Occupational Therapy Process for Patients after Stroke in Thailand

- a qualitative study

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Summary:

**Background:** The occupational therapy process includes three steps: investigation, intervention and evaluation, and the process is always influenced by its environmental context. Occupational therapy is a part of the rehabilitation process for patients after stroke and includes interventions for both physical and cognitive impairments. In comparison to Thailand’s population, there are few occupational therapists and the country provides few beds for stroke rehabilitation. After the patients are medically stable, they regularly return to their homes and are taken care of by their families or relatives. **Aim:** To describe the occupational therapy process for patients after stroke at a clinic in Thailand. **Method:** Four occupational therapists were included in the study. A qualitative design was used, where data was collected through semi-structured interviews and participant observations. Data was analysed according to qualitative content analysis. **Results:** Two categories were found: working procedure and surrounding aspects. The first category describes the occupational therapists’ working process for stroke patients and the second category describes how environmental factors affect the occupational therapy process. **Conclusion:** The result show that the occupational therapy process is followed and that it is influenced by environmental factors. The conclusion is that occupational therapy for stroke patients in Thailand does not differ from many other countries regarding how they work with stroke rehabilitation.

Keywords: Occupational Therapy, Stroke, Rehabilitation, Thailand
Sammanfattning:


Sökord: Arbetsterapi, Stroke, Rehabilitering, Thailand
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INTRODUCTION

This study is based on an interest in how occupational therapy is conducted in other countries and cultures. Stroke patients is a common patient group within occupational therapy, and therefore the authors wished to get more knowledge in this area. Contact with a volunteer organization led to an occupational therapy department in Thailand, where the study was conducted. This study will provide the Occupational Therapy Program at Örebro University with knowledge about occupational therapy in Thailand and can contribute to an exchange between Sweden and Thailand.

BACKGROUND

Occupation and occupational therapy

Occupation is a main concept within occupational therapy (OT) and occupational therapy aims to enable occupation. Occupation is described as things people do in interaction with the environment and this interaction creates meaning for the individual (Förbundet Sveriges Arbetsterapeuter [The Swedish Association of Occupational Therapists], 2005). The intention of occupational therapy is to provide a satisfying life for a patient (Förbundet Sveriges Arbetsterapeuter [The Swedish Association of Occupational Therapists], 2005).

Occupational therapy praxis follows a process, which begins with an investigation, where the occupational therapist gathers relevant information about a patient’s needs and activity limitations. Information about a patient is often gathered by an interview or observation (Radomski, 2008). Furthermore, the investigation is followed by an intervention, where the occupational therapist in collaboration with the patient, set goals, select treatments and implement interventions. Finally, the process ends with an evaluation, where decision if maintaining or discontinuing therapy is made (Radomski, 2008). The occupational therapy process also includes environmental aspects, and these environmental factors always affect the process (Radomski, 2008).

Through the occupational therapy process, the occupational therapist is responsible for creating a good relationship between herself/himself and the patient. The occupational therapist should have the ability to apply different attitudes in the meeting with patients, and should be able to choose the most appropriate attitude in the present situation. Sometimes, several attitudes must be applied in one occasion, which is why the ability to shift attitudes also is needed (Kielhofner, 2009).

Model of Human Occupation (MOHO) is a well-known occupational therapy model and it describes how humans relate to and are influenced by occupation (Kielhofner, 2012). Human occupation is organized in three components: volition, habituation and performance capacity. Volition includes a person’s interests and values, which affects what is important and meaningful (Kielhofner, 2012). Habituation involves habits and roles. Habits occur when a person automatically repeats an activity in a specific environment or situation. Roles contribute to one’s behaviour and attitude and a person often recognizes herself in several roles. A person’s physical and mental ability to occupational performance is called performance capacity (Kielhofner, 2012).

Human occupation is affected by the environment, which includes persons, objects and places that humans interact with. The environment contributes with opportunities and limitations that may support or hold back an individual in occupational performance. An activity always occurs in a specific place, is influenced by and gets its meaning in its physical and sociocultural context (Kielhofner, 2012). The social and physical environment is also always formed by culture, and cultural aspects should be considered in the meeting with all patients (Kielhofner, 2008).
A client-centred practice is also central within the model, and it aims to find the unique characteristics in every patient and to involve a patient in the rehabilitation. The client-centred practice also helps the therapist to pay attention to a patient’s situation and perspective. Client-centred practice includes a good relationship between the patient and the therapist. A good relationship means being respectful and understanding, which support a patient in the rehabilitation. Occupational therapy should be based on a patient’s feelings, and her own choices and experiences. This way of working together with a patient provides a client-centred relationship between the patient and the therapist (Kielhofner, 2008).

**Stroke and occupational therapy**

Stroke is a cerebrovascular disease that reduces or stops the supply of blood to the brain. Stroke can either be an infarction or a haemorrhage and the size of the injury is termed major or minor stroke (Svensson, 2007). At infarct, the injury is usually localized to a specific area in the brain while the haemorrhage is regularly outspread in the brain tissue.

The symptoms after stroke vary depending on the size of the injury and which vessel has been affected (Kaunnil, 2012). Both cognitive and physical symptoms can be present. Impairments in upper extremity are common after stroke, where paresis is included. Paresis means weakness in one side of the body and can either be mild or severe which decides the level of the weakness (Lang, Bland, Bailey, Schaefer & Birkenmeier, 2013). Another common impairment is aphasia, which means oral motor- and language impairments (Dalemans, de Witte, Wade & Heuvel, 2010). Aphasia may lead to limitations in speaking, understanding, reading and writing. Neglect can be present after having a stroke, and appears as a lack of awareness to either right or left side of the body (Toglia & Cermak, 2009). Impairment in executive function can also be present after having a stroke. Executive function is referred to as complex cognitive function such as planning, problem solving and monitoring (Poulin, Korner-Bitensky & Dawson, 2013). Physical and cognitive impairments affect a patient’s independence in activities of daily living [ADL] (Woodson, 2008).

Occupational therapy is a part of the rehabilitation process for a patient recovering from stroke and the constitution of a rehabilitation team vary depending on the patient’s needs and resources (Woodson, 2008). Occupational therapists need to be a part of a rehabilitation team as they have relevant knowledge of suitable interventions (Förbundet Sveriges Arbetsterapeuter [The Swedish Association of Occupational Therapists], 2005). Occupational therapy for stroke patients should be provided in both the acute phase and the following rehabilitation phase (Kaunnil, 2012).

The occupational therapy process for stroke patients begins with an investigation of a patient’s roles, tasks and activities that is important for the patient. Thereafter, the occupational therapist will investigate the ability to perform the roles, tasks and activities and if a disability in some area is found, the occupational therapist will try to find solutions or interventions that help the patient to restore, improve or maintain his or her functions (Woodson, 2008). It is important that the interventions suit a patient’s needs (Förbundet Sveriges Arbetsterapeuter [The Swedish Association of Occupational Therapists], 2005).

When a patient has physical needs, the occupational therapist can investigate the ability to perform ADL, such as dressing, washing and toileting (Kaunnil, 2012). The occupational therapist can provide a patient with assistive devices that enable a patient’s abilities to perform ADL (Kielhofner, 2012). Other common interventions for stroke patients can be memory training and adjustments in the environment, for example in a patient’s home (Förbundet Sveriges Arbetsterapeuter [The Swedish Association of Occupational Therapists], 2013). Emotional and behavioural expressions are common after having a stroke, and can sometimes be perceived as negative feelings. The occupational therapist can prevent these feelings by encouraging and motivating the patient as far as possible.
Relatives have a crucial role in a patient’s recovery after stroke. It is therefore important to involve relatives in the rehabilitation so they can support and take care of their own in the best way (Kaunnil, 2012). The occupational therapist should always have a holistic view by including a patient’s physical, psychological and social environment (Kaunnil, 2012).

**Stroke and rehabilitation in Thailand**

Thailand has more than 250,000 new cases of stroke each year (Suwanwela, 2014) and the average age when having a stroke is 65 years (Suwanwela, 2014), [corresponding number in Sweden is 75 years (Vårdguiden [Health Care], 2013)]. The average life expectancy in Thailand is 73 years [corresponding number in Sweden is 82 years (Gapminder, 2012)].

Among women in Thailand, cardiovascular diseases are the most common cause of death, and the third leading cause among men. Cerebrovascular diseases, including stroke, are over-represented in cardiovascular diseases and thereby constitute a large proportion of mortality in Thailand (World Health Organization, 2004). During 2011 it was estimated that 496,800 people were stroke survivors across 6 regions in Thailand, so the need of rehabilitation is therefore high in Thailand (Kaunnil, 2012). There are 625 occupational therapists in Thailand and in regard to the whole population of 65.4 million, that is a small amount (Kaunnil, 2012). Corresponding number in Sweden is 11,000 registered occupational therapists (SACO, n.d.) in a population of 9.7 million (Statistiska centralbyråns [Statistics Sweden], 2014).

Stroke patients in Thailand are treated in hospital until they are medically stable, regularly a period between three days and two weeks. After this treatment, most of the patients return to their home and are taken care of by their family members or relatives. The culture of Thailand values the care of sick and weak people (Suwanwela, 2014).

The medical care in Thailand prioritize the acute phase of stroke more than the following rehabilitation and the country provides few beds for rehabilitation, which results in a large number of stroke patients without rehabilitation (Oupra, Griffiths, Pryor & Mott, 2010). Stroke rehabilitation is not of high priority because of the country’s lack of resources and the economic situation (Kaunnil, 2012).

**Rationale for the study**

According to the authors’ knowledge, research about occupational therapy and stroke in Thailand is limited and therefore not highly accessible in databases on the Internet. Occupational therapy should be conducted in similar ways in all countries, to ensure that rehabilitation for stroke patients are of same quality. Therefore, research of occupational therapy in different countries is needed and can contribute to knowledge and exchanges in other countries’ rehabilitation processes. This study will contribute to a description about occupational therapy for stroke patients at a clinic in Thailand.

**AIM**

The aim of this study is to describe the occupational therapy process for patients after stroke at a clinic in Thailand.
METHODS

A qualitative design was used, where data was collected through participant observations and semi-structured interviews. Both interviews and observations were analysed according to qualitative content analysis (Graneheim & Lundman, 2004). In a study based on interviews, there is no defined number of participants. Instead it is the content that counts, which is why it is preferred to have fewer but more detailed interviews (Kristensson, 2014). In this study, four occupational therapists were interviewed. According to the authors, four interviews were valued as a too poor material, which is why these interviews were complemented with observations.

Sample

Convenient sampling was used (Kristensson, 2014), where all four occupational therapists at the occupational therapy department were asked to participate in the study. All participants in a study should be informed about the aim of the study and always have the right of self-determination in their participating (Vetenskapsrådet, n.d.). All respondents were given written and verbal information about the study and their advantages and rights in participating, and all four agreed to participate. All participants in this study signed an informed consent letter form.

Participants

Four occupational therapists were included in the study. They were between 26 and 49 years of age with an average age of 37,5 years. Their working experience ranged from 2 to 26 years and all four took their occupational therapy exam in Thailand. One participant was a man and three were females. Their English language skills varied. All participants work at a occupational therapy department at a generic hospital, and the occupational therapists treat patients with both cognitive and physical impairments, where stroke patients is a common patient group. All participants work with stroke patients to a greater or less extent, but two of them have the main responsibility for stroke patients and therefore meet these patients more regularly than the other two.

Data collection

Data was collected in accordance with ethnographic design, where observations, interviews and dialogues are the main strategies used (Pilhammar, 2014). Data to this study were collected by semi-structured interviews according to an interview guide designed for this purpose (Appendix 1) and participant observations of the occupational therapists’ work with stroke patients. The interview guide followed the occupational therapy process by the concepts investigation, intervention, evaluation and environment. Thereafter, questions were created within each concept, which were influenced by MOHO’s explanation of therapeutic reasoning (Kielhofner, 2008). For example, MOHO describes that the investigation include that the occupational therapist gather information about each patient by using structured or unstructured methods (Kielhofner, 2008) which is why the question “Do you use any specific methods or instruments during the investigation of stroke patients?” was created.

Semi-structured interviewing means that identical open-ended questions are asked to all the participants and gives opportunity for the interviewer to ask attendant questions. Open-ended questions contribute to wider and deeper replies and are a suitable alternative for inexperienced interviewers (Kristensson, 2014), why this form of interview was chosen.

Because of the varied English language skills, an interpreter was consulted to translate all the questions and replies from Thai to English and vice versa. The interpreter was not a qualified interpreter and was consulted through the volunteer organization that the authors travelled with. The authors asked the interpreter about participating in the study, and
explained the interpreter’s role in the study. Thereafter, the interpreter agreed to translate the interviews. An interpreter should be culturally accepted, speak the language fluently and be neutral (Kvale & Brinkmann, 2009). The interpreter in this study is Thai and had no relation to the participants or the occupational therapy department. The interview guide was sent to the interpreter one week before the interviews were conducted so time was given for preparation and questions. Three of the interviews were performed during the same day with few and short breaks and the fourth interview was conducted three days later. One participant was prevented from coming at the interview day, why the forth interview was conducted in English, without an interpreter.

The interviews were conducted in a big room at the occupational therapy department. The participants were asked where to conduct the interviews, and they decided that the department room would be the most suitable place. The first author, the participant and the interpreter sat around a table. The interviewer sat next to the participant and the second author sat in the background. The recorder was placed at the middle of the table. Sounds from building workers and the hospital’s public-address system were heard but could not be influenced. First, one of the authors presented the aim of the study and the approximate time of the interview. Before the interviews were recorded, the participants were asked verbally to confirm their participation again, and were also given time to ask questions. The authors encouraged the participants to freely express their own thoughts and feelings in their replies. During the interviews, the first author interviewed the participants and the second author made notes and handled the recorder. Notes were made because the authors wanted to make sure that material would still be available if the recorder would stop working. Since the recorder worked in all interviews, the notes were not included in the material. In the end of every interview, the participants were given the question “is there anything you want to add?”, and then the recorder was turned off. Average length of the interviews was 36 minutes.

Observations in this study were participant observations, which means being present and share the participants’ environment (Pilhammar, 2012). Observations were made according to the ethnographic compressed model, which means that data is collected between one week and one month (Pilhammar, 2012). In this study, observations of the occupational therapists’ work with stroke patients were made during a period of two weeks and resulted in 12 occasions. The observations were made at the stroke unit, the occupational therapy department and in corridor outside the occupational therapy department. Before the observations were made, the authors asked the observed occupational therapists if it was a suitable occasion to observe and asked for an approval. The observations were done according to an observation protocol (Appendix 2), which is a shorter version of the interview guide. Field notes in the observation protocol were made in situ (Pilhammar, 2012) and questions to the occupational therapists were made after the observations.

Data analysis
All interviews were transcribed verbatim and then analysed through qualitative content analysis. Qualitative content analysis means that similarities and differences in data are identified. Focus in this study was to analyse the manifest content in the material, which means that obvious and visible content is described (Graneheim & Lundman, 2004). The interviews were given a code (Kristensson, 2014). The observations were also analysed through qualitative content analysis.

Through the analysis, the authors followed the steps described by Kristensson (2014). At first, both authors read all material several times and were writing own notes. After that, the authors sat down and discussed their thoughts about the texts. In the second step, the authors first identified meaning units in the interviews and thereafter in the observations. This was done by colouring each meaning unit with different coloured pencils. In the third step the
meaning units were formed into condensed meaning units. Condensation means shorting a meaning unit while still preserving the core (Graneheim & Lundman, 2004). After the condensation, the authors separately coded each condensed meaning unit and then discussed and compared their codes from both interviews and observations, and together decided which codes that should be used. In the fourth step, similarities and differences in all codes were identified and were created in categories. The authors sought for categories that were related to the study aim. The category working procedure includes the steps investigation, intervention and evaluation, which are a part of the occupational therapy process. Since the process is influenced by environmental factors, the authors sought for a category that describes these factors and the category surrounding aspects was found. In the fifth step, the categories were summarized into subcategories, where a word or phrase that suited between each code and category were chosen. Table I and Table II illustrate how the content analysis was conducted and how categories and subcategories were found in interviews and observations.

**Table I. Illustration of the content analysis of interviews**

<table>
<thead>
<tr>
<th>Meaning units</th>
<th>Condensed meaning unit</th>
<th>Code</th>
<th>Subcategory</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>I use the Evaluation of occupational therapy (neurological conditions) before and after treatment, to see the progression…</td>
<td>Evaluation of occupational therapy (neurological conditions) is used before and after treatment.</td>
<td>Use of instrument</td>
<td>Standardized method</td>
<td>Working procedure</td>
</tr>
<tr>
<td>…we have to teach the patients’ relatives…to do the exercise at home…we will give them the instructions paper for each problem.</td>
<td>Importance of including and educate relatives.</td>
<td>Part of OT role</td>
<td>Educate relatives for home training</td>
<td>Surrounding aspects</td>
</tr>
</tbody>
</table>

**Table II. Illustration of the content analysis of observations**

<table>
<thead>
<tr>
<th>Meaning unit</th>
<th>Condensed meaning unit</th>
<th>Code</th>
<th>Subcategory</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobath sling for position…arm training in machine…</td>
<td>Upper extremity function</td>
<td>Use arm and hand function</td>
<td>Training arm and hand function</td>
<td>Working procedure</td>
</tr>
<tr>
<td>Encouraging attitude by support patients…instructive, show the patient and relatives how to do…</td>
<td>Different OT attitudes during interventions</td>
<td>Attitudes</td>
<td>OT role</td>
<td>Surrounding aspects</td>
</tr>
</tbody>
</table>

**Ethical considerations**

Vetenskapsrådet’s four ethical considerations were used: demand of information, consent, confidentiality and the authors’ right of use. Demand of information means that all participants are informed about the study aim and demand of consent refers to the participants’ right of self-determination in participating. Demand of confidentiality means that all collected data should be kept in a responsible way where no unauthorized persons can reach the material, and the fourth demand about the authors’ right of use means that all collected data should only be used for the study aim (Vetenskapsrådet, n.d.).
In this study, all participants were verbally informed about the study, and received an informed consent letter. All collected data was kept in a locked room, where only the authors had access. All data was used only for the study.

Another ethical consideration that was made was a discussion about the risk and benefits with the study. The benefits with a study should always outweigh the potential risks (Polit & Beck, 2012). Data was collected through both interviews and observations. A risk whether the participants were worried that information from the interviews and observations would differ, was discussed. They may have been worried that the authors and themselves had different opinions about how the occupational therapy process for stroke patients should be conducted. The benefit with this study is that it will contribute to a description of how the occupational therapy process for stroke patients is conducted in Thailand, and will therefore contribute to knowledge of occupational therapy in a developing country.

RESULTS

Analysis of the material resulted in two categories: working procedure and surrounding aspects. Subcategories related to working procedure were named prescription, standardized methods, goal setting, treatment, training arm and hand function and interventions for aphasia. For the category surrounding aspects, good atmosphere, educate relatives for home training and OT role were chosen as subcategories. Table III illustrates the categories and the subcategories.

Table III. Illustration of the categories and subcategories

<table>
<thead>
<tr>
<th>Categories</th>
<th>Working procedure</th>
<th>Surrounding aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcategories</td>
<td>Prescription</td>
<td>- Good atmosphere</td>
</tr>
<tr>
<td></td>
<td>- Standardized methods</td>
<td>- Educate relatives for home training</td>
</tr>
<tr>
<td></td>
<td>- Goal setting</td>
<td>- OT role</td>
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<td>- Treatment</td>
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<td></td>
<td>- Training arm and hand function</td>
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<td></td>
<td>- Interventions for aphasia</td>
<td></td>
</tr>
</tbody>
</table>

Results are described in accordance to the categories and the belonging subcategories. Material from interviews and observations are described separately under each category, to clarify which information that comes from the interviews respectively observations.

Working procedure
This category describes the occupational therapists’ working procedure for stroke patients at the department, and will illustrate part of the occupational therapy process. First, results from the interviews will be described following by results from observations.

Results from interviews

Prescription
This subcategory illustrates that the occupational therapy process depends on a prescription from the medical doctor. All participants expressed that the doctor will be the one who decide if occupational therapy is needed and what kind of occupational therapy interventions that they should provide.
“...patients need to meet the doctor first, and then the doctor will [...] investigate all about the patient and all about the function and then the doctor will pass the order to the OT.”

“...the doctor will do the investigation, like what is the need of this patient and what is need to be done?”

After the ordination, the participants described that they will make a further investigation and design treatment according to the doctor’s order.

**Standardized methods**

This subcategory describes that standardized methods are used at the department. All participants mentioned the *Evaluation of occupational therapy form (neurological conditions)* (Appendix 3), and described that other departments at the hospital also use this form. The instrument includes investigation, intervention, evaluation and goal setting. Physical, cognitive and sensory abilities are investigated, where the investigation of activities of daily living (ADL) are the most described part. ADL include several areas (Appendix 4), where the level of function in each area is measured on a scale between 0 and 15. The scale describes the level of dependence through seven steps, where a low score mean more dependence in activities and vice versa. The ADL areas are related to the Barthel Index score, which is a part of the *Evaluation of occupational therapy form (neurological conditions)*. After the investigation, the participants described that they will note the total amount of a patient’s ADL under Barthel Index score. Appropriate interventions and selected goals for each patient are also noted in the form.

“...The evaluation is about ADL [...] so basically we focus on ADL.”

Two of the participants working at the department describe that they have the main responsibility for the neurological patients, and are those who mostly make the investigation and evaluation of the stroke patients. Still, all participants described this instrument as the one used for stroke patients.

The *Evaluation of occupational therapy form (neurological conditions)* is signed after the first meeting with a patient, which can be either at the occupational therapy department or at the stroke unit. The form is also signed after each evaluation to see a patient’s progression in an activity and whether the goal is reached or not. The participants gather information that they note in the form, through the doctor’s information, observations of the patients and dialogues with patients and relatives.

“I use the Evaluation of occupational therapy form (neurological conditions) before and after treatment [...] To see the progression. Sometimes I ask the patient if he can or not and sometimes the patient show for me [...] I observe.”

All participants mentioned that they make evaluation of the stroke patients every month. The first, third and sixth month, the results from the evaluation is reported to the doctor.

**Goal setting**

This subcategory deals with how goal setting is conducted. Results from the analysis show that short-term and long-term goals are set, but at this department, the participants described that focus is on short-term goals. All participants stated that goals are set in collaboration with
the patient, doctor and other professions. Goals will be set according to what a patient needs to recover and wants to achieve, which is why the patient should be included in goal setting.

*P3:* “We set the goal together, but most of the time, the goal of OT and patient is different. We have to talk and discuss, adjust the understanding of the patient, because the OT goal is more [...] according to the truth and the patient’s goal is often a dream goal [...] So we have to adjust it to each other.”

After the goals are set, the goals will be noted in the *Evaluation of occupational therapy form (neurological conditions)*, under goal and progression. If patients reach their goal, the participants describe that new short-term goals will be set.

*P2:* “…report to the doctor and see if we need to set more goals or if we need to develop the activity.”

**Treatment**

This subcategory concerns interventions for stroke patients that are used at the department. Interventions for both cognitive and physical impairments are described, but the participants mentioned more regarding interventions for physical impairments. For physical impairments, interventions for arm and hand function are the most described, which aim to improve or maintain abilities in shoulder, arm, hand and fingers. The following interventions were described as the most frequently used to improve arm and hand function: Bobath sling, overhead balance (OB) helping arm and hand training.

*P3:* “…for OT, the treatment that we mostly give for stroke patients is the Bobath sling and the OB helping arm.”

The participants describe the Bobath sling as a sling used to support the shoulder and keep it in a good position. OB helping arm was another described intervention. It aims to improve muscle strength and mobility in a patient’s shoulder and arm. The participants mentioned that hand training is about gross motor and fine motor. Hand training is mostly performed through a bilateral gripping, but sometimes patients perform hand training with one hand.

*P1:* “For the motor, we will focus more on hand function [...] For gross motor, it’s more like you use the big muscles [...] for the fine motor, we will focus more about the fingertips [...] and practice by pick up smaller things.”

Another intervention described is the oro-motor training used for aphasia. This intervention means that the occupational therapist stimulate patients’ mouth muscles and practice their speaking skills.

Overall, the participants expressed that the interventions aim to improve a patient’s daily life and that they choose interventions considering the patients’ interests and motivations.

*P2:* “The activity will be based on a patient’s interests [...] give them a positive attitude so they can recover. And let them do the things that they want to do.”
Results from observations

**Training arm and hand function**

As found in the interviews, the observations also showed that interventions for arm and hand function are common for stroke patients. Four interventions for arm and hand function were found recurrent in the observations: Bobath sling, board and stacking cones, OB helping arm and arm cycling. As mentioned earlier, Bobath sling is used for positioning and is a supporting bandage. It is used for hemiplegia and the sling is placed around the upper arm of the affected side. A string is attached to the bandage and is tied over the shoulders and under the other arm. A supplementary question about the Bobath sling was asked to one of the participants after the observations, and resulted in the reply that the Bobath sling is used to prevent subluxation of the shoulder.

Board and stacking cones is an intervention where plastic cones are stacked on each other. The patients move the cones one by one from one point to another. The observations show that this intervention can be done through a bilateral or a one-hand gripping, and the participants explain that board and stacking cones is used for training the shoulder and arm mobility. The intervention also includes training in grabbing and releasing objects.

OB helping arm is a training machine used for patients with hemiplegia. A patient’s affected arm is placed in an upright position, straight out from the body. The patient is sitting on a chair or in a wheelchair during the intervention. The patients perform this intervention by moving the arm from side to side or up and down, during a time of 10-15 minutes. This intervention is used to improve muscle strength and joint mobility in a patient’s arm. Through the observations, it is found that the OB helping arm is used to almost all patients with hemiplegia.

Arm cycling is the last observed intervention for arm and hand function. The cycle machine is placed at a table and the patients are sitting on a chair. The patient’s affected hand is placed on the handle, by using a bandage. Arm cycling is used to improve muscle strength, joint mobility and endurance.

During the observations, it was noted that the occupational therapists at some occasions made interventions more difficult. For example, in the intervention board and stacking cone, the occupational therapist placed the cones further away from the patient and thereby made the intervention more difficult.

**Interventions for aphasia**

Except the interventions for arm and hand function, the observations showed that interventions for aphasia are conducted. Interventions for aphasia include oro-motor training and early interventions for speech.

Early intervention for speech means training the patients’ cognitive and linguistic functions. In the observed situations, the patients first sorted sticks by colours, followed by writing and describing words from pictures that the occupational therapist showed. The occupational therapists mostly showed pictures on objects found in the home environment. One participant explained that these pictures are showed because these are words that patients often want and need to focus on.

At the department, two of the participants have the main responsibility for this intervention, which are the same participants that have the main responsibility for the investigation and evaluation of stroke patients.

Oro-motor training was observed as another intervention for patients with aphasia, which also was described in the interviews. The oro-motor training follows a specific training
programme and includes articulation and stimulation of the patients’ mouth muscles. The occupational therapist treat the patients by giving them massage around their mouths, and then the patients train articulation abilities by imitating sounds and words from the occupational therapist. This intervention is given to patients at one occasion and the intervention always includes that the patients and their relatives get an instruction paper from the occupational therapist. Furthermore, the patients together with the relatives have own responsibility for continuing the oro-motor training.

**Surrounding aspects**
This category describes how environmental factors affect the occupational therapy process. First results from the interviews are described, which illustrates that a relaxing environment as well as including relatives in rehabilitation are important. Results from observations are then described and reports different attitudes that the participants use in their work with stroke patients.

**Results from interviews**

*Good atmosphere*
This subcategory is related to the environment and describes the importance of how a good atmosphere affects occupational therapy rehabilitation. According to all participants, the rehabilitation process should be permeated with a good atmosphere, and the environment should be relaxed to make patients, relatives and staff happy and feel good at the department. To create this atmosphere, one participant mentioned that the department has music and television on. Another participant expressed that the occupational therapist always should have a positive attitude around the patients.

*P1: “...when you make the atmosphere relaxed, the patient will be happy and they want to come for the treatment [...] This is very important.”*

The participants describe that a good atmosphere also includes good relationships among all included parts and that all persons at the department should be seen as friends and family. The participants express that a good working climate will influence the patients in a good way. The environment at the department is also described as an opportunity for patients and relatives to share experiences and help each other in their situations. The participants have experienced that when relatives share situations, they get motivated to help their own who suffered from a stroke.

*Educate relatives for home training*
This subcategory describes home training as a part of occupational therapy. Persons and places around the patient are parts of the environment. A patient’s home, relatives and the occupational therapist are therefore included in the environment. Characteristic for the interviews, were the importance of including caregivers or relatives in a patient’s rehabilitation. This is due to the fact that almost all patients need to do home training for their progression. The participants describe that they educate patients, caregivers and relatives in techniques of training. Instructions for training are always given verbally or in an instruction paper. Before a patient goes home, they will make sure that they know how to do the exercise at home.
P3: “It is very important to have the caregiver or relatives with you because we will give them hand out paper for each problem. How to do the mouth massage, how to do the hand massage […] so they can follow the instruction […] We will make sure that the relatives know how to take care of them.”

One participant expressed that the most important role in occupational therapy is to educate and teach patients and their relatives. Thus, all participants mentioned the educating role to a greater or less extent.

Results from observations

OT role

Results from the interviews described that the participants use an educating attitude in their work with stroke patients. Results from observations also showed that other attitudes are used. Common attitudes that have been observed is an encouraging and supporting attitude, where the occupational therapist have a positive attitude, listen and give their time to the patients.

Other attitudes that have been observed are an instructive attitude and a deliberately passive role. The instructive attitude include that the occupational therapist guide and give instructions before and during interventions. A supplementary question after the observations resulted in the reply that all patients at the department have own responsibility in their rehabilitation, so the deliberately passive role is common to use and aims to make the patients more independent.

DISCUSSION

Discussion of method

A convenience sampling was used, where all occupational therapists at the department were included. A positive aspect when using convenience sampling is that participants are easy to find, while a negative aspect can be that all participants work in the same context, which may lead to a less variation in material (Kristensson, 2014). In this study, all occupational therapists working at the department were included, which leads to a representative and good description of how occupational therapy is conducted at the department.

In this study, all participants were informed about the study aim and the right of self-determination in participating. All participants received and signed an informed consent letter, and therefore there were no compulsion in the participation. On the other hand, the participants may have discussed the study with each other and may have affected and influenced each other to participate in the study. The authors have discussed whether the patients also should be seen as participants in the study and receive an own informed consent letter, since they were included in the observations. Though, at the time of the data collection, the authors did not have this in mind. Instead, the authors always asked the observed occupational therapist for a permission to participate in each occasion, and relied on their opinion. When this study was conducted, the authors were volunteers at the department and met the patients regularly. Therefore, it is possible to assume that the patients gained trust for the authors and that the authors became a natural part of the department.

The data collection, with a combination of interviews and observations, gave the opportunity of describing occupational therapy at the department from two angles. In the interviews, the participants described their work at the department from their own perspective,
while the observations contributed with data from an outside perspective. According to the authors, collecting data through both interviews and observations are seen as positive. Vague information from the observations could be explained or clarified in the interviews and vice versa. The authors also chose to describe results from interviews and observations separately, which helps the reader to identify which information that comes from the interviews respectively observations.

The interview guide was made by the authors and was discussed with the supervisor before the interviews were conducted. To achieve dependability, an interview guide is useful (Kristensson, 2014). This study’s interview guide considered all areas of the occupational therapy process and helped the authors to keep to the subject and get structure in the interviews. The interview guide and the observation protocol were influenced by MOHO:s explanation of the therapeutic reasoning, which helped the authors to design the guide and protocol according to relevant terms in occupational therapy. After the interviews were conducted, the authors discussed the questions in the interview guide. The questions regarding the environment had more to do with the occupational therapists’ experiences of the environment at the department, instead of how the environment is used and affect their work with stroke patients. Before the interviews, the authors practiced and tested the questions in the interview guide on each other, at one occasion. If it had been tested more times, it may have lead to a reformulation of some of the questions. If a similar study is conducted again, the authors recommend practicing more times and consider if a test interview would be to prefer.

The surrounding environment in the interview situations was not the most optimum. On several occasions during the interviews, sounds from building workers and the hospital’s public-address system disturbed the dialogues, which lead to unnatural pauses. This may have lead to the fact that important material was missed or forgotten. If a similar study would be conducted again, it would be better to choose a more quiet and suitable room, but in this study, this was the best possible option.

When conducting the interviews, an interpreter was used for three interviews. An advantage of using an interpreter was that the participants got the privilege of speaking their own language, which probably lead to broader and more detailed replies. Disadvantages may have been that the interpreter summarized the replies. Sometimes, the participants’ and the interpreter’s replies varied in length, which both authors reacted to. Therefore, there is a possibility that summaries were made at some occasions. Thus, none of the authors speak Thai, so the varied length in the replies can also be due to the differences between the English and Thai language. To avoid this, it may have been better to consult a professional and qualified interpreter. The authors also realised that an appointment with the interpreter had been to prefer before the interviews were conducted, where a clarification of the interview guide and how the interviews would be implemented, could have been discussed. This may have lead to fewer summaries. The fourth interview was made without an interpreter, which meant that this participant had to speak and express the replies in English, instead of Thai. But this is not seen as a drawback, because this interview went better than expected and gave similar replies.

Conducting interviews takes time and requires a great deal of energy, why it is recommended not to conduct more than one interview in one day (Kristensson, 2014). The authors are aware that conducting three interviews in one day may be too many, and recommend spreading out the interviews over more days. This may have affected the quality of the interviews, because time was not given for the authors to reflect and discuss the interviews (Kristensson, 2014). In this study, the interpreter was only available during one day, which lead to three interviews in one day. One author conducted all interviews and the
other took notes. This was experienced as positive, because it gave the authors clearly defined roles and opportunities to improve in their area of responsibility.

Both authors had a good relationship to all participants, since the study was combined with practice at the department during a period of six weeks. This contributed to the authors’ understanding of the occupational therapists’ chosen and described concepts and that the participants gained trust for the authors. On the other hand, a negative aspect may be that the good relationship affected the participants in their replies, because they wanted to contribute to the study as much as they could.

In this study, credibility and transferability are discussed to enhance trustworthiness. Credibility means that interpretations from the interviews should be based on information from the collected data (Graneheim & Lundman, 2004). Several things were made to enhance creditability. For example, in the analysis process, the authors first read and wrote down notes and codes independent from each other, and thereafter discussed the notes and codes together. Credibility was also increased through the combined method, by collecting data from both interviews and observations. This made the material broader and more detailed. For example, the authors found the intervention for aphasia in the observations, but this was poorly described in the interviews. If only interviews have been chosen, parts of this category may have been missed. The combined method lead to that the observations gave a larger description of used interventions and created the category OT role, which the authors consider as an important part in occupational therapy.

A detailed description of how the analysis was conducted, and the use of tables to illustrate the content analysis were also made to establish credibility. Showing representative quotations in the findings and seeking agreement with participants can also be made to achieve credibility (Graneheim & Lundman, 2004). In this study, representative quotations were presented and after the analysis of the interviews and observations, the authors asked the participants to confirm whether parts in the material had been understood correctly.

In studies with few participants, transferability to other contexts can be difficult to determine (Kvale & Brinkmann, 2009). The study aim was to describe how occupational therapy is conducted at a department in Thailand, so the purpose was not to draw conclusions for a whole population. The authors have discussed whether transferability to other departments in Thailand can be made. There are only 625 occupational therapists in Thailand (Kaunnil, 2012), and the participants in this study represent university educations from the two occupational therapy educations that the country provide. Therefore, transferability to other departments in Thailand can possibly be made. The probability that the occupational therapy process for stroke patients is conducted in a similar way across the country can therefore be high.

**Discussion of results**

The result show that all participants have similar opinions about how the occupational therapy process for stroke patients should be conducted. Occupational therapists at the department follow the process in their work with stroke patients, where the occupational therapy process begins with an investigation and ends with an evaluation. The result also shows that the process at the department always is influenced by environmental factors.

The aim of the study was to describe the occupational therapy process for stroke patients at a clinic in Thailand. The authors chose to include the whole process in the study aim to get a wide and complete representation of how stroke rehabilitation is conducted at the department, to the greatest possible extent during the data collection, which was a period of two weeks. Thus, the occupational therapy process for stroke patients are extensive and include many aspects, so the authors are aware of the fact that there are more to describe in the occupational therapy process.
The result shows that the *Evaluation of occupational therapy form (neurological conditions)* is used during the whole process. The Barthel Index score is a part of this form, and several studies have shown that Barthel Index is a frequently used method in the investigation and evaluation of stroke patients. One study (Wolf & Rognstad, 2013) indicates that Barthel Index is one of the most common assessments to use for stroke patients. Akbari et al. (2011) describes that Barthel Index consists of 15 items related to ADL activities, while another study (Bergström et al., 2012) describes 10 items of ADL activities. In this study, the Barthel Index consists of 10 items (Appendix 4). The amount of the ADL items in Barthel Index varies, and seems to be adjustable. Wolf et al. (2013) emphasize that the Barthel Index is useful for investigation and evaluation of physical impairments, but more limited for cognitive impairments. In this study, the result shows that Barthel Index score is supplemented with parts for investigation and evaluation of cognitive and sensory impairments.

Result illustrates that occupational therapy for stroke patients often include interventions for arm and hand function, such as board and stacking cones and arm cycling. This is similar to another study (Chanubol et al., 2012), which was conducted in Thailand, where Chanubol et al. describe plastic cone stacking and arm cycling as two conventional interventions within occupational therapy.

Assistive devices aims to improve an individual’s function and independence in activities, and is frequently used by stroke patients (Chiu & Man, 2004). One study (Gustafsson & Yates, 2008) describes that hemiplegic support slings can be used to prevent subluxation and shoulder pain for stroke patients. Result from this study show that Bobath slings are commonly used for stroke patients with hemiplegia, and the occupational therapists at the department use the sling to prevent subluxation and to keep the shoulder in a good position. However, the Bobath sling is the only assistive device that has been identified. This may depend on the short period of collecting data or that the occupational therapists chose to describe the Bobath sling in the interviews, because at the department, this assistive device is commonly prescribed for the stroke patients.

This study found that occupational therapists at the department conduct interventions for patients with aphasia. Though, after a survey of available articles made by the authors, no result about the intervention oro-motor training was identified. Articles about interventions for speech abilities were found, but the intervention seems to be conducted by speech therapists, rather than by occupational therapists. The poor result of the survey may depend on which terms that were used or that few studies about these interventions have been conducted.

Educate relatives for home training was found as an essential part of occupational therapy. Home training requires that patients and their relatives get information about how to perform training at home. Therefore, the occupational therapists need to educate the patient and his or her relative, by giving information about each intervention. One study (Rochette et al., 2007) describes that support from the family and relatives have a central role in the rehabilitation of stroke patients, and that information, education and support should be given to the relatives. Holmqvist et al. (2014) found in a online questionnaire study that eighty-four per cent of the four hundred and five included occupational therapists, expressed that they felt that rehabilitation are dependent on relatives. For example, some of the occupational therapists in their study, replied that collaboration with relatives are partly done by giving information to relatives and discussing with relatives how to support a patient. The feeling that rehabilitation is dependent on relatives may be shared by the occupational therapists included in this study, because they express the educating role to a great extent. For example, one participant expressed that the most important role in occupational therapy is to educate relatives. The educating role was also identified in the observations, which supports the expressions from
the occupational therapists.

Two of the included occupational therapists have the main responsibility for stroke patients, which may have affected the result of this study. For example, during the interviews, the more experienced occupational therapists gave more detailed replies in the step evaluation, than the other two. The authors discussed whether the result had been broader and deeper if all four occupational therapists worked with stroke patients, to the same extent. Thus, the aim of this study was to describe the occupational therapy process for stroke patients at a clinic in Thailand, and in this department the distribution of work is organized in the described way, and therefore give a real picture of how the process for stroke patients is conducted.

**CONCLUSION**

The result shows that the occupational therapy process is followed and that it is influenced by environmental factors. The conclusion is that the occupational therapy process for stroke patients in Thailand does not differ from many other countries regarding how they work with stroke rehabilitation.

Further research about how occupational therapy is conducted in Thailand is needed. This study describes the occupational therapy process for stroke patients at one department. To get a wider picture of occupational therapy for stroke patients in Thailand, the authors suggest that studies on more departments should be conducted. Comparative studies about occupational therapy for stroke patients can be made and will contribute to an exchange of knowledge between different countries.
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Appendix 1

Interview guide

Background
Age: _____
How did you become an OT?
Working experience (years): ______
Study location: ____________________

Warming up
Can you tell us about this hospital?
Can you tell us about your work here?

Investigation
Can you describe the stroke patients’ needs when they are coming to the OT department?
Can you describe how the investigation of stroke patients is conducted?
Do you use any specific methods or instruments during the investigation of stroke patients?
Can you describe how goal setting is done for stroke patients?

Intervention
Can you describe what treatments you use in your work with stroke patients?
Can you describe how the treatment is conducted?
How do you think about your OT role during the treatment?

Evaluation
Do you evaluate your stroke patients?
Can you describe how the evaluation is conducted?
Do you have any thoughts about how the evaluation is conducted?
Do you use any specific methods or instruments during the evaluation of stroke patients?
After how long time in rehabilitation do you evaluate your stroke patients?

Environment
Can you describe your thoughts about the environment at the OT department?
Do you think the environment is important in the treatment of stroke patients?
At the department, what do you think is good and working?
Things to be improved?
Observation protocol

Stroke background

Investigation – how is the investigation conducted?

Intervention – what interventions? How are the interventions conducted?
Evaluation – how is the evaluation conducted?

Environment – how does the environment look like?

Questions to the occupational therapist after the observation
### Evaluation of occupational therapy form (neurological conditions)

#### 1. Activities of daily living
- Lack of ADL
- Eating
- Self-care (toileting)
- Bathing
- Grooming

#### 2. Hand function
- Hand function
- Fine motor
- Prehensile function
- ADL activities
- Home management
- Instrumental activities

#### 3. Communication

#### 4. Hand function

#### 5. Sensory Function
- Tactile
- Proprioception
- Temperature

#### 6. Cognition
- Memory
- Attention

#### 7. Communication
- Speech
- Language

#### 8. Olfaction / Smell function

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### Appendix 3

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**Note:** The form includes various sections for evaluating different aspects of occupational therapy, including activities of daily living, hand function, communication, and sensory function. The form is designed to help therapists assess the needs and progress of clients with neurological conditions.
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