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Understanding the Experiences of Occupational Therapists Assessing and Treating Functional Cognition Following Stroke

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Understanding the Experiences of Occupational Therapists Assessing and Treating Functional
Cognition Following Stroke

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Occupational Therapy

Eastern Kentucky University
College of Health Sciences
Department of Occupational Science and Occupational Therapy

Emma Gregg
2022

**EASTERN KENTUCKY UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY**

This project, written by Emma Gregg under direction of Cassandra Ginn, Faculty Mentor, and approved by members of the project committee, has been presented and accepted in partial fulfillment of requirements for the degree of

DOCTOR OF OCCUPATIONAL THERAPY

CAPSTONE COMMITTEE



May 3, 2022

Date

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May 8, 2022

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**EASTERN KENTUCKY UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL
THERAPY**

Certification

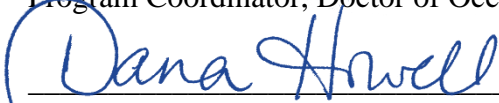
We hereby certify that this Capstone project, submitted by Emma Gregg, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the project requirement for the Doctor of Occupational Therapy degree.

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Executive Summary

Background: Stroke is one of the leading causes of long-term disability in the United States, with many stroke survivors experiencing cognitive impairment. Despite the prevalence and impact of cognitive impairment amongst the post stroke population, the evidence for functional cognition assessment and intervention in occupational therapy practice is not well described, and there is currently no evidence available that has explored perceptions of occupational therapists regarding interventions for functional cognition for stroke survivors.

Purpose: The purpose of this qualitative descriptive study is to explore the perceptions of occupational therapists assessing and treating impairments in functional cognition in individuals following a stroke. This study aims to answer the question: What are the overall perceptions of occupational therapists assessing and treating functional cognition impairments in individuals following a stroke?

Theoretical Framework: The research aims to obtain broad insight into the perceptions of occupational therapists, which is congruent with a qualitative descriptive design using descriptive methodology.

Methods: The study included occupational therapists working in various clinical settings where they assess and treat individuals following a stroke. Purposive sampling was used with the goal of maximum variation, considering work setting of the occupational therapist, years of experience, and geographic location. This qualitative study included one-on-one interviews of the participants which were analyzed using an inductive approach to thematic analysis.

Results: From participant responses, three key themes and associated subthemes arose from the data. The themes included knowledge, observation, and interdisciplinary care matter for addressing functional cognition.

Conclusions: Occupational therapists who treat individuals with cognitive impairment post stroke identify occupational analysis and occupation-based interventions as the most beneficial tools in assessing and treating functional cognition, and found that objective and standardized methods to address functional cognition are limited due to the barriers of health service delivery setting or due to the assessment itself. Furthermore, therapists lack confidence with addressing functional cognition due to the difficulty capturing objective data in their performance-based assessments, and due to lack of training in their professional education programs. Finally, this study emphasizes the value of interdisciplinary care in stroke rehabilitation across settings.

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DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY**

CERTIFICATION OF AUTHORSHIP

Submitted to (Faculty Mentor's Name): Cassandra Ginn

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Certification of Authorship: I hereby certify that I am the author of this document and that any assistance I received in its preparation is fully acknowledged and disclosed in the document. I have also cited all sources from which I obtained data, ideas, or words that are copied directly or paraphrased in the document. Sources are properly credited according to accepted standards for professional publications. I also certify that this paper was prepared by me for this purpose.

Student's Signature: Emma Dugy

Date of Submission: _05/08/2022

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Section One: Nature of Project and Problem Identification

Occupational therapy practitioners serve their clients through the use of interventions that involve the therapeutic use of meaningful daily activity, also known as occupations (American Occupational Therapy Association [AOTA], 2022). Engaging in occupation requires a wide array of cognitive skills and functions, yet when a client has a cognitive impairment, the focus often tends to be described in non-purposeful ways, focusing on the impaired skill versus the complexity of the processes needed for occupational performance (Donovan et al., 2008). A better way to address cognitive impairment would be to focus on the client's functional performance with their desired occupations using a functional cognitive intervention approach. Functional cognition is defined as "how an individual utilizes and integrates his or her thinking and processing skills to accomplish everyday activities in clinical and community living environments" (AOTA, 2017a).

Utilizing a functional cognitive approach begins with identifying the client's individualized occupational performance deficits related to their unique needs. Typically, occupational therapists use a top-down approach to identify performance deficits, but cognition is unique in that some impairments are not seen until an unexpected behavior or action is triggered by environmental stimuli (Toglia & Foster, 2022), meaning that the cognitive impairment may not be identified as quickly as other impairments. There are several assessments available to practitioners to assess cognitive functions but not all assessments are focused on functional performance. Additionally, the assessments that are performance-based such as the Multiple Errands Test, Executive Function Performance Test (EFPT), and the Performance Assessment of Self-Care skills may not be accessible or convenient to clinicians due to the cost of obtaining them, the time to administer, and/or it does not have the ability to assess the

impairment the clinician thinks is present (Giles et al., 2019; Poulin et al., 2013). There is also little systematic research regarding standardized assessments best used to evaluate specific cognitive domains across various practice settings (Saa et al., 2019). Furthermore, this shortcoming in assessing functional cognition may also result in an in a scarcity with providing appropriate functional cognitive interventions, as there has also been little research to guide cognitive intervention strategies (O'Donoghue et al., 2022; Wolf, 2011).

One patient population who is particularly at risk of functional cognitive impairments are individuals who have experienced a stroke (Edwards et al., 2006; Malik et al., 2020; Wolf et al., 2011). Cognitive deficits with this population can vary from mild to severe and can affect individuals at varying stages in their recovery process (Maggio et al., 2019, Malik et al., 2020). It is especially important to address functional cognition with this population as the presence of cognitive impairment is often a predictor for stroke rehabilitation outcomes (Toglia & Foster, 2022). These impairments with functional cognition have been associated with performance-based deficits with activities such as self-care, medication management, functional mobility, social and community participation, childcare and workplace tasks (American Occupational Therapy Association, 2017a; Toglia & Foster, 2022). Despite this population being greatly affected by cognitive impairment, and the severity of the consequences of cognitive impairment on functional outcomes being well known, there remains little research on functional cognitive assessments and intervention approaches (O'Donoghue et al., 2022; Wolf, et al., 2011). In occupational therapy, qualitative research with clinical therapists has helped to better understand gaps in knowledge surrounding new technologies and therapeutic intervention approaches (Chiu et al., 2018; Reichl et al., 2019). To better understand gaps in knowledge regarding assessment

and treatment of functional cognition following stroke, it will be critical to obtain the firsthand experiences of current clinical therapists.

Problem Statement

Stroke is one of the leading causes of long-term disability in the United States (Center for Disease Control and Prevention, 2020), with up to 80% of this population experiencing cognitive impairment further complicating recovery and rehabilitation prognosis (Saa et al., 2019; Lanctot et al., 2020). Despite the prevalence and impact of cognitive impairment amongst the post stroke population, the evidence for functional cognition assessment and intervention in occupational therapy practice is not well described (Saa et al., 2019). Additionally, there is currently no evidence available that has explored perceptions of occupational therapists regarding interventions for functional cognition for stroke survivors. Research is needed to determine possible barriers and enablers to addressing functional cognition impairments to support improved cognitive and functional outcomes for clients following stroke.

Purpose

The purpose of this qualitative descriptive study is to explore the perceptions of occupational therapists assessing and treating impairments in functional cognition in individuals following a stroke. The study included occupational therapists working in various rehabilitation settings.

Project Objectives

In order to understand the perceptions and experiences of occupational therapists treating functional cognition in individuals following a stroke, a qualitative descriptive approach to data collection and analysis was utilized. This study aims to answer the question: What are the overall perceptions of occupational therapists assessing and treating functional cognition impairments in individuals following a stroke?

Theoretical Framework

Qualitative descriptive research is not aligned with a specific theoretical framework but has been found to be of value in health care research (Sandelowski, 2000; Thorne et al., 2004). Recent occupational therapy literature has utilized qualitative descriptive approaches to describe the experiences of clinicians to provide evidence for practice and promote further research regarding various topics (Krishnagiri et al., 2017; Winship et al., 2019). Descriptive methodology aligns with the primary aim of this study. The research aims to obtain broad insight into the perceptions of occupational therapists, which is congruent with a more generic qualitative descriptive design (Kahlke, 2014).

Significance

This research study impacts occupational therapy education and clinical practice. Throughout the interviews, participants identified facilitators and barriers to their ability to effectively assess and treat cognitive impairments in individuals following a stroke. Identified barriers help shed light on increased education and clinical support for occupational therapists. The outcomes also help to justify the need for follow-up research regarding more specific assessment or treatment strategies. Understanding the experiences of occupational therapists is a step towards ensuring best practice in the area of cognitive rehabilitation in various clinical settings.

Summary

This research study used a qualitative descriptive approach to explore the experiences of occupational therapists assessing and treating cognitive impairments in individuals following a stroke. Current clinical occupational therapists were interviewed to understand their perceptions. Understanding perceptions of current clinicians helps bring awareness to barriers that need to be

addressed and facilitators to employ for assessing and treating functional cognition and identifies where further research in this area is needed.

Section 2: Literature Review

The number of deaths from stroke in the United States has been declining for decades (Center for Disease Control and Prevention, 2020), leaving more individuals with residual impairments that often require rehabilitation (Wolf et al., 2011; Lanctot et al., 2020). One of the issues affecting stroke survivor occupational performance is the presence of cognitive deficits, which is found to be a major predictor in poorer functional outcomes (Saa et al., 2019; Malik et al., 2020). Occupational therapists must assess and treat cognitive impairment in order to advocate for better rehabilitation outcomes, as cognitive functioning is needed to complete the vast majority of everyday activities (Giles et al., 2019; Saa et al., 2019).

It is important that occupational therapists have high quality, relevant research to guide their clinical assessment and treatment of cognitive impairments (American Occupational Therapy Association, 2017b). Yet, there is minimal available evidence regarding intervention effectiveness for cognitive impairments following stroke and available research lacks homogeneity and overall generalizability (Wolf et al., 2011; O'Donoghue et al., 2022). If there is limited evidence, then the profession must question how occupational therapists determine treatment strategies for addressing cognitive impairment.

Furthermore, assessing cognition is also complicated. Traditional approaches to assessing and treating cognition are rooted in cognitive psychology, which favors assessing isolated cognitive skills to infer functional skills (Marcotte et al., 2010). Pencil-and-paper assessments such as the Trail Making Test have been cited as useful for identifying specific cognitive skills such as visuoperceptual skills, working memory, and dual-tasking (Sanchez-Cubillo et al., 2009).

However, performance-based assessments for cognitive impairment are preferable to pencil-and-paper assessments for evaluating functional cognition, as they simulate potentially familiar daily tasks which require integrating multiple sources of information rather than isolation of a specific cognitive skill (AOTA, 2017a). One of the biggest barriers to utilization of performance-based assessments is clinical utility, as most functional cognitive assessments take at least one hour to administer (Poulin et al., 2013). It is not well known how occupational therapists typically assess and therefore treat cognitive impairment. There is a need to understand the experiences of occupational therapists who treat individuals following a stroke to explore how they assess and treat cognition without a sufficient body of evidence to support them.

Currently, there is a gap in the research regarding the experiences of occupational therapists treating functional cognition in a more general sense, without being limited to exploring the use of a specific strategy. Furthermore, the evaluation of cognition after stroke has found to be unorganized, with clinicians having difficulty choosing measures for various cognitive domains across clinical settings (Saa et al., 2019). Understanding the perceptions of healthcare professionals is valuable to determining gaps in clinical knowledge and opportunities for future research (Chi et al., 2018; Reichl et al., 2019). This study intends to help understand occupational therapy practitioners' perceptions of functional cognition in practice to help reduce this gap in current evidence.

Section Three: Methods

Design

To better understand the perceptions and experiences of occupational therapists treating functional cognition in individuals following a stroke, a qualitative descriptive approach to data collection was utilized. This study aims to answer the question: What are the overall perceptions of occupational therapists assessing and treating functional cognition impairments in individuals following a stroke?

Setting

The study included occupational therapists working in various clinical settings where they assess and treat individuals following a stroke. Occupational therapists are able to address the impairments associated with stroke throughout the continuum of care; from the acute hospital setting, to the outpatient setting, and even at home or in the community (Nilsen & Geller, 2015). Participants across these settings were included to allow for possible comparison of experiences of therapists in different settings. For the study, occupational therapists participated in virtual interviews using the video chat service Zoom.

Participants

Participants in this study included occupational therapists that have current clinical experience assessing and treating individuals who have had a stroke. Occupational therapists were chosen for this study because of the principal researcher's background as an occupational therapist and personal experience with assessing and treating functional cognition impairments in individuals following a stroke. Although other healthcare professionals can treat these

impairments, only occupational therapists were included in order to determine their discipline-specific experiences, which may include discussion or comparison of other disciplines.

Inclusion criteria included licensed occupational therapists who work full-time, which is at least 32 hours per week, in any clinical setting and any location within the United States. Participants attested to treating individuals following stroke as at least 1/3 of their typical caseload. Participants were required to have access to Zoom and to be able to read interview questions and participate in an interview in English. In order to obtain the most current and up-to-date data about therapist experiences, therapists were excluded from the study if they were not licensed occupational therapists in their practicing state, were not currently working in a clinical setting whose population included at least 1/3 individuals who have had a stroke, and if they worked in that setting less than 32 hours per week. Occupational therapy assistants were excluded from this study as they are unable to interpret the results of standardized assessments within their scope of practice (AOTA, 2014). Participants were also excluded if they were not able to access Zoom or read and speak English, although English need not be their primary language.

Five total participants were included in this study. All participants were current occupational therapists at the time of the study, working in various settings with a client population including individuals following stroke. See table 1 for setting and years of experience of each participant.

Table 1: Participant Demographics

Participant	Setting	Years of Experience in Stroke Rehabilitation	Gender	Practicing State
Participant 1 (P1)	Acute care	5	Female	Idaho
Participant 2 (P2)	Mobile outpatient	14	Female	Missouri
Participant 3 (P3)	Community-based residential	2	Female	Kentucky
Participant 4 (P4)	Inpatient rehabilitation	3	Female	Kentucky
Participant 5 (P5)	Outpatient day neurorehabilitation	2	Female	Texas

Recruitment

Purposive sampling was used with the goal of maximum variation, considering work setting of the occupational therapist, years of experience, and geographic location. To obtain the widest range of possible participants, recruitment fliers were distributed virtually through various methods. The principal researcher recruited through university alumni email lists, employer email lists, and through social media. All recruitment through email lists were sent to the person in charge in that setting (i.e., the occupational therapy manager at the researcher's place of employment, or the head of the occupational therapy department at various universities). See

Appendix A for recruitment flyer and Appendix B for communication script sent along with the flyer. Interested participants responded to the flyer by emailing the principal researcher, who screened for eligibility and scheduled interviews as appropriate.

Data Collection

This qualitative study included one-on-one interviews of the participants. Interviews were conducted virtually for several reasons. Convenience is an important factor to consider when conducting interviews (University of Kansas, n.d.). Conducting a virtual interview allows for more flexibility with scheduling, as it does not require the researcher and participant to find an agreed-upon location, and there is no additional transport time to factor into the time needed for the overall experience. One of the benefits of conducting face-to-face interviews is that body language and facial expressions can be interpreted (Marshall, 2016). The interviews utilized Zoom video call format in order to capture non-verbal cues from the participants. Lastly, safety is an important factor to consider amongst the ongoing concern regarding the COVID-19 outbreak. Virtual interviewing allowed the interviewer and participant to socially isolate and allowed the interview to be conducted without wearing a mask. The interviews were recorded, with the permission of the participants, to allow for full participation in the discussion from the interviewer without pressure to take excessive written notes.

Prior to conducting the study, an interview protocol was developed, using the guide provided by Creswell and Creswell (2018). This protocol includes an introduction section in which the interviewer explains the details of the study to the participant, along with a few opening questions to gather basic demographic information and help put the participant at ease. There are then 5-10 content questions that were formed using the sub-questions of the broader research study question. All questions allowed the interviewer to collect rich data centered on the

main research focus, which is to understand the experiences of occupational therapists assessing and treating cognitive impairments in individuals following a stroke. Interview questions (see Appendix C) were developed based on the main themes identified in a past needs assessment, which included three brief interviews of occupational therapists. Probing questions were also included in the interviews when needed to obtain more information. The script was sent to each participant at least two days prior to the scheduled interview to allow for participant preparation.

Data Analysis

An inductive approach to thematic analysis was taken for data analysis in which the principal investigator transcribed interviews verbatim. This six-phase approach proposed by Nowell et al. (2017) includes becoming familiar with the data, generating initial codes, searching for themes, reviewing the initial themes, defining and naming the themes, and producing a report. The goal of thematic data analysis was to provide meaningful data about the perceptions and experiences of occupational therapists assessing and treating cognitive impairments with organized themes. Three themes arose from the data set and will be described in the results section.

Ensuring validity of qualitative data is an important step in strengthening the results of the research. When analyzing the interview data, multiple validity strategies were utilized. Throughout the process of analysis, member checking was used to verify major meanings and themes that were arising from the data during initial analysis. This helped to ensure the conclusions were logical to the participants who shared their experiences (Lysack et. al, 2017). Member checking occurred with 2 out of 5 total participants. The author also maintained a reflexivity journal throughout the data analysis process. Deliberately self-reflecting on the research process is important, as it allows the researcher to recognize possible bias and how it

may influence the interpretation of the data (Lysack et. al, 2017). Examples of journal topics included reflecting on the types of probing/follow up questions used, and the ability use experience to build rapport without oversharing. Finally, because the research was guided by a faculty mentor, the mentor participated in peer debriefing regarding the data. These debriefing sessions allowed for any additional explanations of the data and reaching consensus regarding conflicting explanations, adding legitimacy to the results of the study (Lysack et. al, 2017).

Ethical Considerations

As this study interviewed participants, there were ethical issues to anticipate and plan for in order to minimize risk and maximize benefit to participants. Institutional Review Board (IRB) approval for the study was obtained in order to be certain that ethical issues were considered and procedures for minimizing risk were planned. Prior to beginning the study, verbal informed consent (see Appendix D) was obtained from participants and the purpose, potential benefits, and potential risks were clearly explained.

Participants were asked to share potentially stressful information about their career. Participants may have negative feelings about their ability to assess and treat cognitive impairments in individuals following stroke, and the interview had potential to bring up feelings of inadequacy in a participant's ability to assess and treat cognitive impairments in their clinical setting. As described by Creswell and Creswell (2018), interview questions were scripted that were intentionally not leading or asking for personal information. The interviewer had ample time to practice following the interview protocol and become comfortable with initial and probing questions, in order to reduce the risk of straying from the script.

When analyzing and storing the data gathered from interviews, steps were taken to protect the privacy of the participants. Using Zoom allowed for the meeting room to be secured

by the host (the principal investigator), to prevent other individuals from entering the meeting. Following the interview, participants were assigned a number for transcription and analysis, and any further information leading to identification of the participant was removed. Data was stored securely in a locked digital format to protect the information from being hacked or stolen.

Section Four: Results and Discussion

Results

Clinical occupational therapists shared their experiences, describing their perceived most important factors for assessing and treating functional cognition following stroke. From their responses, three key themes and associated subthemes arose from the data (see Table 2). Themes and subthemes are further described below with selected quotations to further exemplify each theme.

Table 2: Themes and Subthemes

Theme	Subthemes
Knowledge matters for addressing functional cognition	1. Lack of education in university OT programs.
<i>Occupational therapists often feel a lack of confidence in addressing functional cognition due to being unprepared or underprepared in their education and training.</i>	2. Lack of continuing education.

Observation matters for addressing functional cognition

Occupational therapists often assess functional cognition by observing a client complete a functional activity.

1. Barriers of standardized assessments can be overcome with observation of functional cognitive skills.
2. Functional cognitive observation can lack objectivity and is difficult to reassess.

Interdisciplinary care matters for addressing functional cognition

Occupational therapists value the ability to work with other healthcare professionals to assess and treat functional cognition, especially when working with clients who have complex diagnoses and medical histories.

1. Maintaining collaborative relationships with other therapy disciplines enhances clinician confidence.
2. There are fewer barriers to addressing functional cognition when clients also receive speech language pathology services.

Knowledge Matters

All participants, while they do regularly see clients with cognitive impairment, highlighted their lack of confidence in assessing and treating functional cognition in individuals following stroke.

Lack of Education in University OT Programs

Each participant reflected on their primary OT educational experience and noted there was limited education within the program specifically related to functional cognition. While some participants remembered cognition as a small part of a broader course, no participants recalled taking a class dedicated to functional cognition. P5 stated that her education related to

functional cognition was “kind of like an afterthought, like they had to put it in there somewhere” so it was added to the beginning of an otherwise unrelated pediatrics-focused course. Participants also expressed desire for more education throughout their OT programs, stating “I wish we would have got into it a bit more” (P1). Participants overall felt their education regarding functional cognition was insufficient.

Lack of Continuing Education

All but one participant reported they had not taken any continuing education focusing specifically on functional cognition since starting their clinical OT careers. P3 did “recall some discussion about functional cognition... but that was just about the gist of it” within a brain injury certification course. P1 had experience with some courses related to functional cognition but reflected, “they were very beginner level, and talked about ‘here’s how to do the MoCA (Montreal Cognitive Assessment)’ and ‘here’s how to do some very simple things’, and it wasn’t too much different from what I did learn in school”. Participants lacked continuing education experience in functional cognition, and the experience they did share was limited and basic.

Observation Matters

Every participant discussed the importance of observation of everyday activities as part of assessing and treating functional cognition in individuals following stroke.

Barriers of Standardized Assessments Can Be Overcome with Observation of Functional Cognitive Skills

When asked to describe how they best identify cognitive impairments with clients, some participants reported using standardized assessments such as the EFPT to identify and re-assess cognitive impairment, but others reported they did not use any standardized performance-based assessment at all. However, all participants (even those who stated using some standardized performance-based assessments) said that they rely more heavily on observation during every

day function tasks versus standardized, objective measures. P3 reported that their most common assessment for functional cognition could vary greatly in time required to administer:

In the case of someone who is very attentive and upper level, I would say 30 minutes max (to administer), but in the event of someone whose attention span is much less, it could be upwards of an hour or more stretched over several sessions. Doing portions of it because sometimes we have clients that just cannot sit for even two, three minutes.

P5 also described instances where it was difficult to identify an assessment appropriate for the client's level of functional cognition. They noted, "there's not a lot out there that I could find as far as high-level cognition goes, so you get past the very basic functional skills, and then I couldn't find much at all" (P5). When working with a wide variety of client ability levels, participants found it difficult to rely on standardized assessments.

Functional Cognitive Observation Can Lack Objectivity and is Difficult to Reassess

Each participant described their methods for determining progress over time, highlighting functional improvements during intervention sessions were priority versus formal reassessment of objective measurements. P4 stated "I usually only have anyone with a stroke between 14 and 22 days, so I feel like a lot of times we're focusing on other things, and never get to recreate or reassess". P2 reported difficulty with reassessment of objective measurements and their relation to functional improvement, stating "I don't really feel like the MoCA, or the SLUMS (Saint Louis University Mental Status) translate to activities very well", and agreed that a client's subjective report of improved activity performance would be more valuable than an improved score on a standardized assessment. Participants felt it was difficult to track objective measurements of improvement in functional cognition given the standardized assessments available and their clinical observations.

Interdisciplinary Care Matters

All participants reflected on their experiences with interdisciplinary skill in their respective clinical settings, highlighting that a team approach to treatment of individuals with complex diagnoses such as stroke was critical to client care.

Maintaining Collaborative Relationships with Other Therapy Disciplines Enhances Clinician Confidence

Participants reported that stroke rehabilitation is a complex process that requires multiple healthcare professionals involved. P4 explained, “inpatient rehab works best when we overlap in disciplines, when there is so much gray area... it is a ‘divide and conquer’ type thing. It’s important for all of us to touch on everything”. P2 also highlighted the importance of keeping an open relationship with co-workers – “we just need to make sure we’re in a good standing relationship... (to avoid) a turf war”. Participants agreed that interdisciplinary care is a critical part of the stroke rehabilitation process, regardless of the setting.

There are Fewer Barriers to Addressing Functional Cognition When Clients Also Receive Speech Language Pathology (SLP) Services

Almost all participants felt that SLP focused more on cognitive skills as part of their scope of practice. P2 observed a difference in education, noting “a lot of the other speech therapists that I’ve worked with seem to have a deeper understanding than me of different cognitive processes”. P5 also compared the difference in priorities for SLP and OT treatment – “I feel like they (SLP) do it more intentionally, like they’ll set up an activity specifically to address a certain cognitive impairment, whereas I set up an activity so they can perform the activity”. Participants could distinguish their strengths from SLP strengths when assessing and treating cognition but felt that both disciplines should be addressing this area.

Discussion

To the author's knowledge, this qualitative study is the first to explore the perceptions of occupational therapists assessing and treating functional cognition following stroke. This study aimed to identify what matters to clinical occupational therapists to better understand gaps in knowledge and/or education, and identify further needs for research. The three themes that emerged regarding knowledge, observation, and interdisciplinary care for addressing functional cognition are what matter most to the participants. These themes highlight barriers and facilitators related to assessment and treatment of functional cognition and provide opportunities for further education and research.

Education

Assessment and treatment of functional cognition following stroke varies across settings, however common issues arose amongst the participants in this study. All participants described barriers originating in their primary education, occurring before they even entered the clinical occupational therapy setting. None of the participants had the opportunity to take courses dedicated to functional cognition in occupational therapy throughout their curriculum. Most could remember content related to cognition incorporated into other courses, but found the information disjointed with the other parts of the course, and therefore difficult to remember. Given that the American Council for Occupational Therapy Education (ACOTE) standards for university curriculum do not highlight specific guidelines for education related to functional cognition (ACOTE, 2018), it is no surprise that universities struggle to find a place for education regarding functional cognition. Lack of education leaves entry-level occupational therapists feeling unprepared and uncertain about assessing and treating functional cognition in their clinical settings.

Once therapists enter the clinical setting, they are tasked with complying with state and national requirements for continuing education. This can be difficult when working with a wide variety of client populations, as is standard in most clinical settings. Participants shared they did not prioritize functional cognition when seeking opportunities for continuing education, but rather sought out more broad courses related to conditions or therapeutic approaches. Although some participants could recall a portion of some courses discussing cognition in relation to the main topic of that course, it was again disjointed and difficult to remember. The participant who had taken a course specifically related to cognition found it lacking in depth, focusing on entry-level skills, and did not suit her needs as a more experienced occupational therapist looking to advance her knowledge in functional cognition. When occupational therapists enter their clinical careers, they need opportunities to continue to develop their knowledge and skills related to functional cognition to facilitate increased confidence in their daily practice.

Assessment and Intervention

Participants made it clear that current standardized assessments available to them are limited, and those available are often time consuming and may not assess the level of cognitive skill the therapist is aiming to assess. Clinical occupational therapists in this study recognize that every day activity is an excellent tool for capturing a client's cognitive impairment, but often the outcomes being measured in these scenarios are focused on ADL or IADL performance. While looking at cognitive functioning within every day activity aligns with the principles of functional cognition, it is difficult for the practitioner to measure the performance of cognition in this role, as there are no objective measurements on the cognitive functioning itself within these tasks. These barriers align with previous research suggesting that there are no functional cognitive

assessments in occupational therapy with adequately assessed psychometric properties (Giles et al., 2020).

It should be noted that the use of occupation was also included when discussing interventions for functional cognition. The participants discussed their unique role in enabling participation in occupation and allowing clients a chance to utilize their cognitive performance skills to their ability. This aligns with occupational therapy's scope of practice, meaning that occupational therapy services should focus on enabling individuals to participate in those life occupations (AOTA, 2021). It seems the therapists valued this aspect of occupational therapy that distinguishes the profession from other healthcare professions, which is the importance of function and ability to participate in occupations.

Another area worthy of consideration when discussing interventions for functional cognition, is that the participants did not mention intervention approaches used, but instead discussed types of interventions, which mostly consisted of occupations and activities. Approaches to interventions are specific strategies used by the occupational therapists to shape the interventions that are implemented (AOTA, 2020). For example, an occupational therapist may work with a client to restore cognitive skills, or maybe they will adapt the environment and/or a task to enable participation in occupation. It is also possible that an occupational therapist may use a combination of intervention approaches (AOTA, 2020). However, in this study, the intervention approaches used to address the identified cognitive impairments were unclear. While the approaches used are individualized to each client, the lack of discussion surrounding intervention approaches for functional cognition may indicate further barriers to addressing functional cognition within the profession. Evaluation of a client's needs informs the therapist of the best approaches to utilize in practice (AOTA, 2021), but occupational therapists

have difficulty documenting objective measurements for functional cognition. How can occupational therapists be sure that they are providing the best practice approaches to address functional cognition?

Interdisciplinary Care

Therapists valued the ability to work with a team of healthcare professionals to care for their clients following stroke. They highlighted the importance of maintaining a collaborative relationship with other professionals, specifically other members of the therapy team, to provide the highest quality care and to ensure that no aspects of a client's recovery are overlooked. Research in stroke rehabilitation has described several benefits of interdisciplinary care (Vingerhoets et al., 2020); participants had feelings of increased confidence and satisfaction with their care and acknowledged that they had a team of professionals working together to provide the best care to their clients.

Specifically, within the rehabilitation team, participants highlighted SLPs as the most valuable for assessing and treating cognitive impairments. Participants felt their SLP team members were often more educated about cognitive processes following stroke and had a better understanding of targeting specific cognitive impairments such as memory and attention. Some participants did, however, highlight the lack of focus on function in the SLP intervention approaches they discussed. Occupational therapists recognized the valuable skills of the SLPs for targeting specific cognitive impairments, but also identified their distinct value in applying cognitive skills to functional daily occupations. In this way, participants reflected the team approach was critical to well-rounded, quality stroke rehabilitation.

Limitations

The aim of this qualitative study is descriptive in nature, however due to the limited sample size and scope, data saturation was not met, and findings are not generalizable. Future research should consider a larger, more diverse sample size including more participants across a wider variety of settings, and with more varied years of experience. Asking participants to reflect on their experiences may bias the results of this study. Efforts were made to ensure the interview questions were not leading or influenced by researcher experience; however, it cannot be guaranteed that participants were unbiased when recalling their past experiences. Another follow-up study should consider use of direct observation of clinical occupational therapists to decrease bias and gain a richer understanding of occupational therapist's daily experiences assessing and treating functional cognition across settings.

Conclusion

The role of functional cognition in occupational performance has been well described, yet how occupational therapists assess and provide interventions for clients with cognitive impairments continues to be poorly understood. This study utilized a qualitative descriptive approach to explore the experiences of occupational therapists who work with individuals with cognitive impairment after stroke. Occupational therapists who treat individuals with cognitive impairment post stroke identify occupational analysis and occupation-based interventions as the most beneficial tools in assessing and treating functional cognition. However, similar to previous studies, this study also found that objective and standardized methods to address functional cognition are limited due to the barriers of health service delivery setting or due to the assessment itself. Furthermore, therapists lack confidence with addressing functional cognition due to the difficulty capturing objective data in their performance-based assessments, and due to

lack of training in their professional education programs and continuing education experiences. Further research might consider exploring how occupational therapists choose their intervention approaches to address the impaired cognitive skills. Finally, this study emphasizes the value of interdisciplinary care in stroke rehabilitation across settings, and further research may wish to include the perceptions of other rehabilitation disciplines as well.

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Appendices

Appendix A: Recruitment Flyer




EKU
OCCUPATIONAL SCIENCE AND
OCCUPATIONAL THERAPY



ARE YOU AN OT?


DO YOU WORK WITH INDIVIDUALS WHO HAVE HAD A STROKE?

You are invited to participate in a study to understand the perceptions of OTs assessing & treating cognition in individuals after stroke.
You qualify if you are a:




Full-time OT

Work at least 32 hours/week as a clinical, licensed & registered occupational therapist



English speaking

Able to read & speak fluent English for interview, need not be primary language



Population includes stroke

Assess and treat individuals following stroke as at least 1/3 of your typical caseload

Details

You will be asked to participate in a 1:1 virtual interview with myself that will last up to 60 minutes. I will do my best to meet your scheduling needs. Your identity will remain confidential when discussing the results. Interview questions will be provided 1 week prior to interview. Please contact me if you are interested!

CONTACT emma_gregg@mymail.eku.edu

Appendix B: Recruitment Communication Script

Dear [individual or organization]:

I am contacting to inquire if you would be willing to distribute a recruitment flyer for participation in the research study titled Understanding the Experiences of Occupational Therapists Assessing and Treating Functional Cognition in Individuals Following Stroke.

I am conducting this research as part of Eastern Kentucky University's post professional Doctor of Occupational Therapy program.

Details about the study, inclusion criteria, and interview information are described in the flyer, as well as my email address. All interested participants are asked to contact me directly, so you should not receive responses to your communication.

Please respond to this email regarding whether you are able to send out this flyer by [date], as I am hoping to begin these interviews by [date].

Thank you for your consideration, I look forward to your response.

Best regards,

Emma Gregg, MOT, OTR/L, CBIS

Post-Professional Doctor of Occupational Therapy Student, Eastern Kentucky University

She/Her/Hers

Appendix C: Interview Script

Does participant give verbal consent after interviewer reads consent form? “Yes” “No

Demographic questions

1. What type of setting do you work in?
2. How many years of experience do you have treating individuals following stroke?
3. How often do you treat individuals who have had a stroke?

Content questions

1. How often do you perform assessments related to functional cognition? Tell me about those assessments.
2. How often do you perform interventions related to functional cognition? Tell me about those interventions.
3. In general, would you say your interventions for individuals following stroke focus more on physical or cognitive impairments?
4. Did you learn about functional cognition as part of your primary occupational therapy education? Tell me more about the extent of the education you received.
5. Have you ever participated in any continuing education related to functional cognition?
6. Do you feel confident in your ability to effectively treat cognitive impairments in individuals following stroke? Tell me more about why or why not.
7. Do you often see positive results from your interventions that address cognitive impairments? Tell me more about how you know they are positive results.
8. Do you think occupational therapists should be the primary therapy discipline that treats cognition? Tell me more about other disciplines that may treat cognition.

Appendix D: Informed Consent Script

You are being invited to take part in a research study on the perceptions of occupational therapists who assess and treat functional cognition following stroke. This study is being conducted by Emma Gregg, MOT, OTR/L, CBIS at Eastern Kentucky University.

If you decide to participate in the study, you will be asked to participate in a virtual 1:1 interview with the principal researcher. Your participation is expected to take no more than 60 minutes.

This study is anonymous. You will not be asked to provide your name or other identifying information as part of the study. No one, not even members of the research team, will know that the information you give came from you. Your information will be combined with information from other people taking part in the study. When we write up the results of the study, we will write about this combined information.

We will make every effort to safeguard your data, but as with anything online, we cannot guarantee the security of data obtained via the Internet. Third-party applications used in this study may have terms of service and privacy policies outside the control of Eastern Kentucky University.

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering.

This study has been reviewed and approved for exemption by the Institutional Review Board at Eastern Kentucky University as research protocol number 4433. If you have any questions about the study, please contact Emma Gregg at emma_gregg@mymail.eku.edu. If you have questions about your rights as a research volunteer, please contact the Division of Sponsored Programs at Eastern Kentucky University by calling 859-622-3636.

By completing the activity that begins following this discussion, you agree that you (1) are at least 18 years of age; (2) have read and understand the information above; and (3) voluntarily agree to participate in this study.