FACTORS INFLUENCING THE CLINICAL REASONING OF OCCUPATIONAL THERAPISTS WITH STROKE SURVIVORS IN SAUDI ARABIA- AN EXPLORATORY STUDY

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Abstract

Factors influencing the clinical reasoning of occupational therapists with stroke survivors in Saudi Arabia- an exploratory study.

Introduction

Occupational therapists are one of the vital members of the rehabilitation team that work to assist stroke survivors after their injury to regain their independency. The OTs engage in clinical reasoning to help stroke survivors to improve their independency in essential activities of daily living. Previous literature suggests that occupational therapists' clinical reasoning is often context-dependent and could vary according to multiple and different factors. However, there is a lack of evidence that investigate the occupational therapists' clinical reasoning in different contexts especially in Saudi Arabia. The aim of this study is to explore the current practice of occupational therapists in Saudi Arabia, and the aspects affecting their clinical reasoning process with stroke survivors.

Methodology

Qualitative methodology was adopted to explore the occupational therapists' experiences and narratives with stroke rehabilitation in Saudi Arabia. Participants were recruited from two rehabilitation centres using purposive sampling. Eight semi-structured one-to-one interviews with occupational therapists were conducted. The interviews were audio-recorded and transcribed verbatim. Themes were identified using thematic analysis framework that guided the analysis process of this project.

Findings

The two overarching themes that were identified were therapists' related factors and client's related factors. The participants acknowledged different factors related to the therapists themselves and how their personal and professional values guide their clinical reasoning. The clients' culture, education, personal preferences and their abilities were, also, identified to have an influence on the clinical decision-making process.

Conclusion

Based on the participants input, there are several challenges that face occupational therapists such as setting realistic goals, implementing evidence-based practice and finding suitable interventions that fit with the clients' needs. Through the development of a national stroke rehabilitation guidelines, these challenges could be elevated from occupational therapists in Saudi Arabia.

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Declaration/Statements Form

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Chapter 1: Introduction

1.1 Stroke in Saudi Arabia

The Kingdom of Saudi Arabia is located in the Middle East, within the Arabian Peninsula, and is the largest country in the region with over two million square kilometres (Robert and Zamzami 2014). According to the United Nations (2019), Saudi Arabia's population is estimated to be well over 34 million. Stroke is increasingly becoming an imperative issue in Saudi Arabia, both economically and socially (Al-Jadid and Robert 2010). It is expected that stroke mortality will almost double by 2030 in Saudi Arabia (Tran et al. 2010). Tran et al. (2010) suggest that due to the younger population of the Middle East area, stroke could become a major burden in the future. This, also, has been mentioned by Robert and Zamzami (2014) who believe that even though Saudi Arabia is falling behind western countries in the prevalence of stroke incidents, this could change in the future due to the younger population of Saudi Arabia. However, there is a lack of quality publications to have an accurate indication of the stroke rate in the kingdom (Kamran et al. 2007; Robert and Zamzami 2014). In addition, hypertension seems to be the most common risk factor in multiple studies followed by diabetes-related issues (Al-Rajeh et al. 1998; Awada and Rajeh 1999; El Sayed et al. 1999). The rapid economic change within the Gulf Cooperation Council countries, of which Saudi Arabia is a vital member in the council, have influenced lifestyle choices, social and behavioural patterns to adopt unhealthy eating habits and lower levels of physical activity, which could increase the incidents of stroke (Kamran et al. 2007).

1.2 Occupational therapy in Saudi Arabia

As recommended by the ICF model, developed by the World Health Organisation (WHO), stroke rehabilitation services could be utilised by the stroke survivors to improve their quality of life after their injury (Silva et al. 2015; Porta and Last 2018). Occupational therapists (OTs) are one of the healthcare professionals that form a multidisciplinary team that assists stroke survivors to regain their independency and improve their quality of life, which will be discussed in more details in the literature review chapter (Clarke and Forster 2015). OTs provide multiple services that are unique to the needs of their clients to enable them to achieve their goals thought the

use of meaningful activities (Pendleton et al. 2013). In Saudi Arabia, occupational therapy was recently integrated into the educational system and there are only a few educational programmes in the kingdom (Alshehri et al. 2019). The author was among the first batch of Saudi OTs who graduated from King Saud University in 2013. While there is no data in the literature indicating the history of occupational therapy in Saudi Arabia and the number of OTs working within the kingdom, the number of cases reported by the Saudi Ministry of Health suggest that there is a need for occupational therapy services (Alshehri et al. 2019). Since there were few Saudi OTs, who were able to obtain their degree from outside Saudi Arabia, almost every major occupational therapy department in Saudi Arabia is depending on recruiting therapists from different parts of the world such as Jordan, the Philippines, the Czech Republic, India and South Africa.

1.3 Clinical reasoning

One of the fundamental concepts of occupational therapy practice is clinical reasoning (Kristensen et al. 2012). OTs often engage in clinical reasoning to analyse, understand and make the best decision available on complex and uncertain healthcare situations (Higgs et al. 2019). Clinical reasoning in occupational therapy is context-dependent (Higgs et al. 2019), evidence-based (Kristensen et al. 2012) and client-centred oriented (Unsworth 2004). This means that clinical reasoning can be affected by multiple contextual factors, including cultural, societal, organisational, financial and administrative (Higgs et al. 2019). In addition, clinical reasoning in occupational therapy can be influenced by the medical and rehabilitation models that require OTs to follow evidence-based practice that often isolates specific physical or psychological qualities and improves them separately (Higgs et al. 2019). Furthermore, clinical reasoning can be influenced by client-centred practice which requires a collaborative environment in which therapists work as a facilitator to achieve the clients' goals (Sumsion 2006b). Since occupational therapy was founded on humanistic values (Meyer 1922), interventions in occupational therapy have been adapted to be appropriate with the client's needs, goals and lifestyle, which shows the importance of understanding the clients' perspective and valuing their expertise and knowledge in the rehabilitation process (Mattingly and Fleming 1994). Therefore, the provision

of occupational therapy services has revolved around formulating the clinical decisions by incorporating clients' preferences, the therapists' clinical experience and knowledge and the best available evidence in the literature (Sackett 1996). Despite the clear importance of understanding clinical reasoning in occupational therapy, there have been few studies that investigated the different factors that could affect the therapists' clinical reasoning (Mattingly and Fleming 1994; Al Busaidy and Borthwick 2012; Kristensen et al. 2012).

1.4 Rationale for the study

During the author's placement and professional work, which was conducted in three different hospitals in Saudi Arabia, the author was exposed to different areas of rehabilitation including stroke, paediatric and hand rehabilitation. The author worked with different therapists throughout his clinical experience, which exposed him to different approaches and therapeutic strategies by the senior therapists. However, the practice of occupational therapy varied from one therapist to another despite the clients sharing the same diagnosis. This included the process of assessments, goals setting, treatment plans and engaging the clients in their recovery journey. For instance, some OTs, especially from western countries, were emphasising the importance of assessing all the Activities of Daily Living (ADLs) and prioritising engaging the clients in their ADLs. Despite having some challenges from some clients, particularly stroke survivors, the therapists insisted on the importance of achieving full independency in ADLs. On the other hand, some therapists who come from Arab nations and East Asian countries focused more on the client's goals which was mostly to focus on the motor recovery aspect of the upper limb. While this was a more acceptable and favourable approach to therapy by the clients, there was still some conflict, especially with the medical team who continuously questioned the occupational therapy practice.

Once the author started working as an occupational therapist, it became clear that there are different aspects that could influence the therapists' reasoning when choosing the applicable treatment plan. Therefore, the author chose this topic as the master dissertation project to understand the different factors that influence OTs in Saudi Arabia with stroke survivors. As a

qualitative researcher, it is important to acknowledge one's own thoughts, presumptions and reasons for conducting this study. In order to minimise the author's influence on the research, reflexivity was utilised through this study which will be discussed in further details in the methodology chapter.

1.5 Research aim and objectives

Aim:

To explore the current practice of OTs and the aspects affecting their clinical reasoning process with stroke survivors.

Objectives:

- Explore aspects affecting the OTs' treatment strategies with stroke survivors.
- Explore the perceived barriers and facilitators within the OTs' practice with stroke survivors.
- Understand the therapists' thoughts, reflections and reasons to implement the different treatment strategies types.

Research question:

What are the aspects affecting the OTs' clinical reasoning with stroke survivors in Saudi Arabia?

Chapter 2: Literature review

2.1 Introduction

In general, the literature review chapter will explore and critically appraise the relevant studies in the literature that investigate OTs' clinical reasoning. The literature review chapter will begin by exploring the role of occupational therapy in stroke rehabilitation and the importance of rehabilitation services for stroke survivors. The author will then identify the current significant information about clinical reasoning. Then a critical exploration will be carried out of the relevant studies on clinical reasoning of OTs across different settings and cultures. After that the author will establish some of the key factors affecting OTs' clinical reasoning, such as culture, evidence-based practice and client-centred practice.

2.2 Search strategy

Throughout the literature review chapter, the author accessed online databases via Cardiff University such as AMED, CINHAL, Medline via Ovid and PubMed. Additional information was also found on search engines including Google Scholar and Cardiff University Library search. The review focus was to identify and critically appraise the relevant studies in the literature that investigate aspects affecting OTs clinical reasoning especially with stroke survivors. Therefore, particular key words were chosen to find similar studies conducted in the past with the same topic at hand. The author used a main combination of key words which is "clinical reasoning AND occupational therapy." In addition, the author found additional studies in the reference list of extracted studies.

2.3 Stroke rehabilitation

Stroke is a damage to the brain function triggered by an interruption of the blood flow to the brain (Robert and Zamzami 2014). The disruption of blood flow could be caused by ischemia i.e. lack of blood flow or a blockage i.e. thrombosis or a haemorrhage (Robert and Zamzami 2014). Stroke has become the second leading cause of fatality and the second reason for disability worldwide (Feigin et al. 2015). While there has been exciting medical development in stroke management, it is estimated that the prevalence of stroke-related burden will increase within

the next twenty years (Langhorne et al. 2011). The extent of stroke-related issues varies from a client to another depending on the site of the injury and the following recovery after the initial injury (Langhorne et al. 2011). Stroke survivors usually present difficulties performing different basic tasks such as dressing, eating, speaking, driving and toileting (Langhorne et al. 2011). The National Clinical Guidelines for Stroke (2012) estimate that more than 65% of stroke survivors could acquire changes to the upper limb function and almost half of stroke survivors could have long-lasting upper limb dysfunction.

Several national guidelines recommend the utilisation of stroke rehabilitation services to assist stroke survivors with a variety of tasks and activities to gain a level of independency after the injury (Geyh et al. 2004). The rehabilitation services normally involve a cyclical process where the rehabilitation team perform (1) comprehensive assessments to identify the client's needs (2) setting realistic goals with the clients (3) implementing the necessary interventions to help the clients reach their goals (4) reassessing the progress with the agreed goals (Langhorne et al. 2011). The rehabilitation team could assist stroke survivors with speech and language, sensation and cognition (Kelley and Borazanci 2009). However, the most identified impairment with stroke survivors is motor impairment, which limits the level of function in muscle movement and mobility (Langhorne et al. 2011). Generally, an effective stroke team depends on many factors to achieve client's goals (Bindawas and Vennu 2016). These factors could be physical factors i.e. cognitive and physical impairment, emotional factors i.e. mood, motivation and performing activities outside of the session, social factors i.e. family support, and healing factors i.e. the early start of rehabilitation (Clarke and Forster 2015; Bindawas and Vennu 2016). In general, rehabilitation teams consist of physicians, physiotherapists and OTs, nurses, neuropsychologists, social workers and speech and language pathologists (Kelley and Borazanci 2009).

The stroke rehabilitation team has been proven to be more effective and efficient when each specialist working with the team within a multidisciplinary approach (Govan et al. 2008). The evidence suggest that clients are more likely to be more independent in their ADLs, have an earlier discharge and there are less clients needing institutional care in the long term (Langhorne

and Hankey 2006; Langhorne et al. 2011). Clarke (2013) believes that the complex nature of a stroke injury requires the health professionals to collaborate to benefit from their collective knowledge and skills to provide the best treatment possible for the clients. However, Clarke (2013), also, emphasises the importance of having coordination within the team given the fact that stroke multidisciplinary teams are normally bigger than many healthcare teams. The collaborative nature of working within a multidisciplinary team implies not only that there is a shared goal but also shared responsibility and accountability among the healthcare professionals (Clarke and Forster 2015). Each team member contributes their unique professional perspective in weekly meetings to discuss and report their decisions with each client (Clarke and Forster 2015). This allow the healthcare professionals to work and decide independently the course of action but with consideration to the collaborative goal set by the team (Clarke and Forster 2015).

OTs are among the multidisciplinary team that could offer unique perspectives to assist stroke survivors to reach a higher level of ADLs independency (Clarke and Forster 2015). The OTs utilise different standardised tools to evaluate the client's needs according to their mental status, behaviour, upper extremity function, range of motion and mobility (Pendleton et al. 2013). The standardised tools help the OTs to understand the underlying issues that prevent the clients from performing ADLs tasks (Pendleton et al. 2013). Also, OTs could be involved in ensuring the safety and appropriateness of assistive devices i.e. wheelchairs and orthotics i.e. splints (Kelley and Borazanci 2009). Stroke survivors require the help of OTs to assist them with everyday tasks (Pendleton et al. 2013). For example, clients with motor impairment could find difficulties performing activities such as feeding, grooming, toilet transferring, computer use and childcare (Pendleton et al. 2013). With the use of the appropriate assessment tools, OTs could identify and provide the proper intervention to assist the clients to achieve their goals (Pendleton et al. 2013).

2.4 Clinical reasoning in occupational therapy

Clinical reasoning is a core process for OTs that could be defined as the result of all thinking processes involved in the clinical practice (Higgs et al. 2019). Clinical reasoning enables therapists to analysis multifaceted, uncertain, multicomponent situations to make the best clinical decision

for the clients (Higgs et al. 2019). The OTs are involved in a complex and dynamic process of evaluating and observing their clients performing significant and valued everyday activities (Higgs et al. 2019). The clinical reasoning process is highly contextual and could be affected by factors such as organisational, cultural and social (Kristensen et al. 2012). Clinical reasoning was described by Mattingly and Fleming (1994) as a tacit knowledge that could be sometime difficult to articulate by the practitioners. For example, it is often to hear therapists use phrases such as "this does not seem right, "the quality of his gait," and "the look in her eye." In such instants, the therapists are using experience-based knowledge that they never had to use specific words to describe (Mattingly and Fleming 1994). While this knowledge helps the individual therapists to become a more expert practitioners when dealing with different clients, it does not contribute to the collective knowledge of the profession (Mattingly and Fleming 1994). This is a common issue in most professions because expert tacit knowledge normally remains tacit and implicit (Mattingly and Fleming 1994). Barriers and constraints to clinical reasoning could be individual, financial support and policies, which could affect the quality of the treatment provided to the clients (Kristensen et al. 2012). It is often in practice that therapists find a constant conflict between what they perceived should be done and what the client wants and what the organisation will allow (Higgs et al. 2019).

2.5 Types of clinical reasoning

OTs utilise several lines of thinking and reasoning consciously and unconsciously to form an idea of the client's potentials, problems, course of action and outcome (Higgs et al. 2019). Mattingly and Fleming (1994) proposed three tracks of thinking in an ethnographic study that investigated the clinical reasoning of OTs using interviews, observations and videotapes. While the study was relatively small and specific to one location and professional culture, it provided some key principles in occupational therapy clinical reasoning which are still being taught today (Higgs et al. 2019). The three tracks of reasoning could be used by the therapists simultaneously to solve the client's problem (Mattingly and Fleming 1994). The first line of reasoning is "procedural reasoning" which OTs engage in to identify the client's problems and to understand the medical issues underlying the functional limitations (Mattingly and Fleming 1994; Higgs et al. 2019). The

therapists seek to set the goals and develop multiple hypothesises to carry on with the treatment plan (Higgs et al. 2019). The second line of reasoning is the “interactive reasoning” which let the therapists understand the meaning of the client’s experience (Mattingly and Fleming 1994). The therapists try to understand the impact of disability on the client’s life from their point of view (Mattingly and Fleming 1994). The third line of reasoning is “conditional reasoning” where OTs attempt to project a future image of the client’s situation (Higgs et al. 2019). This involves considering the client’s current context and ways to change it for the better. In addition, the therapists reflect on their negative decisions and try to judge the whether they made the correct treatment plan or not (Higgs et al. 2019). In addition, the evidence suggests two additional lines of thinking, one of which is “ethical reasoning” where OTs try to solve personal dilemmas when the therapeutic action violates their values and beliefs (Higgs et al. 2008). This line of reasoning is normally unconscious but it can affect the decision making process (Higgs et al. 2019). Finally, the fifth line of reasoning is “pragmatic reasoning” by which OTs attempt to evaluate the current context and the real-world situation to judge what could be achievable for their clients (Higgs et al. 2008). The context could involve the organisational limitations, values and resources (Higgs et al. 2008).

Kristensen et al. (2012) attempted to understand the clinical reasoning strategies used when implementing evidence-based practice by OTs with stroke survivors in Denmark. The study was conducted at three separate settings which covered acute, sub-acute and home rehabilitation services. The study included 25 female OTs with at least two years of experience working with stroke survivors. Kristensen et al. (2012) demonstrated in their study “the therapist with the three track-mind” that was first explained by Mattingly and Fleming (1994). Therapists constantly utilised “procedural reasoning” to understand the clients’ medical problems and strengthing their confidant of the treatment choice. More importantly, “interactive reasoning” was recognised when the therapists valued and encouraged active participation by the clients in the decision-making process. The therapists in this study trusted their instincts when dealing with their clients and showed the flexibility to adapt to their client’s situation. This is evident especially with expert therapists who were willing to ignore some of the standarised assessments, which

some therapists believe to be too rigid, to adjust to their clients' needs. Finally, some therapists showed examples of "conditional reasoning" when they tried to adjust their theraputic activities to be more safe and hold meaning to their clients. This was shown when the therapists included planting as a therapeutic activity and they were constantly guiding the clients to perform the activity safely. Although having a meaningful activity could have a positive effect on the clients, the physical context could present a barrier to perform these activities. While Kristensen et al. (2012) highlight the different types of reasoning that OTs utilise, it is important to understand that clinical reasoning could vary depending on the context (Schell and Schell 2018). It is, also, worth noting that despite the robust methodological design which included observations, field notes, semi-structured interviews and focus group, the study did not include member checking, which could affect the level of trustworthiness (Braun and Clarke 2013).

2.6 Factors affecting occupational therapists' clinical reasoning

There are different factors that could influence the clinical reasoning of OTs in practice. Schell and Schell (2018) and Higgs et al. (2008) believe that the local context is a strong factor that could affect the occupational therapy practice. This includes the influence of the healthcare professionals team within the rehabilitation team, the local system as well as the workplace (Higgs et al. 2008). In one of the early studies that investigated clinical reasoning, Rogers and Masagatani (1982) observed that OTs within a medical setting focused their reasoning around the diagnosis as well as establishing a good rapport with their clients. The organised nature of the medical model has influenced the OTs' clinical reasoning to revolve around the clients' diagnosis and base the treatment plan around the clients' medical issues (Schell and Schell 2018). In addition, therapists consider the client's goals, needs, lifestyle and personal and cultural values when planning and guiding the clients through their treatment plan (Higgs et al. 2019). This is especially important for occupational therapy practice since many researchers regard the profession as a client-centred practice (Townsend et al. 1997; Unsworth 2004; Sumsion 2006b). Unsworth (2004) conducted a study investigating OTs' clinical reasoning and concluded that clinical reasoning and client-centred practice were inseparable. While the therapists did not explicitly express their clinical reasoning to be inspired by client-centred practice, Unsworth

(2004) demonstrated in different examples that the therapists were affected in some way by the influence of client-centred practice on occupational therapy. Finally, there is an influence of evidence-based practice on how OTs form their clinical decisions (Kristensen et al. 2012). OTs based their clinical decisions around understanding the client's preferences, therapists' knowledge and the best available evidence in the literature (Sackett 1996; Higgs et al. 2019). Therefore, it was essential for this review to explore the different factors that OTs face in their practice and understand the issues that could encounter the therapists when forming their clinical decisions.

2.7 Clinical reasoning and cultural awareness

Worldwide, scholars have attempted to define the term culture, but it seems that there is no universal definition to describe culture. Iwama (2007) believe that a universal definition might not exist since culture is a dynamic entity and could not be simplified to superficial differences such as religion, ethnicity, language and disability. However, this did not discourage researchers from defining the culture. Awaad (2003a) defined culture as the sum of non-materials that impacts the learned identity and individuals' behaviour and the social group to which he/she belongs. Nevertheless, Awaad (2003a) and Watson (2006) assert the importance of understanding that culture is not a static entity and advise against making stereotypical judgements about a certain society. In addition, modern life has further complicated the issue of clearly defining culture as individuals could belong to different groups of people at the same time due to globalisation (Watson 2006). Occupational therapy has always claimed to be a client-centred practice and approached the clients with a holistic approach (Whiteford and Wilcock 2000; Hammell 2013). As the occupational therapy profession is increasingly being adopted around the world, there is a need for therapists to be more culturally aware and competent (Awaad 2003; Watson 2006; Iwama 2007). This includes understanding that OTs as well as their clients are embedded in one culture at least, which could have a complex influence on occupational therapy practice (Martín et al. 2015). Developing cultural awareness and competency provides OTs with a lens for understanding how their clients live socially and how culture could affect their perception of health, illness and disability (Awaad 2003; Bonder et al.

2004). This perception allows the therapists to take in consideration the meaningful occupations for their clients and work with clients who have lost their ability to carry on these activities due to disability or illness (Odawara 2005). In addition, therapists' awareness of cultural values helps build a strong relationship with their clients and understand what could motivate them and plan accordingly with the treatment plan (Watson 2006).

There is a clear lack of relevant evidence looking into the clinical reasoning of OTs in Saudi Arabia. In fact, there are no qualitative studies taking in consideration the local practice of occupational therapy and the effect of cultural values on the practice. However, there are few studies in the same region which investigate the effect of cultural values on the occupational therapy practice. Al Busaidy and Borthwick's (2012) study, which was conducted in Oman, showed interesting findings that specifically highlight the Islamic and cultural values impact on the therapists' practice and the clients' perception of disability. Shafaroodi et al. (2014) was also deemed relevant since it showed an in-depth understanding of how there are different client-related factors that might impact how therapists proceed with the treatment plan.

Al Busaidy and Borthwick (2012) conducted a study in Oman which highlighted the effect of cultural values in the Middle East and Islamic principles on the OTs' clinical practice. The study included 10 OTs out of 15 in the whole country which demonstrated how occupational therapy as a profession is still in its infancy in the region. Nonetheless, the included OTs volunteered to do semi-structured interviews showing the effect of cultural values on their practice. It was evident in this study the immense influence of Arab/Islamic values on the therapists' practice as well as the clients' goals in the recovery process. First, while the idea of prompting independence is central to the occupational therapy profession, it was challenging to enact such philosophy with Omani clients since they do not share the same values, which originated from western culture. The family support and the availability of domestic workers encourages the clients to take a passive role in their therapy and depend on the people around them. In some cases, the family and the clients were offended when the therapists offered to assist them in ADLs activities because they have enough family support to not let the client do anything. Second, the

embedded Islamic values affect the occupational therapy practice. For example, clients were reluctant to engage in self-care assessments such as dressing and washing assessment because it is contrary to the Islamic teaching, which discourages showing their bodies to foreigners unless it's an emergency. In addition, the Islamic teaching encourages Muslims to take care of those who cannot, which could present some conflict with the family or the carers to motivate the client to be independent. Third, there are subtle cultural values and identities that could present challenges on OTs. For instance, the traditional Omani dress code for males and females were sometime more difficult to adapt to suit the clients' needs and goals. Also, the participants in this study showed a level of pragmatic reasoning when they adapted to the cultural values and skipped assessments that were deemed culturally inappropriate such as cooking assessments for male clients and focusing on more relevant assessments such as the dressing assessment. Despite the lack of information about the context in which those therapists work in, the study demonstrates a general cultural and Islamic impact on occupational therapy practice.

Moreover, Shafaroodi et al.'s (2014) study that included 12 OTs working in different setting in Iran showed how there are different factors that could have an effect on the clinical reasoning of the therapists. For example, the therapists believed that the level of client's awareness about their medical problems could have an effect on the therapeutic process and that therapists should address this issue by providing a clear explanation of the client's situation and expected effect of the disease. The client's level of self-awareness and acceptance of their current situation determined the type of clinical reasoning the therapists used and the level of client's cooperation with the therapist. However, the therapists believed that once the clients and their families recognised the occupational therapy services and understood what could be done for them, the therapy sessions were facilitated and, thus, the clinical reasoning process. In addition, the client's level of education was another factor that affected the treatment plan. Therapists felt that when they identified that their clients are doctors, for example, they changed the way they talk and how they treat their client. Moreover, therapists emphasised the importance of respecting the client's beliefs and values which include their religious beliefs. This is consistent with Mattingly and Fleming's (1994) findings which suggest that respecting client's spiritual beliefs could lead to

effective treatment. Finally, the social context was a factor that therapists considered, especially when prescribing assistive devices. The therapists understand that the lack of awareness in the community about disability and disabled people could cause the assistive devices to be a barrier to the client's participation in the community. While this study paints a clear picture of the factors affecting OTs' clinical reasoning, the findings could be just appropriate in the local context of Iran and the result might not be transferable to other contexts (Braun and Clarke 2013).

2.8 Evidence-based practice

Evidence-based practice could be defined as a thorough, ethical and discriminative process of implementing the best available research-based evidence to decide the clinical care for clients (Lloyd-Smith 1997). This process has been gaining attention in different health care professions (MacEwan Dysart and Tomlin 2002). Occupational therapy is one of the professions that seeks to implement evidence-based practice to show that their practice is both clinically and cost effective (Taylor 2000). Rosenberg and Donald (1995) suggested a four-stage process to achieve evidence-based practice. Therapists should: (1) frame a well-defined clinical question about the client's issue; (2) search in the literature for the relevant evidence; (3) critically appraise the evidence to evaluate its validity and appropriateness; (4) carry-out the intervention with the client (Rosenberg and Donald 1995). However, Bennett and Bennett (2000) emphasise the importance of considering the client's values and preferences when choosing the appropriate intervention. Therapist-related factors such as clinical experience, available resources and practice setting should also be taken into consideration (Bennett and Bennett 2000). The essence of evidence-based practice is to clearly identify the decision-process and explicitly and clearly articulate the prosses to the client and other healthcare professionals (Taylor 2000). The OTs utilise evidence-based practice as one of the tools to help with the clinical reasoning process to find the most effective and safest intervention (Taylor 2000). Taylor (2000) believes that evidence-based practice is a powerful tool that therapists should utilise and find the right balance between the system's demands of up-to-date evidence, the needs of the clients and the occupational therapist's experience.

However, despite the clear advantages of utilising evidence-based practice, it is yet to be adopted widely (MacEwan Dysart and Tomlin 2002). There are some challenges that could face OTs to implement evidence-based practice. One of the main challenges that OTs face when looking for evidence-based interventions is simply the lack of quality research to support any intervention (Metcalfe et al. 2001; Ilott et al. 2006; Hinojosa 2013). Hinojosa (2013) believe that there is a lack of scientific evidence to support the effectiveness of many interventions that OTs might utilise. A lack of research exists and, therefore, a weak infrastructure in the occupational therapy research database, which cripples the OTs' ability to find a strong and relevant evidence intervention for their clients (Ilott 2004). In addition, there is a difficulty in finding the right intervention for clients especially in stroke rehabilitation, given the fact of the complex nature of the injury (Langhorne et al. 2011). Clients could receive rehabilitation services at different points of their recovery, and they could have different impaired functions, motivation and environmental factors that could limit the applicability of the current evidence (Langhorne et al. 2011). Moreover, there are factors and challenges within a particular system such as administrative support (Alsop 1997) and physical accessibility (Metcalfe et al. 2001). Therapists could also face challenges to implement evidence-based practice because of their individual skills (Glegg and Holsti 2010), motivation (Curtin and Jaramazovic 2001) and attitude (Caldwell et al. 2007). Moreover, there are some researchers that want occupational therapy to avoid embracing the full concept of evidence-based practice (Hinojosa 2013). Hinojosa (2013) believes that occupational therapy as a profession is still struggling with its own true identity away from medicine and when therapists abide by the medicine criteria of evidence-based practice, we are further strengthening our relationship with the medical model. However, Ilott (2004) alerts more of an immediate danger to the profession than identity crisis. The lack of evidence-based practice could drive the decision-makers away from employing the services of OTs (Ilott 2004).

Finally, the challenges and factors affecting the use of evidence-based practice could vary from country to country. In the U.S., OTs have full access to the necessary resources to look for the most relevant articles to their clients' issue (MacEwan Dysart and Tomlin 2002). However, therapists complained that there is no support from the organisation to provide free time to

allow the therapists to access the resources and find the needed information from the literature. (MacEwan Dysart and Tomlin 2002). Similarly, in the U.K. and Australia, therapists reported that the lack of time is the primary barrier to implementing evidence-based practice (Metcalfe et al. 2001; McCluskey 2003). In countries where English is not the primary language, OTs might face challenges reading evidence written in English (Döpp et al. 2012). For example, more than half the Dutch OTs that participated in Döpp et al.'s (2012) study reported that the literature language was too difficult to understand. This finding could be seen in other health care professions such as nursing in Sweden and in Finland (Kajermo et al. 1998; Oranta et al. 2002). However, the above-mentioned studies might not be representative of the phenomena on a national level since Metcalfe et al. (2001) only sampled OTs located in the Northern and Yorkshire region of the U.K., and Döpp et al. (2012) had a low sample size that might not show the full picture in the Netherlands. In a recent study, Alshehri et al. (2019) conducted a study to show the attitude, awareness and barriers to implementing evidence-based practice in Saudi Arabia. The main barrier to implementing evidence-based practice among Saudi OTs was insufficient education about research methodology during their bachelor's degree (Alshehri et al. 2019). This is consistent with Alshehri et al.'s (2017) findings among Saudi physiotherapists who reported the same barrier as the OTs.

2.9 Client-centred practice and clinical reasoning

Client-centred practice could be defined as shared approaches to enable occupation with clients whether individuals, groups or agencies (Townsend et al. 1997). The OTs work collaboratively with the clients to include them in the decision-making process while acknowledging the client's unique experience and knowledge (Townsend et al. 1997). Occupational therapy has asserted client-centred practice as one of the key foundations of the profession (Sumsion and Law 2006; Whalley Hammell 2013). Based on full information presented in an understandable format, the client can make the therapeutic decisions and set the goals with the occupational therapist (Sumsion 2006b). The therapists work as facilitators to achieve the clients' goals with consideration to the context and the surrounding environment (Sumsion 2006b). The active

participation of the clients in the decision-making process motivates the clients to be more engaged in the therapeutic process and, thus, show a better improvement (Alamo et al. 2002).

2.9.1 Therapists' aspects

While client-centred practice has been regarded as one of the key foundations of the profession, every day-to-day implementation of client-centred practice has been a challenge to OTs (Sumsion and Law 2006). Sumsion and Law (2006) believe that one of the key barriers to implementing client-centred practice is the power imbalance that could be found between healthcare professionals and clients. Townsend (1998) stressed the importance of shifting the power imbalance in the therapist-client relationship from dependence to mutual interdependence and collaboration to reach the client's goals. In order to reach a mutual and collaborative relationship, the power in the therapist-client relationship must be understood and accepted by both parties (Sumsion 1999). Whalley Hammell (2013) concluded that the strongest barrier to the implemention of client-centred practice is found on the therapists' level and the policies of the occupational therapy department. This could be seen in different studies that investigated client-centred practice from the perspectice of the clients. The clients often describe the OTs as being superior, disempowering, pesimistic and looking to dicitate the client's lifestyle (Cant 1997; Corring and Cook 1999; Swain 2004). In a meta-synthesis of qualitative research looking into the client's experience of rehabilitation services after spinal cord injury, the rehabilitation services were described as inflexible, regulated and restrictive and the clients felt that they were imprisoned (Hammell 2007). While these experiences are context-dependent and not representative, it shows that some OTs are yet to embrace the client-centred practice and treat their clients as equal in the therapeutic process.

2.9.2 Communication barriers

Another barrier to implementing client-centred practice is the lack of communcation and listening skills from the therapists (Sumsion and Law 2006). Communication skills are vital to allow the therapists and the clients to discuss all issues and have equal opportunity to contribute to the decision-making process (Logan 1997). In fact, communicating information is the central

focus of client-centred practice (Coulter 2002). This includes providing the clients with the necessary information about their clinical situation, prognosis, progress and the overall medical care plan (Sumsion and Law 2006). Providing the clients with such information will allow them to make informed decisions about their medical care and understand their responsibilities in the care plan (Baum and Law 1997). Another aspect that therapists might contribute to the issue is simply the lack of listening skills (Webster 2001, cited in Sumsion and Law 2006). Therapists are ought to listen to what is troubling their clients even if they are not able to help them with dealing with their issues (Sumsion and Law 2006). Otherwise, clients will feel that their perspective and expertise are not recognised and not valued by the therapists (Corring and Cook 1999; Darragh et al. 2001). The tendency to not to listen to the clients could occur because it is easier for the medical team to take charge of the decision-making process and decide the best course of action (Harrison 2001). Barry et al. (2001) found that clients are often trying hard to let someone understand them and listen to them. However, these efforts eventually stop, and the clients end up listening to the medical team. This attitude by the therapists could discourage the clients to take an active role in their recovery process.

2.9.3 Clients' aspects

There are client-related factors that contribute to the lack of implementation of client-centred practice and, thus, affect the clinical reasoning process. The level of client's education could hinder their understanding of the rationale behind asking them to make decisions in their therapeutic process (Sumsion 2006a). Due to lack of previous opportunities to question the presented information by the medical team, some clients might pretend to understand the given information, thus, limit their participation in the client-centred practice (Sumsion 2006a). Additionally, cultural aspects might limit the clients' ability to take an active role in their therapeutic process (Christiansen 2014). In some cultures, the clients might be motivated and encouraged to accept the role of being sick and listen to directions of the professionals to guide the rehabilitation process (Sumsion 2006a). In addition, older adults could be one of the population that might be difficult to motivate to participate in the decision-making process (Hobson 2006). This could be because of their respect of the healthcare professional (Thorson

and Powell 1991) or their preference to trust the professional or their feeling of discomfort to tell the healthcare professional how they should carry out the therapeutic activities (Hobson 2006). The previous experience of dealing with healthcare professionals could make older adults assume that they should have a passive role in the therapy process (Beisecker 1996). Hobson (2006) suggest that therapists should provide all the information needed by the clients and explain the reason for providing such information and then therapists could give their advice. Also, therapists should allow some time for some clients to gain confidence and better understanding of their situation and then share the decision-making process. Nevertheless, some older adults simply do not wish to be involved in the therapeutic decisions and this should be respected and understood by the rehabilitation team (Anthony and Hudson-Barr 2004; Hobson 2006).

This review shows the importance of understanding the OTs' perspective when choosing the best clinical strategy with the consideration of the different factors that could influence stroke survivors. OTs often face challenges when deciding the best clinical decision for stroke survivors. These challenges stem from the fact that occupational therapy practice is highly complex, dynamic and context dependent. However, despite the clear importance of understanding how OTs prioritise and choose the best available treatment strategy, there is a lack of quality studies that thoroughly investigate different factors that OTs consider with stroke survivors in different contexts. Moreover, in the current studies, despite the methodological limitations, there is a lack of transferability to Saudi Arabia where the occupational therapy profession is still new and yet to be investigated. Therefore, this study is investigating the different factors affecting clinical reasoning for OTs in Saudi Arabia with stroke survivors.

Chapter 3: Methodology

This chapter will lay out the rationale and the steps taken to implement the methodology used in this study. This is followed by an in-depth justification of the sampling method, data collection and analysis process for this dissertation. Finally, the ethical considerations when implementing the study as well as the steps taken to ensure the trustworthiness of the study.

3.1 Study Design

3.1.1 Using qualitative design

A qualitative design was chosen giving the nature and the objectives of the study, which relays on obtaining an in-depth understanding of the therapists' perspective and clinical reasoning when choosing the treatment plan for stroke survivors. Qualitative research focuses on the participants views, perspectives and experiences to gain a deeper meaning of a situation with consideration of the context in which the phenomena is carried out (Hanson et al. 2011). The use of qualitative methodology could help capture complex situations and show how the participant's make sense of the topic in question (Braun and Clarke 2013). This is an advantage of using qualitative methodology since exploring clinical reasoning is one of the main objectives of this study and considered as highly dynamic and contextual process (Lee and Miller 2003; Hanson et al. 2011). While the use of quantitative research could provide a more generalisable data about a particular behaviour, test hypothesis and provide results with some statistical certainty (Braun and Clarke 2013; Holloway 2017), quantitative research was not selected as it normally takes the context in which the phenomena is performed out of equation leaving the researcher with a superficial but generalised finding about the topic. This is not consistent with the aim of this study which seek a detailed and rich data from the perspective of the therapists to have a better understanding of the how, what and why therapists reason their treatment strategies.

3.1.2 Interpretivism paradigm

In order to understand phenomena or a situation, interpretivism paradigm could be utilised to understand the world from the participants' perspectives, experiences and perception (Thanh and Thanh 2015). The goal of an interpretive paradigm is to depend on the participants' perspectives and views to make sense of the research question (Creswell 2014). This is a core concept of interpretivism as it considers the reality to be socially constructed and could vary among different group of people (Creswell 2014). Interpretivism was deemed appropriate to this project as it seeks to understand and discover the reality through the participants' perspective, background and experiences (Thanh and Thanh 2015). This gives the researcher a broad range of complex understandings and perspectives on the phenomena instead of narrowing the research into multiple categories of answers (Creswell 2014). In interpretivism, the acceptance of the different perspectives results in a more complete understanding of a phenomena or a situation (Morehouse 2012). In addition, interpretivism allow the researcher to understand a particular context and its influence on the phenomena being studied (Willis 2007). This is essential to this type of research since clinical reasoning is context-dependent and the experiences and the factors that affect the therapists' decision making could vary among different groups of OTs. This is especially important as most of the research within occupational therapy is conducted within a western context, which might not be applicable to different cultures. This allow the researcher to understand the effect of the different variables within a particular context on the clinical reasoning of OTs from the participants' perspectives and experiences.

3.2 Sampling Strategy

Qualitative research seeks transferable theories by having in-depth information about the participants, the context and the research, which gives the reader the ability to make a decision whether the findings are transferable within his/her context or not (Silverstein et al. 2006). Patton (2002b) believe that one of the key points that show the difference between qualitative and quantitative paradigm is the sampling method. Quantitative research seeks to generalise the finding by having a probability-based sampling that could be applied to the population (Patton

2002b). However, what is considered bias and therefore, weakness in statistical sampling is strength in qualitative research (Patton 2002b). The purposive sampling was used as it is designed to find participants that could be a rich-information source based on a set of criteria that fits the research question (Patton 2002b; Braun and Clarke 2013). Therefore, homogenous sampling was used as it helps the researcher to understand a specific subgroup in-depth by setting a set of inclusion criteria that assist in finding participants that could enrich and help illuminate the research question (Patton 2002a).

- A certified occupational therapist by the Saudi Commission for health specialities.
- At least 1-year experience with stroke survivors. This is required in order to ensure that therapists have enough experience with stroke survivors.
- Able to read and speak in Arabic.

3.3 Data Collection

Face to face semi-structured interviews was chosen as it is considered the golden standard of qualitative methods (Novick 2008). The face to face interviews is regarded as a stronger method of reporting in qualitative research since it establishes rapport between the interviewer and the interviewee, which helps the participants to express themselves freely (Ritchie et al. 2014). Also, the face to face interviews creates an environment where the researcher is able to collect non-verbal data, which has been noted in this study (Ritchie et al. 2014). The flexibility of semi-structured help the researcher to find the answers for the "why" questions, especially for complicated and complex topics (Egan 2006). This is of importance to this study as it seeks an in-depth understanding of the therapists' knowledge and clinical reasoning when choosing a treatment plan. The semi-structured interview is an ideal method as it enables the researcher to probe the participants' ideas through the use of verbal cues (DeJonckheere and Vaughn 2019). After receiving the initial agreement to participate in the study, the researcher and participants negotiated the timing of each interview according to the therapists' convenience. To facilitate the process of the interview for the participants, the interviews were conducted within the therapists' workplace and the secretary of the department helped in arranging a quiet meeting room for each interview. The participants were informed of the estimated time for conducting the interview and the full process of the data collection and the possibility of contacting them

again for member-checking. Since there is an emphasis on understanding the context and the meaning of human behaviour in qualitative research, the data collection was done in Arabic as it is the primary language of the principle investigator (Lopez et al. 2008). In addition, the majority of stroke survivors are Arabic speakers since it's the primary language (Khan 2011).

3.3.1 Interview guide

While the style of semi-structured interviews allows the participants to explore the study topic freely, the interview guide is used to direct the conversation around the phenomena being studied (McIntosh and Morse 2015). The interview guide is a series of questions or topics that will help the researcher to guide the conversation with therapists and help in building a rapport to gain rich and detailed data about the phenomena (Braun and Clarke 2013). Crindland et al. (2015) emphasise the importance of proper preparation to qualitative interviews and that includes developing a comprehensive interview guide, which is essential for the quality of the data collection and the data analysis process. The interview guide should be developed according to previous of knowledge in the literature about the topic (Turner and Daniel 2010). Questions in the interview guide should be a participant-oriented, clearly-written, open-ended and not leading to ensure that the participant provides the study with rich information about the phenomena (Kallio et al. 2016). The questions should start with lighter and more familiar to the participant and yet crucial to the study to have a relaxed interview and then move to more in-depth questions about the phenomena (Kallio et al. 2016).

The researcher developed an interview guide after looking into the current knowledge about the topic and assessed by the researcher's supervisor (appendix 1). The interview guide was then piloted with two OTs who are known to the researcher to have practised with stroke survivors in Saudi Arabia and they were not part of the study. A field testing is crucial to understand the steps of implementing the interviews by simulating real interviews situations (Turner and Daniel 2010; Chenail 2011). The feedback from the researcher's supervisor and the piloted interviews were considered during the reassessment of the developed interview guide, which helped to create more clear, concise and relevant questions to the study.

3.4 Analysis Strategy

All interviews were conducted in Arabic and audio-recorded with the consent from the participants. The data were transcribed in Arabic and used quotes were translated in English by the researcher and checked by a third party to ensure the accuracy of the translation. The issues of the translation will be further addressed in the trustworthiness section.

Braun and Clarke (2006) emphasise the importance of being clear on how the researcher reaches their ideas, data analysis and assumptions that informed the analysis, which gives the reader the right tools to evaluate the research. Therefore, it is essential to mention the steps taken in data collection and analysis. Thematic analysis framework by Braun and Clarke (2006) were used to identify, analysis and report the themes within the collected data. The thematic analysis is one of the flexible and essential tools in qualitative research to gain rich and detailed account of the data (Braun and Clarke 2006). The thematic analysis framework suggested by Braun and Clarke (2006) explains the process in six steps. Initially, the researcher read and re-read the transcribed data and take notes of emerging ideas. Then codes should be generated systematically according to the interesting accounts within the data. The generated codes then gathered and grouped according to their similarities to form themes. After that, the themes were reviewed and checked in relation to the codes and the entire data. Finally, the themes were named and clearly defined within the data with quotes extracted from the data to show the findings. The line numbers of the extracted quotes and the participants serial numbers were provided in the findings chapter.

3.5 Ethical Considerations

In almost every research project, some ethical and moral considerations might jeopardy the integrity of the study (Orb et al. 2001). Therefore, qualitative researchers should be attentive to the main four principles of conducting research during the planning, implementation and reviewing the research project (Wiles 2013). The fundamental principles are autonomy, beneficence, non-maleficence and justice (Wiles 2013). Holloway (2017) refers to autonomy as respecting that participants are autonomous and capable of taking the decision to take part in

the study and their right to be fully informed, which could be achieved by providing a consent form (appendix 2). Beneficence implies that the researcher should ensure that there is a possible gain to the community and should take into consideration a balance between risk and cost (Holloway 2017). The term non-maleficence means that there is no harm caused to the participants in the study and that their personal information and privacy are well preserved (Orb et al. 2001). According to Wiles (2013), justice means that there is fair and just access to the research project by all prospective participants.

3.5.1 Recruitment Stage

The researcher sought ethical approval from Cardiff University's school of health studies ethics committee and the ethical approval from both rehabilitation centres in Saudi Arabia. All participants received a clearly written consent form with the participants' information sheet in Arabic 48 hours prior to the interview with full information about the study (appendix 2 and appendix 3). The consent form included information such as the study title, purpose and the process of implementing the study (Wiles 2013). All potential therapists in the first rehabilitation centre received the invitation, the participants' information sheet and the consent form through email. However, the second centre had a policy preventing the occupational therapy head department from giving the researcher the emails of the therapists. Therefore, to respect the organizational policies and expectations (Holloway 2017), the potential therapists received a written consent form as well as the participants' information sheet and the study invitation by the secretary department and those who wanted to participate in the study sent an email to the researcher to arrange the timing of the interview. All participants joined the study voluntarily and were assured in the invitation form that they have the full freedom to take part in the study and there is no obligation to participate.

3.5.2 Data Collection Stage

During the data collection phase, there could be possible ethical issues that should be addressed by the researcher (Braun and Clarke 2013; Ritchie et al. 2014). Braun and Clarke (2013) emphasised the importance of taking informed consent, avoiding (emotional and physical) harm

to the participants as well as the researcher, being aware of the potential vulnerability and respecting the confidentiality of the participants and collected data. The participants had the chance to discuss and ask any questions about the study before conducting the interview and were assured that they had the freedom to drop out of the study at any time the wanted (Parahoo 2014; Holloway 2017). The researcher took permission from all participants to audio-record the interviews and reassured the therapists that their privacy and confidentiality would be well maintained. While this study was considered as a low-risk study, because of the dynamic nature of interviews, there is a possibility that participant could be emotionally discharged during the interview or have negative emotions from reflecting past experiences (Orb et al. 2001; Ritchie et al. 2014; Brinkmann 2015). Thus, the researcher was prepared to implement strategies such as discontinuing the interview and referring the participants to the proper support channels to reduce any damage or harm to the participants (Parahoo 2014).

The personal information and the identity of all participants are well kept during and after the study. This was assured to all participants prior to their consent to take part in the study. By using a pseudonym, the researcher gave each participant a serial number systematically while reporting the data without revealing the real names of the participants, which will ensure the anonymity and confidentiality of all participants (Lune and Berg 2017). Also, sensitive information such as locations and unusual professions for the participants will be removed during the publications to minimise the risk of identifying any participant. Also, the data is well maintained in a password-protected computer to ensure the security of the data. The researcher is complying with Research Records Retention Schedule by Cardiff University, which suggest that the data should be kept for a minimum of two-years post-publication. Also, there will be a continues to update to the management strategy to comply with the research integrity and governance code of practice at Cardiff University (Cardiff University 2019).

3.6 Maintaining Trustworthiness

In qualitative research, health researchers should always show the ‘truth value’ in their studies to allow the reader to determine the credibility and validity of the study (Holloway 2017).

However, the topic of showing the validity has been debated among qualitative researchers as some such as Maxwell (2012), who consider the term is associated with quantitative paradigm studies (Holloway 2017). Silverman (2011), also, argue that there should be a retention of reliability and validity, but the criteria for evaluating qualitative inquiry should not be translated as it is from quantitative research because qualitative research should be evaluated by its criteria. Therefore, terms such as dependability, credibility, transferability and confirmability were established to replace the terms used in quantitative research (Holloway 2017). In this study, these elements of trustworthiness have been addressed as follows:

3.6.1 Establishing credibility

Credibility means that the researcher ensures that the findings are reported from the participants' point of view or perception, which is one of the most critical principles in evaluating qualitative research (Holloway 2017). This stems from notion that there are multiple realities constructed by other people and affected by their environment and the context in which they live (Carpenter 2008). Therefore, in order to show that the study is authentic and reliable, the qualitative researcher must present data collected to the participants to check the accuracy of the data (Carpenter 2008). By using member-checking, triangulation and reflexivity, the researcher could ensure the accurate representation of the therapists' perspectives (Curtin and Fossey 2007).

Member checking or member validation is one of the methods that qualitative researchers use to show trustworthiness in the data (Curtin and Fossey 2007). The concept of member checking appeal to qualitative researcher since it gives the participants the opportunity to be active in the research process by providing further comments, clarifications and explanation to their interviews (Carpenter 2008). This is to ensure that the findings present an accurate meaning of the participants' experiences and decreases the power imbalance between the researcher and the participants by the giving them chance to check the data (Carpenter 2008). The researcher sent the transcripts to all participants by email for member-checking and minor changes related to spelling mistakes were applied on some transcripts. Also, direct quotes from the transcripts

were translated and checked by a third party to ensure the accurate translation of the meaning. The translated quotes were used to validate the findings and show the exact ideas that came from the interviews and were used in the data analysis.

In addition, in order to improve the understanding of the phenomena being studied, data triangulation will be utilised (Carter et al. 2014). There are several types of triangulation such as investigator, theory, methodological and data triangulation, which consist of three subtypes including space, time and person (Lune and Berg 2017). Space triangulation was used in this study to ensure the consistency of the data across multiple sites (Shih 1998). This was important to this study as it investigates the aspects affecting the therapists' clinical strategies with stroke survivors, which could be affected by the local professional culture in each hospital (Kristensen et al. 2012). The use of space triangulation helps the researcher understand the influence of the context on the clinical reasoning of therapists in different clinical settings (Curtin and Fossey 2007; Kristensen et al. 2012). Therefore, the chosen centres have different two governance systems (semi-private and governmental) to understand the effect of institutional organization and leadership on the clinical practice of therapists (Kristensen et al. 2012).

In qualitative research, the subjectivity of the researcher is well acknowledged and considered unavoidable since we all human and bring our own assumption, ideas, and knowledge about the phenomena in the research process (Braun and Clarke 2013). Qualitative researchers should show and acknowledge their active participation in shaping the results of the research. Therefore, the researcher must acknowledge his/her background and interest in the topic to demonstrate reflexivity (Carpenter 2008). The researcher is an occupational therapist who worked in one of the rehabilitation centres involved in the study. However, only two participants in the study had worked with the researcher, which has been seen as acceptable by Braun and Clarke (2013), but further ethical issues were considered such as keeping new information that was learnt about them confidential within the interview. Also, Copland and Garton (2010) believe that "acquaintance interviews" allow the researcher to access resources that would not be available if were done in the traditional way. Giving the fact that the researcher is familiar with the culture

and the professional background, it is even more important that the researcher show reflexivity. This was done by having a reflective journal to take note of any thoughts, assumptions and feelings during the data analysis and writing the dissertation process (Holloway 2017).

3.6.2 Ensuring dependability and transferability

The term dependability has been used in qualitative research to replace the term reliability (Holloway 2017). The notion behind dependability is that while the research conducted within a particular context and a specific group might not be replicable, it can, however, be repeated by other researchers in different settings (Thomas and Magilvy 2011; Holloway 2017). This study attempt to achieve dependability by providing an audit trail of why the study was conducted, describing the rationale of selecting the participants, explaining how and why the data was collected, discussing how the data were analysed and transformed into the report and showing the steps taken to ensure credibility (Thomas and Magilvy 2011).

While qualitative research does not aim for generalisation of the findings and reaching a broader population, the readers could judge the applicability of transferring the finding of the study from one group to another (Thomas and Magilvy 2011; Holloway 2017). By providing a thick description of the rationale of chosen the method, the research process, the data collection process and the data analysis process, the researcher show the reader as many details as possible of what has been done and why (Curtin and Fossey 2007; Thomas and Magilvy 2011). This gives the reader the chance to determine whether the study could be applied to different groups or individuals based on the information given by the researcher (Curtin and Fossey 2007).

Chapter 4: Findings

Two key themes were identified with multiple subthemes that show OTs in reflections and narratives starting from the steps taken to formulate the clinical decisions and the different aspects related to the clients and the therapists. The themes were developed using Braun and Clarke's (2006) thematic analysis which helped in generating the codes from the interview transcriptions and these were grouped together to form two main overarching themes. Eight OTs from 2 different rehabilitation centres (4 from each centre) who met all the inclusion criteria volunteered to be part of the study. Since occupational therapy is a relatively new profession in Saudi Arabia, only half of the participants had more than five-years of experience with stroke survivors. Some of those participants had their education abroad before the first occupational therapy program was introduced in 2010. Because occupational therapy is relatively small and for confidentiality reasons, details about the participants such as their years of experience were not included.

4.1 Theme one: "Therapists' Related Factors"

The participants in this study expressed different priorities and factors that help them with formulating their clinical decisions, especially within the first two sessions with the clients. The participants stressed the importance of establishing a rapport with their clients to make the therapy sessions more successful. The therapists also had different approaches when consulting their clients and deciding the short-term and the long-term goals for the rehabilitation programme. In addition, the therapists expressed how the multidisciplinary team could affect their clinical reasoning and change their treatment plans to fit with the client's needs. Finally, the participants in the study have shown that there are different factors related to the therapist's own knowledge, experience and personal preferences that could influence the treatment type.

4.1.1 Establishing a rapport

Some participants in this study showed the importance of establishing a good relationship with their clients. The therapists reflected on how their personality could affect how the clients perceive them, especially in the first few sessions.

> *"First of all, I make the situation informal and introduce myself to the patient, I throw a joke or two to make the patient get used to me and establish a good relationship with him, especially since most of them are of close to my father's or grandfather's age, I have to have a good relationship with them at the start."* (P7, L19-22)

Other participants used different methods to establish a rapport with their clients and persuade them to do the ADLs activities during the goal-setting process.

> *"Since most of them are old people, I prefer to talk to them a lot so they don't feel like "this therapist is here just to do their session and leave" No, there is a therapist-patient relationship, you can talk to them and convince them "All right I will do the ADLs even though I am not really convinced to do it but it's okay because this therapist is good and has a good point" I believe because of their age they can be convinced by just talking to them."* (P8, L166-169)

Since occupational therapy is still a new profession, some participants begin their therapy by introducing themselves as well as talking about what occupational therapy services they could provide for the client.

> *"The patient must know you because he will see you every day, so you have to be convincing. Convince him of who you are. What do you work on in general? What goals you will be achieving with him? I mean, there are things that are really important for the patients such as being independent, cognitive rehabilitation and improving their hand functions. They have to know that you are an occupational therapist who they can could work with. And then they will realise that the profession is important for them."* (P3, L46-50)

One participant stressed the importance of showing the client their deserved respect before the session to have a good therapist-client relationship and motivate the client to work with him/her.

> *"Just a quick example, I remember I had a 90-year-old patient. Every time he entered the gym, I must approach him and kiss his head. Why? You want to show him that you respect his age, respect this person in front of you. Therefore, he could perform with you."* (P7, L135-138)

4.1.2 Setting the goals

Participants in this study showed different methods of discussing and agreeing on a treatment plan with their clients. Some participants prefer to involve the clients with every decision throughout the treatment period.

> *"I do discuss the treatment plan. Usually I do have short-term goals, like weekly short-term goals, we agree on this week let's say short-term goals and then what would be a treatment plan for it, what are we going to do to achieve these goals? So, this is how I usually work with my patients. So, yes, they are involved and all the way through I do explain to the patients what the things that we are going to do and why we are doing these things because you need to keep your patients motivated of course and it's their right to know.*" (P2, L33-39)

Some participants expressed the need to break down the goals for the clients, especially when the clients have unrealistic goals.

> "It depends on whether the patient's goals are realistic, and I can achieve it. Of course, I will put the patient's goals with mine but if it wasn't achievable maybe I can tell him/her that we will postpone the goals until we reach the basic goals. Then maybe we can do something more advanced because they always want last step to be their goals, so we try to break it down and achieve the basic things first then jump to this stuff." (P5, L93-95)

However, one participant provided advice for all OTs in Saudi Arabia when setting the goals with their clients.

> *"Don't work on your goals. My request to them is that they work as client centred. Please work on the patient's goals because we are still making the same mistakes. We just base our goals and the treatment plan on what we see on the assessments without considering involving the patients. That's a big mistake we are making."* (P2, L136-139)

Almost every participant in the study mentioned that the clients usually have unrealistic ideas during the goal setting process. This made the therapists try to convince their clients to take it step-by-step to reach their long-term goals.

> "Usually the patients and everyone wants to be normal, of course, and we don't blame them. This is their right to wish the best for themselves, but they are always unrealistic to be wanting to be themselves one hundred percent again… sometimes the patient's goal is to walk again even though he didn't achieve the sitting, so in the admission we say that we will achieve this goal, which is walking, but we first need to achieve different goals to reach walking. You need to achieve the sitting first to be able to stand, then after standing, walking so we break it down for him." (P5, L33-38)

4.1.3 The multidisciplinary team

The participants in this study expressed a positive effect of the multidisciplinary team on their clinical reasoning with stroke survivors. The rehabilitation team had a positive impact on almost all the participants in the study. The participants elaborated that the collaborative nature between the rehabilitation team were helpful for the stroke survivors.

> *"Without a medical team, everyone will work on his own. This doesn't work. There has to be consultation for all the therapists, I give them advice and they give me advice. There are many things that are related. For example, newly admitted patients when their injury is fresh, they can be agitated. Dealing with this alone as an occupational therapist is impossible… it doesn't work without a multidisciplinary team, especially here. Once we tried here to have everyone working alone and it didn't work. One hand can't always clap…"* (P3, L64-70)

Some participants appreciated the help of the medical team to identify and focus the therapy on different issues that the client could have. One participant mentioned that the close relationship with the doctors has helped him/her to facilitate the rehabilitation process.

> *"Sometimes the doctors give us advice about certain patients but without forcing us to do them. The doctors might say "I noticed that a certain patient has an issue and you should focus on this point or this movement." For example," focus on the external rotation for this patient." … Even with Botox injections and Baclofen we can suggest it to the doctors to reduce the spasticity."* (P8, L120-123)

In some cases, the OTs work collaboratively with the physiotherapists to achieve ADLs goals as well as deciding the length of stay for the client.

"… for example, a patient needs to wear his socks and shoes, but he can't. Why? Because he can't reach to the ground. So, I tell the physiotherapist "the patient has an issue in reaching the ground" and he says "Okay, I will do it" the physiotherapists can work on stretching exercises so the patient can reach the ground and sit safely… There is always a discussion between us and physiotherapists to decide the length of the treatment… so the communication is always there, and we utilise the whole rehabilitation team and I think it is really important and necessary for stroke patients in general." (P7, L228-235)

4.1.4 Evidence-based practice

Evidence-based practice has affected some therapists' clinical reasoning when setting the treatment plan. While some participants in the study believed in the importance of reading in the literature to find the best available evidence to assist their clients, they acknowledged that evidence practice might not be the primary reason of choosing the treatment approach.

"It's important for me to have the intervention evidence-based and but the most important thing is that there is no harm for the patient. And if there is evidence of the treatment this will be the best." (P4, L196-198)

"To be honest, the first thing is clinical experience, that's the first thing. Then, the second one is evidence-based practice and let's be honest we don't always check evidence-based. This is the reality." (P2, L68-70)

Some participants in the study explained why evidence-based practice is not at the top of their priority list when selecting their treatment strategies.

"What we do sometimes, we do a critical appraisal, but to be honest the problem is not here. The available studies are not suitable, either the study has a small sample size, or a weak study." (P4, L199-201)

One participant stated that he/she had tried to use an intervention but failed to see positive results with the clients.

> *"I remember that I read on sensory education for stroke patients and two studies on 1996 and another one in 2005. The studies recommended to keep working on sensory stimulation daily for 45 minutes for six months. I tried the techniques with one patient, and I couldn't see positive results."* (P7, L178-181)

Few participants expressed that sometimes the interventions within the literature are not suitable to be applied within the Saudi culture.

> "For example, restricting the hand in the Constraint Induced Movement Therapy (CIMT) to let the patient use the less affected hand has a lot of evidence and had a lot of achievement. You can feel that it could be beneficial to patients, but you can adapt the treatment. You don't have to use the methods used internationally; you can encourage the patient to use the affected hand in a way that is acceptable culturally. You can't use the same method internationally, which is to strap the less affected hand, the patients here don't accept it and might get angry at you." (P3, L135-140)

Few participants in the study have explained that their personal dislike of reading, especially the literature, made them avoid practicing an evidence-based practice.

> *"To be honest, I don't look whether an approach is an evidence-based or not. I am not really into research."* (P8, L83)

> *"Personally, I don't like to read, I get tired when I read. Maybe I can listen to someone talking but I find reading tiring for me… so looking for articles is not really effective for me."* (P7, L193-196)

One participant believed that there is a lack of free time to read and find evidence-based interventions. In addition, the available evidence might not apply in the Saudi culture. Therefore, the participant asks local senior OTs for advice on their treatment.

> *"Sometimes we can't really find the time to read about evidence-based practice because our working hours are really long. So, we ask senior therapists who we trust for their clinical opinions. This is me personally, this is how I do it. I am a bad reader, but I can take shortcuts by asking experts about the new methods that I don't know about it… Personally, I focus on the experience because what could be done in one culture might not be applicable in another. So, I ask someone who*

has experience of a particular culture because he/she can give you a simpler, easier and more realistic answer." (P6, L249-255)

Another participant in the study gave advice for all OTs in Saudi Arabia to always read when there is uncertainty in the treatment strategy.

"I advise the therapists, if you have weakness in a certain intervention, you can ask an expert or visit reliable sites or reading in general. Because we as occupational therapists might not take reading an article or a book seriously, but by reading we can have personal growth and development. Personally, I didn't know about [a specific area of rehabilitation] until I started reading articles and observing my patients." (P4, L326-329)

One participant highlighted their institution's efforts to encourage and simplify the process of finding valid and reliable research. The institution developed a clinical pathway to guide the therapists to find the best available intervention.

"We have a clinical pathway which we deal with our patients according to interventions in the clinical pathways. The clinical pathway was developed from guidelines and we update it annually. For example, in the assessment, I should assess all these areas in week 1. In week 2, I should do an intervention from the interventions in the clinical pathway like proprioceptive facilitation or possible use of Bobath techniques because not every patient will fit for them." (P4, L170-175)

4.1.5 Personal preferences

Participants in the study showed that their clinical reasoning highly depends on their personal experiences and preferences. The participants named different approaches and treatment techniques that they use such as Bobath techniques, CIMT, Brunnstorm and Proprioceptive Neuromuscular Facilitation (PNF).

"To be completely honest, sometimes it's just personal preference. I mean I feel comfortable using techniques from Brunnstorm or PNF or any intervention that has hands on the patient. I want to touch the patient's hand and mobilise it myself. This is my approach, my personal preference." (P7, L143-145)

Most participants in this study preferred to use a mixed approach when assisting their clients to regain their independency. Some participants believed that using a mixed approach allow them to have the flexibility to achieve the client's goals.

> *"It depends on the patient, on what we want to achieve, sometimes you need to mix different approaches in order to achieve the patient's goals. You can't just do, let's say focus on Bobath to correct his posture to sit on a wheelchair. You can't just do that, so it's usually a mix of different things."* (P2, L77-80)

> *"You have to adapt your ideas based on the patient's needs. These different modalities that you are using with the patients whether it's CIMT or PNF despite being evidence based or not, you have to mix them to get something beneficial for the patient. It's impossible to use one approach"* (P3, L169-171)

Some participants prefer the use of CIMT for limb rehabilitation. However, they face resistance from some of their clients when using CIMT.

> *"I really prefer to use CIMT approach. I really like it, but I face issues with some patients. I wasn't able to use the approach except with only two patients. I found a great improvement in every aspect not only the hand, but those patients were really tolerant and calm and that's why they were able to apply the CIMT. Every time I use it with other patients, they accept the first two sessions then they completely refuse the treatment. They say [the patients] "you want to take the hand that I depend on and leave me with the weak one? No, I don't want it." I do love the CIMT but it's difficult to apply it with our patients."* (P7, L239-243)

One participant was not comfortable using the CIMT as it seemed a cruel way of rehabilitation.

> *"I feel there is cruelty if we restrict the use of the patient's hand so he can use the other one, especially with stoke patients. Maybe with patients with neglect it could work but I don't believe it's a good approach."* (P8, L91-92)

Some of the participants prefer to work on the basis of "trial and error" to find the most effective methods of therapy with their clients.

"To be honest, I choose my treatment plan based on trial and error basis but according to the patient's related factors such as the age, the occupation, the social status, if he had someone helping him or not and the motivation level." (P8, L71-82)

"My style is to try first and if I couldn't find a solution, I go to the other resources." (P7, L189-190)

4.2 Theme two: "client's related factors"

Participants in the study showed how the different factors related to their clients could affect their clinical reasoning. Since occupational therapy follows a client-centred approach to therapy, the participants showed different examples of how the clients could shape their clinical reasoning to find the best treatment plan. The collaborative environment between therapists and the clients has shaped the occupational therapy practice to fit within the clients' needs and what they consider as culturally appropriate.

4.2.1 Client-centred practice

All participants in this study have expressed in different ways how client-centred practice has shaped their practice. The local culture within Saudi Arabia has affected the short- and long-term goals for the clients. The majority of stroke survivors prefer to avoid ADLs training and focus the therapy on the motor recovery of the upper limbs.

"To be honest, the patients' opinions control what we do. To me, not less than 50-60% of the patients that I work with on the physical recovery is based on the needs and request of the patient. For example, when I work on the ADLs, and you know how stroke patients can be, they say "I want my wife to do the ADLs for me, don't bother working on the ADLs and work on my hand." (P3, L191-194)

"I try with them to perform their ADLs multiple times "you don't want to do this thing by yourself?" I try to encourage the patient but if he refuses, it is client-centred so we can't force the patient. So, we see the goals that he wants." (P8, L45-46)

> *"As an occupational therapist you will be affected by the culture… the patients here in the kingdom focus on motor recovery, I mean in their goals, he is not coming for ADLs, he is 90% coming because he is concentrating on motor recovery in the affected side especially in the lower extremities."* (P4, L237-241)

According to some participants, the clients' focus on motor recovery instead of ADLs training stem from the fact that there is a direct support from the client's family to do these activities for the client.

> *"We as occupational therapists, the ultimate goal for us is to go back to functioning. Here in Saudi Arabia, the patients tell us the I have somebody that care for me. I have a house maid or a wife or someone else that will take care of this part, I am here to work on my hand."* (P4, L258-260)

This shift to focus on the motor recovery instead of the ADLs training has made some participants feel pressure from their colleagues from healthcare professions.

> *"There is a little bit of pressure "why is the ADLs level still on the same level?" there is no improvement in ADLs, and we report that in the case conference because sometimes it's not the patient's desire, he only wants motor recovery. So, there is a bit of pressure because the occupational therapy focus should be on the ADLs."* (P8, L138-140)

Two participants expressed the increased pressure from the clients as well as the other healthcare professionals when there is a faster improvement in the lower extremities and a lack of noticeable improvement in the upper extremities.

> *"What makes matters worse is that when the patients go to the physiotherapists and can walk within two to three weeks, even a month… the patients notice that his lower extremities have improved but his hand has not. Then the patient starts to wonder why the lower extremities, which are bigger, have improved and the hands are still not improving."* (P7, L80-84)

> *"For example, the majority of stroke patients don't have ADLs as their goal, which is affecting us with the doctors and other healthcare professionals. "Why are you not working on ADLs?" especially in stroke patients. The patient refuses to do the*

ADLs what should I do? I can't work on a goal the patient does not want." (P3, L207-209)

4.2.2 Physical and psychological aspects

All participants in the study expressed that the current abilities of the clients are directly influencing their clinical reasoning. For example, older clients might not be able to perform the same activities as a younger client. Some participants in the study showed how the physical abilities of the client after the stroke could immensely influence the intensity and the type of their activities.

> *"Of course, one of the most important aspects are the physical abilities. Let me give you an example, if you had a 50-year-old patient, he would be still active at least. Unlike if you had a 70-year-old patient, it's different. The 70-year-old patient will be tired and can't tolerate a one-hour session, you have to give him more breaks unlike the 50-year-old patient who can tolerate more. Sometimes I have patients who are in their twenties or thirties, those patients I can increase the intensity of the exercises and they can handle it."* (P7, L123-126)

> *"Treatment strategy depends on many things. It depends upon the patient's needs, the patient's ability, the stage of stroke recovery. This will determine the treatment plan, the goals as well, definitely, so you can't jump to the treatment plan before knowing these things."* (P2, L24-27)

In addition, the psychological status of the client could affect how the therapists choose their activities and adapt them to their clients' abilities.

> "Also, the psychological aspects of the patients are important. Sometimes you get a patient and you expect him to have a good recovery. You can see that the patient in the assessment has good cognitive and physical abilities to improve in a short time but his psychological status is quite poor so you don't give him challenging activities because if the activity is too challenging for him, he could just quit and say "I am not going to improve" and you get into another line of issues." (P7, L128-130)

4.2.3 The client's educational level

A common influence of the participants' clinical reasoning is the level of client's education. Most participants in the study believed that the level of education of the clients could change the type of activities and determine the level of compliance with therapy.

> *"…but I noticed that educated patients that understand what you are working on, once you give them home exercise programme or bedside activities or anything that he could do in his free time, they follow the programme one hundred percent, which makes them improve a lot faster than a patient that depends on the session activities. Uneducated patients usually neglect doing these activities and only depend on what you do in the session."* (P3, L255-260)

Clients with a higher level of education were easier to guide in the therapy process and were more flexible to try new types and unconventional therapy techniques.

> *"if I tell an educated patient to clean the table to improve the movement of his shoulder movement and explain in detail how, they get excited and do the activity until I tell him to stop. Other patients might get bored and tell me "you brought me here to clean your tables?" So, I have to joke with them to convince them to do the activity."* (P7, L157-160)

Most participants in the study implied that uneducated clients could restrict the therapist's choices of therapy because the clients might not take the activities seriously. Some activities require the therapists to use colourful tools such as "cones, coloured shoulder exerciser, theraputty" which makes some clients less motivated to engage in such activities because it looks like children's toys.

> *"If you came to an uneducated patient or a patient with only elementary school education and give him a task to carry an object in this specific way with his fingers, he would say "are we playing? You brought me here to play with kid's toys?" so I think the level of education is really important to give you the freedom to work with the patient."* (P3, L275-278)

> "*Until now, only few people know what occupational therapy is. So, if you get an educated patient, he will understand that you are using cones to reach a specific*

> *goal. But some patients might say "you are not taking this seriously and giving me toys" they see the tools are coloured so no matter how you explain it to them, they will not take the activity seriously."* (P6, L304-306)

Two participants expressed that there is different style of communication as well as therapy with clients coming from rural areas of Saudi Arabia.

> *"Patients coming from the desert or the rural areas might not have any kind of education, so you have to deal with them differently, how you talk to them and the tools you use with them."* (P3, L248-251)

Most participants in the study noted that stroke survivors normally lack the awareness about stroke in general and the services of occupational therapy. The participants stressed the importance of educating the clients about their medical issues and the expected effect of their injury.

> *"I feel maybe they are not fully aware of what stroke is and how they can be affected by stroke, so I feel some of them think that we will be one hundred percent back after few sessions, my hand will be back functional one hundred percent even if he is in a flaccid stage. So, I think there is a lack of awareness."* (P5, L42-43)

One participant showed his/her reluctance to educate the clients about stroke to avoid discouraging some of their clients in their therapy.

> *"One important factor is patients do not know what stroke is. Some patients will understand but some of them will be depressed so sometimes you don't want to give them this information even though you have to because the patients should understand what is going on. What is happening exactly? They will be depressed."* (P7, L97-99)

One participant stressed the importance of raising the awareness of the occupational therapy profession to expand the services and help stroke survivors in more important aspects of their lives.

"We have to raise awareness about the profession so everyone can understand it. Everyone should know what we do. Who do we work with? … I mean the leisure time for our patients nobody cares about it in our hospital and other hospitals even though it's a big part of our profession." (P3, L264-266)

4.2.4 Caregiver support

Most participants in the study valued the caregiver support to help encourage and motivate the clients to complete their activities and their home exercise programmes. Participants in the study were depending on the caregivers to assist them through the treatment period and to encourage the client to carry out the activities.

"The role of the family is really important even more than the therapist because we will deal with the patient at the start and guide them on the correct path, but the family is with the patient 24/7. So if you are working on stretching exercises, for example, to reduces the spasticity and the family are not aware of this, the patient could be staying on a flexion position all the time and all your work that you have done with him is gone." (P4, L112-115)

Some participants in the study showed examples of family members taking an active role to help the clients in their ADLs.

"In our culture, we always rely on family support, especially for the old people. For example, we have a wife of a patient and she is really old and when someone comes to help her to push the wheelchair of her husband, she gets really angry and tell us "don't worry about me I can push him by myself even if I get tired" so I think this thing is embedded in our culture." (P5, L101-102)

Some participants stressed the importance of including the family in the treatment plan and educating them about the home exercise programme to maintain the client's level of improvement.

"For example, if I wanted the patient to perform a specific movement, I can ask him to do a similar movement at home like cleaning the table, or a window and repeat the same activities. So, teaching the family or the sitter to help the patient do these activities is really important and we found it useful." (P4, L321-324)

Chapter 5: Discussion

5.1 Introduction

This chapter discusses the findings from this study, compare them to previous studies in the literature. Based on the participants interviews, two overarching themes were found to impact the therapists' clinical reasoning with their clients. The first theme is related to therapists themselves and how they communicate and set their goals with their clients with the help of the multidisciplinary team. Evidence-based practice and the personal preferences of the participants were, also, found to influence the therapists' decision-making. The second theme is consisted of four subthemes that were related to the clients' physical and psychological abilities, education level and the caregiver support. Also, the clients' preferences and priorities were found to be crucial in the therapeutic process since all the participants believe in following a client centred practice.

5.2 Discussion

Establishing a rapport subtheme shows that the participants valued the importance of building a good relationship with their clients, especially in the first few sessions of their rehabilitation. This is consistent with Rogers and Masagatani (1982) who found that OTs in medical settings based their clinical reasoning on the diagnosis as well as the established relationship between the therapists and the clients. While the OTs in Rogers and Masagatani's study (1982) worked within acute medical settings, where therapists have to give short periods of intervention, the therapists still sought to establish a relationship with their clients and emphasised involving their clients in the assessment process. The participants in this study normally work with their clients for prolonged periods of time, which could be one of the reasons why some therapists have gone the extra mile to establish a good therapist-client relationship. The therapists in this study created an informal environment in order to establish a good relationship with their clients and were utilising their own personal qualities such as using humour or by simply giving the attention and listening and interacting with them. This informal environment and the attention given to the clients has been found to be a positive factor in establishing a therapist-client relationship from the perspective of the clients (Palmadottir 2006). Palmadottir (2006) showed that clients

appreciated the informal environment created by the therapists and found it a positive factor in establishing a good rapport. In addition, the participants in the study emphasised the importance of establishing a good rapport with their clients, especially the older clients. Some participants believed that older clients should be shown the respect that they deserve. This could be because there is a significant influence in the Arab and the Saudi culture in particular that regards older people with a higher respect (Al-Shahri 2002). In the Saudi culture, it is expected that younger people behave with respect to the older people in their families and communities (Alsenany 2010). Healthcare professionals are also encouraged to treat older clients with same respect found in their families (Al-Shahri 2002). It seems that the Saudi cultural customs and values have translated into the occupational therapy practice and could influence the clinical reasoning of the therapists when dealing with older clients who have had a stroke.

Setting the goals subtheme demonstrate that participants used different methods in order to set the goals with their clients. Almost all participants expressed that stroke survivors often come to the therapy session with unrealistic goals about the expected results from the rehabilitation programme in general and the occupational therapy services in particular. Some of the participants seem to take control and decide goals that could be achievable within the rehabilitation programme. Similar findings were also seen in Daniëls et al.'s (2002) study that investigated the experiences of OTs with stroke survivors. The participants in that study believed in preserving the client's autonomy to participate in the goal setting process. However, the lack of awareness about stroke was a reason to limit the realistic participation in setting the goals. Therefore, in order to protect their clients from negative experiences and unrealistic goals, the therapists took responsibility of setting the goals in the early phase of rehabilitation. In addition, some therapists in this study preferred to break down the long-term goals, even if they were not realistic, to have achievable short-term goals. This could be because the therapists want to encourage positive experiences at the start of the rehabilitation process. This strategy of breaking down long term goals might trigger an upward spiral momentum to recovery by motivating the clients to achieve small and meaningful goals (Hobson 2006). This is consistent with Daniëls et al.'s (2002) findings where OTs stressed the significant of guiding the clients to have achievable

goals at the start of their recovery to encourage the clients to be more involved in the therapy process as well as giving them a chance to get used to their new situation after a stroke. Finally, in the multidisciplinary team subtheme of the findings, it was evident that there are positives of working within a multidisciplinary team for stroke rehabilitation. The participants have expressed how the collaboration with other healthcare professionals might influence their clinical reasoning and their goals-setting process. The participants valued the opinions coming from the other healthcare professionals regarding the needs and the issues that a stroke survivor might have.

The evidence-based practice subtheme of the findings suggests that the participants in the study acknowledged the importance of using evidence-based when choosing a treatment strategy with their clients. However, for different reasons, the participants did not prioritise the use of evidence-based practice. Some participants believed in prioritising their own clinical experience over the use of evidence-based practice. This is in line with Dubouloz et al. (1999) who found that OTs in Canada relied on their clinical experiences in their clinical reasoning. These experiences were accumulated from their professional education and an analysis of a history of interventions used with different clients or with a particular client. Interestingly, some participants in this study as well as Dubouloz's et al.'s (1999) study believed that evidence found in the literature is merely a way of confirming the effectiveness of their interventions. Dubouloz et al. (1999) believe that since the OTs operate within a client-centred practice, where they formulate their clinical decisions based on their clients' inputs, it was logical that OTs did not regard evidence-based practice as a priority since it does not always match the clients' desires. In addition, some participants in this study expressed that the evidence found in the literature is usually not suitable to be applied in the clinic because of the lack of robust studies in the area. This is consistent with previous studies that found that one of the main barriers to utilise evidence-based practice is the lack of quality research that therapists can use (Metcalfe et al. 2001; Ilott et al. 2006; Hinojosa 2013). Even if there was a well-established intervention in the literature, the participants in the study believed that they had to adapt the interventions to better suit their clients in Saudi Arabia, which suggests that the therapists are utilising a pragmatic reasoning even when using evidence-based interventions.

Moreover, some participants implied that there is a lack of free time to research the literature and find the best available evidence. This is consistent with Metcalfe et al. (2001) and McCluskey (2003) who found the lack of time was a main barrier to implement evidence-based practice in both the U.K. and Australia. Interestingly, Alshehri et al. (2019) investigated the attuites, awareness, knowledge and barriers in implementing evidence-based practice with OTs in Saudi Arabia and found that the lack of time was not one of the main barriers to implement evidence-based practice. Alshehri et al. (2019) believe that since most OTs did not go through a formal evidence-based practice training, they lacked the knowledge to understand how to implement evidence-based practice. It is worth noting that only one of the participants in this study believed that the lack of free time was the main barrier of using evidence-based practice. Additionally, some participants expressed that their own personal dislike of reading, especially the literature, was a barrier to engage and utilise evidence-based practice in their clinics. While it was not clear from the participants why they dislike reading the literature in particular, it could be because there is a lack of interest in implementing evidence-based practice. This confirms the results found in Alshehri et al. (2019) who found that the lack of interest was one of the barriers to utilising evidence-based practice. Finally, one of the participants highlighted their institution's efforts to implement evidence-based practice by developing a clinical pathway that guides the OTs with the assessment process followed by the intervention selections. The clinical pathway is continuously updated to find and appraise the best available interventions in the literature. The participants found the clinical pathway a helpful tool to assist the therapists in their clinical reasoning when dealing with stroke survivors in Saudi Arabia.

The personal preferences subtheme in the findings showed how the therapists' preferences could guide the clinical reasoning. The participants gave their opinions and perspectives on what they found to be effective approaches or methods in rehabilitation with stroke survivors in Saudi Arabia. All participants believed that mixing different techniques from different approaches to suit the client's needs was an effective way to reach positive results with the clients. According some of the participants, working with one approach in stroke rehabilitation usually does not

work as the clients' needs normally vary from one to another and it is difficult to find an approach that fully addresses the clients' issues. This confirms Dubouloz's et al. (1999) analysis that suggests that the client-centred nature of occupational therapy practice might hinder the ability to find an intervention that completely tackles the clients' needs. In addition, some participants believed in the effectiveness of rehabilitation programmes such as CIMT. However, the participants expressed that there is a low level of compliance from the clients with the CIMT programmes. The participants noticed great functional gains after completing the programme with some clients who were able to tolerate the intensity of the programme. This is consistent with what is found in the literature about the CIMT programme. Despite the strong evidence that supports the use of CIMT programme with stroke survivors (Boake et al. 2007; Singh and Pradhan 2013; Liu et al. 2017), stroke survivors and OTs normally do not prefer to use an intense programme such as CIMT (Page et al. 2002). Similarly, physiotherapists in Saudi Arabia have shown a low level of utilisation of CIMT as only 2.5% out of 156 participants have used CIMT previously with their clients (Alqahtani et al. 2018). Finally, it seems that the participants' clinical reasoning was mainly guided by their clients' needs, abilities and desires. The participants prefer to work with a mixed approach to suit the client's desires and avoid interventions that could irritate or frustrate their clients.

The second theme of the findings has shown how the different factors related to the clients could have an influence on the participants' clinical reasoning. The client-centred practice subtheme shows the impact of the client' priorities on the therapists' ability to decide the best available intervention for stroke survivors in Saudi Arabia. All participants in the study expressed that they follow a client-centred practice with all their clients, and this has shaped the way they practice occupational therapy with stroke survivors. According to the participants, the priority of stroke survivors in Saudi Arabia is to improve their motor recovery after their injury. The clients normally prefer to opt-out of ADLs training as they have a strong family support. Since there are many family members who could assist the clients in their ADLs, the clients prefer to rely on their family with the ADLs and focus their rehabilitation programme on motor recovery. Similarly, the Omani OTs in Al Busaidy and Borthwick (2012) believed that embedded Islamic values have influenced

the Omani culture, which call for individuals to care for the disabled or the sick ones in the family. This could be the case with stroke survivors in Saudi Arabia as the Saudi culture is highly influenced by the Islamic values, which is why the clients as well as the family members expect that the ADLs will be performed by a close family member. While the family support is needed for stroke survivors to assist with them throughout their recovery, it seems that there is an over-dependency on the family support with ADLs, which encourages the clients to take a passive role in their ADLs training. This puts the OTs in a dilemma as one of their main roles in rehabilitation is to enable stroke survivors to engage with their ADLs. Surprisingly, this attitude towards rehabilitation has been seen with stroke survivors in the Netherlands and Belgium (Daniëls et al. 2002). The European OTs considered the focus on motor recovery especially in the first three months after the injury as normal. However, the clients were completely focused on motor recovery and were not comfortable to shift the focus to adaptive approaches after the first three months. The clients showed reluctance to engage with the adaptive approaches as they consider it a way of accepting that this is the final step of progress in their recovery. Some of the participants in this study have expressed that the majority of stroke survivors attend occupational therapy sessions even after the first year of recovery with the same focus on motor recovery, which might suggest that the clients could be unaccepting of their new situation and always seeking a full motor recovery.

In addition, some of the participants have indicated that there is an internal struggle to comply with the client-centred practice and fulfil their role as OTs. The participants have expressed that there is a pressure coming from the multidisciplinary team as it is expected that OTs will assist the clients with their ADLs. However, the clients refuse to engage with such training, which puts the therapists in a dilemma between respecting the clients' goals and fulfilling their job description and the team expectations. The complete focus of clients toward motor recovery has made the therapists work mainly with narrow sets of goals that might not include ADLs. In addition, the participants also face challenges with clients when there is a slow motor recovery of the upper limbs. This is aggravated as some participants stated that the fact that physiotherapists normally reach a better and faster recovery in the lower limbs, which make the

clients question the competency of the OTs or the effectiveness of the occupational therapy services. Some participants believed that this is a consequence of the lack of awareness from the clients about the nature of their illness and the anatomical and physiological processes that undergo during their therapy. Finally, is seems that OTs in Saudi Arabia are facing a dilemma to perform one of their main roles in stroke rehabilitation, which is ADLs training. Since the occupational therapy profession follows a client-centred practice, OTs are encouraged to be enablers to the clients' goals and desires. As stated by the participants, clients' goals are often to focus on improving their motor recovery and ignoring the ADLs training. Despite the various reasons of why clients prefer motor recovery over ADLs training, the therapists constantly face challenges to define their role within the multidisciplinary team and meet the clients' demands.

The physical and psychological aspects subtheme of the findings highlighted the participants' statements on how the different physical and psychological abilities of the clients could influence their clinical reasoning with stroke survivors. The physical abilities seem to be an important aspect that the participants need to consider when planning their interventions. Some of the participants believed that the age of the clients plays a major role in determining the intensity of the activities. This supported by Kuipers et al. (2006) who invetigated the factors influening OTs working with traumatic injury clients and found that clients' age has affected the type of treatment chosen by the therapists. The participants in the study preferred to use hands-on interventions with the youngest and oldest clients followed by soft thumb and hand splint. While the participants in this study did not indicate using different types of treatments based on the client's physical abilities, it was evident that the intensity of the interventions varied according to the clients' age and physical capabilities. In addition, some participants believed that there is an effect of the clients' psychological status on their clinical reasoning. One of the participants expressed that the psychological aspects could limit the clients' potential functional gains despite having promising physical abilities during the initial assessment. The participant believed in enabling the clients to achieve their goals by having a gradual progression to the therapy intensity and the type of chosen interventions. This could be to give the clients a sense of self-efficacy at the start of the therapy and giving the confidant to carry out their rehabilitation programme. This

method of promoting the clients' self-efficacy has been supported in the literature to be an effective method to improve the clients' symptoms of post-stroke depression (Robinson-Smith et al. 2000). Robison-Smith et al. (2000) stressed the importance of understanding stroke survivors' abilities by the therapists as they are in a pivotal position to influence the clients' self-efficacy. Also, the therapists should be aware of what the client could do functionally and set the goals with clients accordingly. Finally, this shows the importance of understanding the clients' physical and psychological status after stroke and how it influences the clinical reasoning of the OTs who adjust the therapeutic activities according to the clients' abilities and expectations.

The clients' educational level subtheme of the finding shows the influence of the clients' education on the participants clinical reasoning with stroke survivors. The participants reported one of the main factors that influence their clinical decisions is the educational level of the stroke survivors. It seems that clients with higher education show a better compliance with the therapy and follow the therapists' instructions and recommendations. As result, the educated clients show a faster and better motor recovery after their rehabilitation programme. This is supported by Putman et al. (2007) who found a significant association between a higher level of education of stroke survivors and a better motor and functional recovery across multiple European centres. This difference in functional recovery could be because of the active participation of the educated clients as some participants stated. However, it could be because there is a lack of educational programmes for clients with lower level of education about the significant of following the treatment plan and the nature of their illness. Putman et al. (2007) recommended that clients with lower level of education should be involved throughout the recovery process and stressed the importance of tailoring the treatment plan to fit the clients' need and, thus, encouraging them to be more engaged in the rehabilitation programme. In addition, the participants believed that the tools that is normally used by the OTs in Saudi Arabia were considered by the clients with lower educational level as kids' toys. The colourful tools such as cones, shoulder exerciser and theraputty were perceived by the stroke survivors as games designed for kids, which lower their motivational levels to engage with such activities. This could be problematic for some therapists that depend almost entirely on such tools and might not have the resources to adapt

their activities without using these tools. Perhaps using tools that is perceived by the clients within a particular context as appropriate could improve the level of engagement and ultimately the functional gains (Dillard et al. 1992).

Moreover, the participants showed that there is a lack of awareness among the stroke survivors about their illness and the recovery process. The participants believed in the importance of educating the clients and giving the needed information about their medical issues and the expected functional gains after the rehabilitation programme. This is crucial in being a client-centred practice as the clients need all information to take part in the goal setting process and have more realistic expectations of the recovery process (Sumsion and Law 2006). However, one of the participants showed a reluctance to reveal information about the client's potential progress and the nature of their illness as this could discourage the client to engage with their treatment and develop symptoms of depression. This perspective was shared by the Dutch and Belgium OTs in Daniëls et al. (2002) study as they were hesitant to share with their clients the limited possibility of functional gains in their upper limb. The therapists were not comfortable of the idea of taking the clients' hope of possible improvement in the future. Finally, one of the participants suggested that there is a need for raising awareness about occupational therapy as a profession in the community as this attention could expand the scope of occupational therapy services to include much needed occupations such as the leisure activities of stroke survivors. Since occupational therapy educational programmes were recently introduced in 2013 (Alshehri et al. 2019), it is expected that there is a lack of awareness about occupational therapy and the services provided by the therapists. Therefore, OTs are responsible to educate their clients about the nature of the occupational therapy as well as what services could be provided for them.

Finally, the caregiver support subtheme of the finding shows the influence of caregiver assistance on the OTs' clinical reasoning. The participants valued the assistance provided by the family to motivate and engage the clients in their therapy. The family help the therapists to ensure that the clients are committed to carry out the activities provided by the therapists in their homes or in their rooms while being admitted in a rehabilitation centre. Despite the findings by Rodgers et

al. (1999) that suggest that there is no association between an improved perceived health status by the stroke survivors and providing an educational programme for the caregivers and the clients, the family and caregivers education was mentioned by the participants to be an important factor to ensure the maintenance of the current functional progression and possibly provide further improvement. However, some participants indicated that some families might be overprotective of the clients and seek to help them with every activity, which encourage the clients to take a passive role in their recovery. Similar findings were found in Al Busaidy and Borthwick (2012) study as Omani OTs noted that the family support could delay or prevent the client from becoming independent by taking control and assisting the clients with most of their activities.

Chapter 6: Conclusion

In the final chapter, a brief summary of the key findings of this study and the possible implications on practice followed by the limitations and future research recommendations.

6.1 Summary of key findings and implications

This study explores the different factors that affect OTs' clinical reasoning while working with stroke survivors in Saudi Arabia. Semi-structured interviews were conducted with eight OTs working in two different centres in Saudi Arabia. In broad terms, the findings of the study uncover and highlight the current methods used by OTs in the kingdom with stroke survivors and how the different contextual factors have shaped their practice. The participants highlighted the different factors that is specific to stroke survivors especially in Saudi Arabia and the implications of such aspects on their clinical reasoning and intervention decisions. It is important to mention that while qualitative studies never aim to generate a generalisable data, the specific aspects and implications highlighted by the therapists could shine a light on the contextual factors that have shaped their practice and could be relevant to other contexts especially those that share Arabic and Islamic values. The participants provided useful insights on how they work collaboratively with their clients to negotiate and set the goals, select and carry out the interventions and adapt and individualise the treatments to fit with the client's values and needs.

The exploration of the OTs' clinical reasoning in Saudi Arabia with stroke survivors showed the various factors related to the clients as well as the therapists that shape the clinical decisions made by the therapists. Generally, the findings show the different personal, professional and clients factors that OTs take in consideration while making their clinical plans. Despite the current movement within occupational therapy to embrace an evidence-based practice, the therapists highlighted factors that could limit the utilisation of evidence-based practice such as lack of quality studies that could be applied with stroke survivors especially in Saudi Arabia. In addition, the therapists expressed the different dilemmas that they go through with their clients to find an achievable treatment plan that fit the client's needs and the therapist's assessment of the clients' issues. While the therapists strongly believed in following a client-centred practice, they have

shown how their clients directed their practice to be oriented toward physical rehabilitation with less focus on the client's ADLs. The physical rehabilitation focus has created an identity issue with some therapists as one of their main roles in a multidisciplinary team is to improve the client's independency level in their ADLs. The therapists attributed the lack of interest in ADLs by their clients to the heavy reliance on the strong family support found in the Saudi culture. Finally, the therapists believed that client's physical, phycological and educational abilities have influenced their decision-making process. The intensity and type of the intervention were highly influenced by the clients' physical and phycological abilities.

6.2 Limitations

It is worth noting that there are several methodological limitations of this study. Firstly, half of the participants of this study had less than five-year experience working with stroke survivors in Saudi Arabia, which might influence their clinical reasoning skills. The average experience with stroke survivors of the participants is 4.8 years. This is because the occupational therapy educational programs were recently introduced in Saudi Arabia. The first educational program was introduced in 2010 and the first batch graduated in 2013 and most of the experienced participants in this study had obtained their occupational therapy degrees from outside Saudi Arabia, which made the process of findings experienced OTs more difficult. In addition, while all of the participants worked in rehabilitation centres, some of the participants worked within acute settings. This could have affected their reflection on their clinical reasoning as OTs in an acute setting have different priorities while working with stroke survivors. Moreover, while the semi-structured interviews provided sufficient information about the clinical reasoning of OTs with stroke survivors, method triangulation such as observation or focus group could have been utilised to further improve the credibility of the study. In addition, the sampling method was conducted in two rehabilitation centres in Saudi Arabia. Albeit the centres are one of the main institutions that provide rehabilitation services for stroke survivors, limiting the sampling to two centres could have restricted other OTs to participate in the study. Additionally, the researcher acknowledges his role as an occupational therapist and the protentional disadvantages of being someone familiar with the professional culture of OTs in Saudi Arabia. As mentioned earlier, the

occupational therapy profession was recently adopted in the kingdom, which meant that the number of therapists is still small. As a result, the researcher interviewed therapists who he had worked with in the past. While acquaintance interviews are acceptable in qualitative research (Braun and Clarke 2013), it was necessary to take precautionary steps to ensure the credibility of the findings, which have been discussed in more details in the methodology chapter.

6.3 Recommendations

To the researcher best knowledge, this is the first qualitative study that investigate the different factors that affect clinical reasoning of OTs in Saudi Arabia with stroke survivors. Based on the findings of this study, the following are several recommendations for future research and policy makers.

For future research:

i. Investigations into the clients' perspectives on the occupational therapy services provided for stroke survivors in Saudi Arabia. This will provide an insight into the clients' priorities, expectations and experiences about the current occupational therapy practice in the kingdom.
ii. Qualitative investigation into the reasons and the aspects affecting the therapists' utilisation of evidence-based practice in Saudi Arabia.

For policy makers:

iii. In order to ease the access and the utilisation of evidence-based practice, there needs to be investigation into the possibility of developing a national guideline for stroke rehabilitation. This will help therapists to find reliable and valid evidence that fit with stroke survivors in Saudi Arabia.
iv. Investigate the possibility of including evidence-based practice training programmes and allocating time for continuing professional development for working therapists.

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Appendices

Appendix 1: Interview guide

Interview guide

- **To start with, could you please tell me the process that you go through when you first meet your client?** (Do you decide the treatment plan during the assessment? Do you discuss the therapeutic options with the client?)
- **Do factors such as the clients' age, motivation, level of endurance play a role when deciding the treatment plan?** (If so, how? Or why not? Do you exclude any approaches based on age, motivation and level of endurance?)
- **What do you look for in an approach to determine its appropriateness and effectiveness with a certain client? and why?** (Does the approach need to be evidence-based? Do you mix different approaches to fit the needs of your clients? Do you use techniques that you learned by yourself or from your colleagues?)
- **What is the main focus of your treatment plan when working with a stroke client?** (For example, do you prioritize motor recovery, ADLs training, tone normalization or compensation techniques?).
- **In your experience, what has been the most effective approach with stroke survivors in Saudi Arabia? and why?** (For example, do you use approaches such as NDT, Robot assisted training or CIMT?)
- **Do you consider factors such as the socioeconomic status of the clients, the culture and their educational level when deciding a therapeutic approach? and why?** (what is the effect of clients' socioeconomic status on treatment?)

- **What advice would you give to other occupational therapists regarding choosing the best therapeutic approach with stroke survivors?**
- **Is there anything you would like to add?**

Appendix 2: Consent form

Consent Form

Title of the study: Factors influencing the treatment strategies of occupational therapists with stroke survivors in Saudi Arabia- An exploratory study.

Name of the researcher: Abdullah Mohammed Alsuraybi

Please initial box

I confirm that I have read the information sheet dated 21/07/2019 (version 3) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	
I agree to be audio-recorded during the study.	
I confirm that some quotes will be shown to a third party.	
I confirm that data from the study can be used in the final report and other academic publications. I understand that these will be used anonymously and that no individual respondent will be identified in such report.	
I give consent for the use of verbatim anonymised quotes in publications and conference presentations.	
I understand that the findings and potentially secondary analysis of the findings and associated data from the study may be presented at conference and in scientific journals. I understand that these will be used anonymously and that no individual respondent will be identified in such report.	
I agree to take part in the above study.	

_____ _____ _____

Name of Participant Date Signature

_____ _____ _____

Name of Person taking consent Date Signature

نموذج الموافقة على المشاركة في الدراسة

عنوان الدراسة: العوامل المؤثرة على الطرق العلاجية المستخدمة من قبل أخصائيين العلاج الوظيفي مع مرضى الجلطات المملكة العربية السعودية – دراسة استكشافية.

اسم الباحث: عبدالله محمد السريبي

الرجاء وضع علامة (√) في المربع:

أؤكد أنني قرأت ورقة المعلومات (النسخة ٣) بتاريخ ٢٠١٩/٠٧/٢١ للدراسة المذكورة أعلاه. لقد أتيحت لي الفرصة للنظر في المعلومات وطرح الأسئلة وقد أجبت عنها بشكل مرض.	
أدرك أن مشاركتي تطوعية وأنني حر في الانسحاب في أي وقت دون إبداء أي سبب.	
أوافق على التسجيل الصوتي أثناء الدراسة.	
أوافق على عرض بعض الاقتباسات على طرف ثالث للتأكد من صحة الترجمة.	
أؤكد أنه يمكن استخدام بيانات الدراسة في التقرير النهائي والمطبوعات الأكاديمية الأخرى، وأتفهم أنه سيتم استخدام هذه المعلومات بشكل مجهول ولن يتم تحديد أي مستجيب فردي في هذا التقرير.	
أوافق على استخدام اقتباسات من المقابلة في المؤتمرات والمجلات العلمية مع العلم أنها ستكون مجهولة المصدر.	
أتفهم أنه يمكن تقديم النتائج والتحليل الثانوي المحتمل للنتائج والبيانات المرتبطة بها من الدراسة في المؤتمر وفي المجلات العلمية. أتفهم أنه سيتم استخدام هذه المعلومات بشكل مجهول ولن يتم تحديد أي مستجيب فردي في هذا التقرير.	
أوافق على المشاركة في الدراسة المذكورة أعلاه.	

اسم المشارك	**التاريخ**	**التوقيع**
.....	.....	.....
اسم الشخص الذي يأخذ الموافقة	**التاريخ**	**التوقيع**
.....	.....	.....

Appendix 3: Participant information sheet

Participant information sheet

Factors influencing the treatment strategies of occupational therapists with stroke survivors in Saudi Arabia- An exploratory study

I would like to invite you to take part in my study. Before you decide whether or not to participate, I would like you to understand why the study is being done and what it would involve. Please take the time to read the following information carefully. If required, I will be happy to go through the information sheet with you personally during the interview. Please ask me if there is anything that is not clear or if you would like more information.

What is the purpose of this research?

The study will explore the current practice of occupational therapists and the aspects affecting their decision-making process with stroke survivors. This will include exploring the perceived barriers and facilitators within the occupational therapists' practice with stroke survivors and understanding the therapists' thoughts, reflections and reasons to implement the different treatment strategies types. It is expected that the study will provide occupational therapists in Saudi Arabia a more in-depth insight and understanding of the different clinical strategies with stroke survivors.

Why have I been asked to take part?

You have been invited to take part in this study because you are a certified occupational therapist who worked with stroke survivors in Saudi Arabia for at least one year and able to speak and write in the Arabic language.

Do I have to take part?

Taking part is entirely voluntary. It is up to you to decide whether or not to take part. If you do decide to take part, you will receive this information sheet and consent form in the Arabic language via email at least two days before the interview to allow you sufficient time to reconsider your involvement in this study. You will be required to review the information sheet and sign the consent form before attaching it and returning to the researcher's email address.

What will happen to me if I take part?

If you decide to take part in the study, you will be asked to sign the consent form and read the information sheet. Afterwards, you will take part in a face-to-face interview within a meeting room in your department to talk about your clinical experience when dealing with stroke survivors in Saudi Arabia and the factors that influence your clinical reasoning when choosing a therapeutic approach. The interview will be audio-recorded and will last approximately 45-60 minutes. Some quotes of the interview will be shown to a third party to ensure accurate reflection of the translation. The full transcript of the interview once completed will be sent to you via email to ensure that the information mentioned is accurate.

What are the possible benefits of taking part?

While I cannot promise direct benefits to you, I believe by taking part in this study, occupational therapists in Saudi Arabia will benefit from your shared experience and clinical strategies when dealing with stroke survivors in Saudi Arabia. It is hoped that the study will give a deeper understanding of the clinical reasoning process that occupational therapists undertake to determine the best available intervention for each client.

What are the possible disadvantages and risks of taking part?

I do not expect there will be any disadvantages or risks associated with you taking part in the study. However, if you experience any signs of anxiety, the study will be terminated and directed to the appropriate support services.

Will my participation be confidential?

Yes, I will follow the ethical and legal guideline of Cardiff University that will make sure that all data kept confidential. All participants will be anonymised by the use of a systematic case numbers to protect their identity. According to Cardiff University guidelines, the data will be kept of a maximum of five years.

What will happen if I do not want to carry on with the investigation?

The study is entirely voluntary, and you may choose to withdraw from the study at any time without giving any reasons. All data collected up to the point of the withdrawal will be destroyed.

Who has reviewed the investigation?

All research at Cardiff University is looked at by an independent group of people called a Research Ethics Committee to protect the safety, rights, wellbeing and dignity of participants. This investigation has been reviewed and given a favourable opinion by the School of Healthcare Sciences Research Ethics Committee.

What will happen to the results of the study?

The study is part of an MSc dissertation, and the results will be submitted to Cardiff University. Also, the results might be presented at scientific conferences and journals.

What if something goes wrong?

If you have a complaint or any concerns regarding the study or the way it has been handled, you can contact the supervisor of the research Dr Dikaios Sakellariou on +442920687744 or via email on sakellarioud@cardiff.ac.uk or contact Dr Kate Button, who is the Director of Research Governance, on +442920687734 or via email buttonk@cardiff.ac.uk . If you feel your complaint has not been handled to your satisfaction, you can complain formally through the procedure in the School of Healthcare Sciences at Cardiff University.

Who do I contact for further information?

If you have any further questions about the investigation, please do not hesitate to contact any of the following people:

1-Mr Abdullah M Alsuraybi via email on alsuraybia@cardiff.ac.uk

2-Dr Dikaios Sakellariou on +442920687744 or via email on sakellarioud@cardiff.ac.uk

Thank you for your time in reading this information sheet.

معلومات الدراسة للمشارك

العوامل المؤثرة على الطرق العلاجية المستخدمة من قبل أخصائيين العلاج الوظيفي مع مرضى الجلطات المملكة العربية السعودية – دراسة استكشافية.

أود دعوتك للمشاركة في الدراسة المذكورة أعلاه. قبل أن تقرر مشاركتك من عدمها، أود منك أن تعرف أسباب عمل الدراسة والإجراءات التي ستتم خلال الدراسة. أتمنى منك أخذ وقت كافي لقراءة المعلومات كاملة بتمعن. اسألني إذا كان هناك أي شيء غير واضح أو إذا كنت ترغب في مزيد من المعلومات.

ما هو الهدف من هذه الدراسة؟
هدف الدراسة الأساسي هو فهم الطرق العلاجية المستخدمة حالياً من قبل اخصائيين العلاج الوظيفي في المملكة العربية السعودية والعوامل التي قد تأثر على قراراتهم باستخدام الأسلوب العلاجي المناسب مع مرضى الجلطات. الدراسة ستستكشف جميع العوامل المساعدة والحواجز التي قد تواجه اخصائيين العلاج الوظيفي عند التعامل مع مرضى الجلطات في المملكة والوصول إلى فهم أعمق لأفكار الاخصائيين والأسباب التي قد تدفعهم لاستخدام طريقة علاج بدلاً من الأخرى. من المتوقع أن الدراسة ستضيف إلى أخصائيين العلاج الوظيفي في السعودية فهم أعمق العوامل التي تدفع الاخصائيين لاختيار الطرق العلاجية المناسبة.

لماذا تم سؤالي للانضمام لهذه الدراسة؟
تم دعوتك للانضمام لهذه الدراسة لأنك اخصائي علاج وظيفي مرخص للعمل في المملكة العربية السعودية ولديك خبرة لا تقل عن سنة كاملة في التعامل مع مرضى الجلطات وقادر على القراءة والكتابة باللغة العربية.

هل يجب علي الانضمام لهذه الدراسة؟
الانضمام لهذه الدراسة هو تطوعي بالكامل ولديك الحرية الكاملة في قبول أو رفض الانضمام للدراسة. إذا أردت أن تنضم للدراسة، ستستلم نموذج الموافقة على الانضمام للدراسة وورقة معلومات الدراسة للمشارك باللغة العربية عن طريق البريد الالكتروني قبل يومين على الأقل قبل إجراء المقابلة ليتسنى لك التفكير وأخذ القرار بالانضمام للدراسة من عدمها. سيتم مطالبتك بقراءة معلومات الدراسة للمشارك والتوقيع على نموذج الموافقة على الدراسة وإرساله للبريد الالكتروني الخاص بالباحث.

ماذا سيحدث لي إذا انضممت للدراسة؟
إذا قررت الانضمام للدراسة، سيطلب منك التوقيع على نموذج الموافقة على الانضمام للدراسة وقراءة معلومات الدراسة الخاصة بالمشارك. بعدها سيتم اجراء مقابلة شخصية في غرفة الاجتماعات الخاصة بالمكان الذي تعمل فيه عن خبرتك الشخصية في التعامل مع مرضى الجلطات في المملكة العربية السعودية والعوامل المؤثرة على قراراتك الإكلينيكية عند اختيارك الأسلوب العلاجي المناسب. المقابلة سيتم تسجيلها بالصوت وستستمر من ٤٥ إلى ٦٠ دقيقة. بعض الاقتباسات سيتم عرضها لطرف ثالث للتأكيد على صحة الترجمة. سيتم إرسال نص المقابلة لك عن طريق البريد الالكتروني للتأكد من صحة المعلومات.

ماهي الآثار الإيجابية من المشاركة في الدراسة؟
ليس بإمكاني ضمان وجود آثار إيجابية مباشرة لمشاركتك في الدراسة ولكن في اعتقادي مشاركتك ستتيح لأخصائيين العلاج الوظيفي في المملكة العربية السعودية من الاستفادة من خبراتك في التعامل مع مرضى الجلطات والاستراتيجيات المستخدمة عند اختيار الطرق العلاجية المناسبة لكل مريض. آمل أن هذه الدراسة ستتيح لأخصائيين العلاج الوظيفي لفهم أعمق للطرق التي قد تؤدي لاستخدام أفضل الطرق العلاجية مع كل مريض.

ما هي الآثار السلبية من المشارك في الدراسة؟

لا أعتقد أن المشاركة بهذه الدراسة قد تحمل أي آثار سلبية على المشارك ولكن في حال أن المقابلة سببت لك قلق، سيتم إنهاء المقابلة وسيتم توجيهك لخدمات الدعم المناسبة.

هل ستكون مشاركتي سرية؟
بالتأكيد، سيتم الاحتفاظ بسرية تامة لجميع المعلومات التي يتم جمعها عنك خلال هذا البحث. سيتم إخفاء أسماء جميع المشاركين عن طريق استخدام اسم مستعار لحماية هويتهم. سيتم تخزين البيانات لمدة أقصاها خمس سنوات بما يتماشى مع لوائح جامعة كارديف.

ماذا سيحدث إذا قررت عدم الاستمرار في الدراسة؟
المشاركة في الدراسة تطوعية ولك الاحقية الكاملة في الانسحاب من الدراسة في أي وقت وبدون إعطاء أي مبررات. جميع البيانات التي تم تسجيلها قبل الانسحاب سيتم التخلص منها ولن تضاف للدراسة.

من سيراجع هذه الدراسة؟
يتم النظر في جميع الأبحاث في جامعة كارديف من قبل مجموعة مستقلة من الأشخاص تسمى لجنة أخلاقيات البحوث لحماية السلامة والحقوق والرفاهية وكرامة المشاركين. وقد تم استعراض هذا التحقيق وإعطاء رأي إيجابي من قبل لجنة أخلاقيات البحوث في كلية الرعاية الصحية.

ماذا سيحدث لنتائج هذه الدراسة؟
الدراسة هي جزء من رسالة الماجستير للباحث وسيتم تسليم الدراسة لجامعة كارديف. أيضاً قد يتم عرض النتائج في المؤتمرات والمجلات العلمية.

ماذا لو حدث خطأ ما؟
إذا لديك شكوى أو أي مخاوف بالطريقة التي تم التعامل فيه معك خلال هذه الدراسة بإمكانك التواصل مع الدكتور المشرف على البحث من خلال البريد الالكتروني: sakellarioud@cardiff.ac.uk
أو بإمكانك التواصل مع الدكتورة كيت بوتون المسؤولة عن قسم الأبحاث بجامعة كارديف من خلال البريد الالكتروني: Buttonk@cardiff.ac.uk
إذا شعرت أن شكواك لم تتم معالجتها على نحو يرضيك، فيمكنك الشكوى رسميًا من خلال الإجراء المتبع في كلية علوم الرعاية الصحية في جامعة كارديف.

بمن اتصل للحصول على معلومات أكثر بخصوص الدراسة؟
إذا كان لديك أي سؤال بخصوص هذه الدراسة، رجاءً لا تتردد بالاتصال بالأشخاص المذكورين:

أ. عبدالله محمد السريبي على البريد الالكتروني: Alsuraybia@cardiff.ac.uk
ب. دكويس ساكيليرو على 442920687744+ أو بالبريد الالكتروني: sakellarioud@cardiff.ac.uk

ولكم مني جزيل الشكور والتقدير على أخذ الوقت لقراءة معلومات الدراسة الخاصة بالمشارك.

Appendix 4: Ethical approval from Cardiff University

School of Healthcare Sciences
Head of School and Dean Professor David Whittaker

Ysgol Gwyddorau Gofal Iechyd
Pennaeth yr Ysgol a Deon Yr Athrawes David Whittaker

30 July 2019

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Abdullah Alsuraybi
Cardiff University
School of Healthcare Sciences

Dear Abdullah

Factors influencing the treatment strategies of occupational therapists with stroke patients in Saudi Arabia- an exploratory study.

The School's Research Ethics Committee Chair has considered your research proposal. The decision of the Committee Chair is that your work should:

Pass –and that you proceed with your Research in collaboration with your supervisor

Please note that if there are any subsequent major amendments to the project made following this approval you will be required to submit a revised proposal form. You are advised to contact me if this situation arises. In addition, in line with the University requirements, the project will be monitored on an annual basis by the Committee and an annual monitoring form will be despatched to you in approximately 11 months' time. If the project is completed before this time you should contact me to obtain a form for completion.

Please do not hesitate to contact me if you have any questions.

Yours sincerely

Mrs Liz Harmer – Griebel
Research Administration Manager

Cc Dikaios Sakellariou