also provided information on the agreement rate between the patient and OT on these activities and if the patient identified meaningful activities change during the inpatient rehabilitation process. This study improved on past research that reported on goal setting needs by using a comprehensive tool that provided the patients with three hundred and one picture options to choose from when identifying activities that are meaningful to them.

Use of the Flinn Performance Screening Tool (FPST), a comprehensive screening tool that represents the occupation-based categories from the Occupational Therapy Practice Framework, was beneficial in setting goals. Many of the activities in the FPST are not typically mentioned in the informal interview of the occupational therapy evaluation. Patients frequently do not consider the tasks that remain important to them, how satisfied they are with their performance, or the specific breakdown of

responsibilities needed for each activity. Many patients were unfamiliar with the potential gains that could be made with rehabilitation, especially the role that occupational therapy professional can provide. Therefore, the cues from the three hundred and one FPST items were important for providing patients with potential options for their rehabilitation programs. Future studies should compare patient identified meaningful activities after an informal interview or survey and after using a structured goal setting tool such as the FPST. Future studies should evaluate tools that use pictures instead of written lists of self care and home management activities to compare patient responses and satisfaction of the tool.

Performances of basic ADL skills are expectations during inpatient rehabilitation prior to discharging a patient to their home. In tables 3 and 4, the occupational therapist identified a higher number of IADL tasks than ADL tasks. These findings are in contrast to the focus of current programming provided to patients. The results suggest that the treatment plans and activities in OT need to be balanced, providing patients with opportunities to learn both ADL and IADL skills and that are defined as meaningful to them.

At admission, it is important to understand the patients' needs and how they relate to the occupational therapists treatment plan. This study found a high percent of agreement between the patient and the OT meaningful activities when a structured goal setting tool was used. Based on the information provided in table 5, the OT and patient did have high hit ratios in seven ADL categories. In future studies, goal setting tools such as the FPST should be evaluated as a means to educate patients on the comprehensive

nature of OT as well as provide them with an opportunity to establish priorities for their OT treatment.

As part of inpatient rehabilitation, the patient needs to learn how to manage their spinal cord injury which can impact their perspective on what is important. If a patient does not adapt to their new medical diagnosis, they will continue to require assistance from family and friends. When a patient progresses through rehabilitation, there frequently is a shift in priorities. The patient begins therapy with an interest to learn basic self care skills and then progresses to the need to transition to worker or educational roles. If the patient reported feeding and dressing as important at admission, financial management and car transfers may be more important at discharge. This progression occurred with two of the eight patients. They were the only females in the study and were both parents. In reviewing their choices for meaningful activities and if they changed over time, each of these patients reported realistic activities on admission and reported changes at discharge. Future studies should evaluate patient goals related to gender and parenting to determine if these factors affect insight into what is meaningful during the inpatient rehabilitation process.

As a result of the study, the inclusion criterion needs further development. One of the eight patients provided clearly different responses compared to other participants. The person was a seventy-nine year old male whereas the average age for the cohort was forty-four. Although he met the inclusion criteria of not having a traumatic brain injury, he demonstrated cognitive deficits. On admission, he identified only nine activities that were meaningful and not performed to his level of satisfaction. On discharge, he identified no items that were either meaningful or problematic. In analyzing the FPST

items, the results did not represent his actual performance in therapy as his diagnosis of tetraplegia required him to receive maximum assistance with self care and mobility tasks at admission. Concerns with the inclusion criteria need further refinement for identifying possible cognitive limitations as a result of normal aging processes or diminished emotional health due to the nature of his injury.

A limitation to the study was the sample size. Even though the exclusion criteria were appropriate to identify patients who were suitable to participate in the study, a larger sample is needed to learn more about patients with spinal cord injuries. For the patients who were excluded from the study based on cognitive deficits, goal setting activities can be enhanced through collaborative teamwork with speech therapists that can assist with cognitive strategies. Family participation would be essential for this group.

Finally, additional time commitment is needed for collaborative goal setting activities. The use of structured goal setting tools can be used during a formalized treatment planning session to assist the patient in identifying what is meaningful to them and to facilitate discussion between the patient and therapist on goal setting and treatment planning.

Findings from structured goal setting activities at admission can become useful when making treatment meaningful to patients as well as provide an outcome measure at discharge. The information can be useful for occupational therapists to initiate treatment, to build rapport, and to enhance skill development in outpatient therapy, home health, or skilled nursing facilities.

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Conflict of Interest Statement

The authors declare no conflict of interest.

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Appendix A:

Patient identified meaningful activities

Table 13 summarizes the ADL tasks identified by fifty percent or more of the patient population. Table 14 summarized the IADL tasks identified by fifty percent or more of the patient population. (n=301)

Number of Patients	Meaningful Activities: ADL	Number of Patients	Meaningful Activities: ADL
7	Wash hair	5	Get in/out of tub
7	Wash entire body	5	Get in/out of shower
6	Get clothes from closet	5	Open/close drawer
6	Manage underwear	5	Don/doff boots
6	Donning pants	5	Get on/off toilet
6	Don/doff socks	4	Care for toenails
6	Don/doff shoes	4	Apply deodorant
6	Tie shoes	4	Brush teeth
6	Turn in bed	4	Use toilet paper
6	Get up/down floor	4	Donning shirt
6	Stand	4	Tucking shirt in
6	Walk	4	Fasten pants
6	Up/down steps	4	Zip pants
5	Dry entire body	4	Get in/out of bed

Table 13. Patient identified ADL items from FPST

Number of Patients	Meaningful Activities: IADL	Number of Patients	Meaningful Activities: IADL
7	Get items from top shelf	4	Carry pail
6	Remove items from freezer	4	Wash floors
6	Remove items from oven	4	Make bed
5	Exercise regularly	4	Change bed sheets
5	Get in/out of soft chair	4	Move furniture
5	Get items bottom shelf	4	Take out trash
5	Reach items on top shelf	4	Remove items refrigerator
5	Push grocery cart	4	Remove pan from stove
5	Perform sex	4	Barbeque on grill
5	Carry hot pan	4	Pour hot liquids
5	Lift a child	4	Serve food
5	Care for parent	4	Carry bulky items
5	Swim	4	Use bank machine
4	Obtain medication	4	Pay bills
4	Loose/gain weight	4	Check smoke alarm
4	Climb ladder	4	Play with child
4	Get in/out of car	4	Put child in/out car seat
4	Drive	4	Reach supplies
4	Pump gas	4	Get items in/out of washer
4	Get items from trunk	4	Vacuum
4	Lift pail		

Table 14. Patient identified IADL items from FPST

Appendix B:

Occupational Therapist identified meaningful activities

Table 15 summarizes the ADL tasks identified by the occupational therapist for fifty percent or more of the patient population. Table 16 summarized the IADL tasks identified by the occupational therapist for fifty percent or more of the patient population. (n=301)

Number of Patients	Meaningful Task: ADL	Number of Patients	Meaningful Task: ADL
8	Get in/out bed	7	Wash entire body
8	Turn in bed	6	Dry entire body
8	Get on/off toilet	6	Handle soap
8	Get in/out tub	5	Wash hair
8	Get in/out shower	5	Manage shirt
8	Get in/out car	5	Fasten pants
8	Use toilet paper	4	Get up/down floor
8	Manage underwear	4	Brush teeth
8	Manage pants	4	Apply deodorant
8	Put socks on/off	4	Zip zippers
8	Put shoes on/off	4	Squeeze toothpaste
8	Tie shoe laces	4	Get up/down Floor

Table 15. Occupational therapist identified ADL items from the FPST

Number of Patients	Meaningful Task: IADL	Number of Patients	Meaningful Task: IADL
8	Drive	4	Drink from a cup
8	Remove items refrigerator	4	Drink from a glass
8	Get items from top shelf	4	Manipulate pills
7	Remove pan from stove	4	Hold the phone
7	Remove items from oven	4	Write your name
7	Get items bottom shelf	4	Put items in/out washer
7	Reach supplies	4	Put items in/out dryer
6	Get clothes from closet	4	Remove items freezer
5	Use a fork	4	Carry hot pan
5	Use a microwave	4	Open/close box
4	Use a spoon	4	Open/close jar
4	Cut meat	4	Open bottle
4	Open packets	4	Get items from grocery

Table 16. Occupational therapist identified IADL items from the FPST

Appendix C:

Hit ratios of patient and OT identified meaningful activities

The hit ratios were calculated for each category and by the total ADL and IADL. The findings can be found in Table 17.

ADL and IADL Categories	Hit Ratio	ADL and IADL Categories	Hit Ratio
Personal Devices (ADL)	0.95	Bathing/Showering (ADL)	0.71
Feeding (ADL)	0.92	Functional Mobility (ADL)	0.69
Social Participation (ADL)	0.88	Home Management (IADL)	0.69
Spirituality (IADL)	0.88	Clean up (IADL)	0.69
Personal Hygiene (ADL)	0.86	Meal Preparation (IADL)	0.68
Communication Devices (ADL)	0.83	Sexual Activity (ADL)	0.67
Safety (ADL)	0.81	Financial Management (IADL)	0.67
Dressing (ADL)	0.80	Child Rearing (IADL)	0.67
Leisure (IADL)	0.80	Safety Procedures (IADL)	0.63
Health Management (ADL)	0.78	Shopping (IADL)	0.58
Toilet Hygiene (ADL)	0.75	Sleep (ADL)	0.50
Volunteer (IADL)	0.75	Community Mobility (ADL)	0.48
Care for Pet (IADL)	0.75	Care for others (IADL)	0.38
Education (IADL)	0.72	**Total for 27 Categories**	**19.52**
		Category Average	**0.72**

Table 17. Hit ratios of patient and OT identified meaningful activities

Appendix D:

Hit ratios of patient FPST scores from admission and discharge

The hit ratios were calculated for each category and by the total ADL and IADL. The findings can be found in Table 18.

ADL and IADL Categories	Hit Ratio	ADL and IADL Categories	Hit Ratio
Personal Devices (ADL)	0.94	Health Management (ADL)	0.76
Care for others (IADL)	0.88	Meal Preparation (IADL)	0.75
Leisure (IADL)	0.83	Clean up (IADL)	0.75
Care for Pet (IADL)	0.81	Volunteer (IADL)	0.75
Spirituality (IADL)	0.81	Child Rearing (IADL)	0.74
Safety Procedures (IADL)	0.81	Toilet Hygiene (ADL)	0.69
Feeding (ADL)	0.81	Safety (ADL)	0.69
Communication Devices (ADL)	0.80	Education (IADL)	0.69
Dressing (ADL)	0.80	Bathing/Showering (ADL)	0.67
Sexual Activity (ADL)	0.79	Community Mobility (ADL)	0.66
Social Participation (ADL)	0.79	Shopping (IADL)	0.66
Home Management (IADL)	0.77	Sleep (ADL)	0.63
Functional Mobility (ADL)	0.77	Financial Management (IADL)	0.62
Personal Hygiene (ADL)	0.77	**Total for 27 Categories**	**20.44**
		Category Average	**0.76**

Table 18. Hit ratios of patient FPST scores from admission and discharge.