

Alexi Varjola

**PATIENTS' EXPERIENCES AND ATTITUDES TOWARDS ECT
TREATMENT**

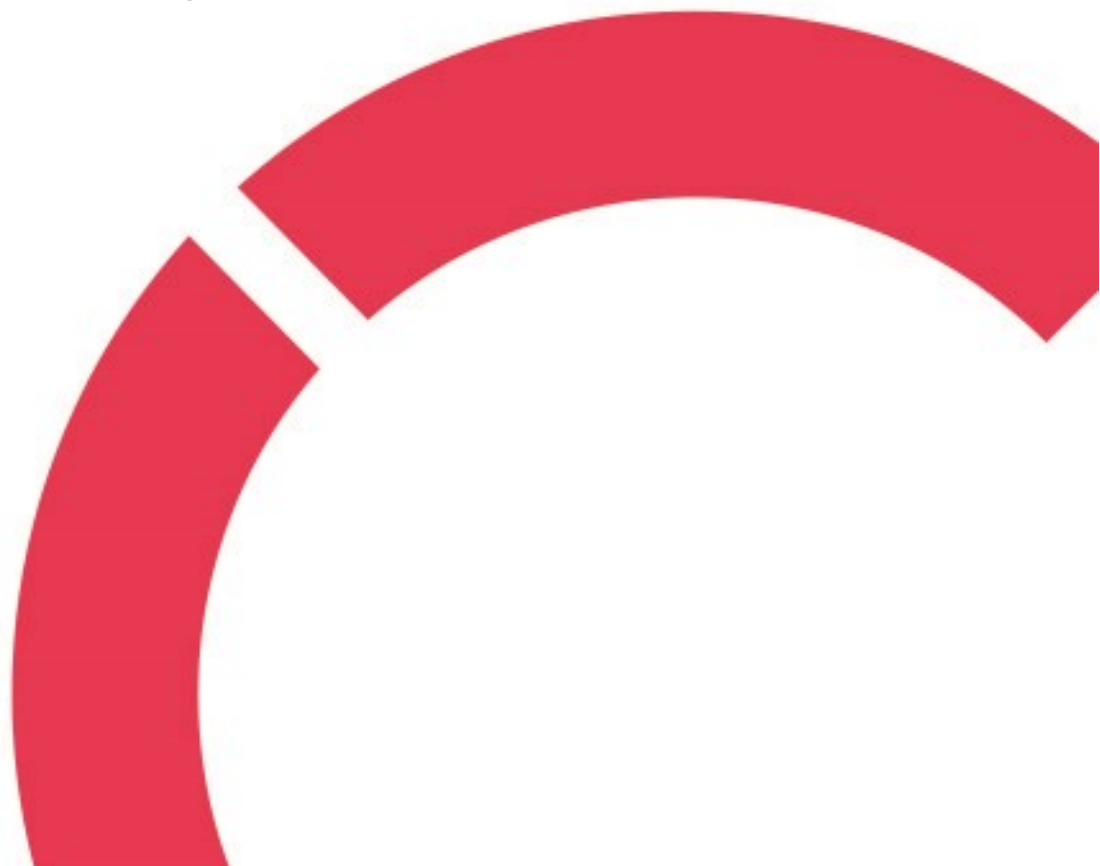
A descriptive literature review

Thesis

CENTRIA UNIVERSITY OF APPLIED SCIENCES

Bachelor of Health Care, Nursing

April 2023



ABSTRACT

Centria University of Applied Sciences	Date April 2023	Author Aleksi Varjola
Degree programme Bachelor of Health Care, Nursing		
Name of thesis PATIENTS' EXPERIENCES AND ATTITUDES TOWARDS ECT TREATMENT. A descriptive literature review.		
Centria supervisor Hanna-Mari Pesonen	Pages 53	
<p>Electroconvulsive treatment (ECT) is a procedure that is performed while under general anesthesia, in which tiny electric currents are transmitted to the brain, purposefully causing a short-term seizure. ECT appears to alter brain chemistry that can rapidly alleviate the symptoms of many psychiatric disorders, such as depression, schizophrenia, and bipolar disorder. In severe cases, ECT can be more effective and respond faster than medications. ECT can be a valuable treatment option when other therapies have failed.</p> <p>The purpose of this thesis is to map out and analyze patients' experiences, attitudes, and recommendations toward ECT treatment. Moreover, the aim of this thesis is to provide beneficial information that can be utilized in the Nursing degree program, particularly in mental health education. Provided data can benefit nursing students if they choose to work in the mental health field in the future. A thesis can also be used as a general handbook for ECT treatment.</p> <p>This thesis was done by a descriptive literature review, which studies already published research data. The data was gathered from two international databases: Academic search complete and Cinahl. Ten (n=10) articles were chosen from these databases for the analysis phase, which was conducted by content analysis. Three articles were qualitative, and seven were quantitative. In analyze phase, data was categorized into positive and negative experiences. In addition, patients' attitudes were categorized into positive attitudes and factors that impact attitudes. Finally, recommendations were categorized into recommendations to improve patients' experiences towards ECT treatment.</p> <p>According to the study results, most patients described ECT treatment as more rapid-acting and effective than medications. Overall, ECT presented itself as a life-saving and beneficial treatment. Also, most patients had positive attitudes towards it because they were ready to repeat the treatment if necessary. Moreover, factors that influence patients' attitudes are past experiences, knowledge, and information sources. Most common and feared negative experience was memory impairment. Other adverse experiences were anesthesia-related side effects such as nausea, vomiting, muscle pain, and headache. Patients recommended improvements for patient education which consisted of the flow of information and communication skills during all phases of ECT treatment. Overall, study results indicate that ECT's treatment benefits outweighed the disadvantages. Therefore, ECT can be seen as a recommended and effective treatment for severe psychiatric disorders, especially when a fast response is required. As a result, it is relevant to mention this treatment option in mental health education.</p>		
<p>Key words Attitudes, ECT treatment, Mental health nursing, Recommendations, Experiences</p>		

ABSTRACT

CONTENTS

1 INTRODUCTION.....	1
2 MENTAL HEALTH NURSING	3
2.1 Mental health nursing	3
2.2 Biological treatments	4
2.2.1 Pharmacotherapy	4
2.2.2 Bright light treatment.....	4
2.2.3 Transcranial magnetic stimulation (TMS).....	5
3 ELECTROCONVULSIVE (ECT) TREATMENT.....	6
3.1 Historical background.....	6
3.2 Mechanism of action	7
3.3 The main indications for ECT-treatment.....	7
3.3.1 Depression and psychotic depression.....	8
3.3.2 Catatonia	9
3.3.3 Bipolar disorder	9
3.3.4 Schizophrenia.....	10
3.3.5 Parkinson's disease and epilepsy	10
3.4 Practical implementation and nurse's role in the ECT treatment.....	11
3.5 ECT electrode placements	13
3.6 Contraindications	14
3.7 Medical risks and side effects	15
3.8 Safeness of ECT treatment	16
4 PURPOSE, OBJECTIVES AND RESEARCH QUESTIONS	17
5 METHODOLOGY	18
5.1 Descriptive literature review.....	18
5.2 Database intake criteria.....	19
5.3 Database search.....	20
5.4 Data analysis.....	22
6 RESULTS	28
6.1 General information about the study articles.....	28
6.2 Patients' experiences towards ECT treatment.....	29
6.2.1 Negative experiences.....	29
6.2.2 Positive experiences	32
6.3 Patients' attitudes towards ECT treatment.....	34
6.4 Patients' recommendations for improving the ECT treatment.....	36
7 ETHICAL ISSUES AND TRUSTWORTHINESS.....	39
7.1 Ethical principles for research and science	39
7.2 Reliability and trustworthiness.....	40
8 DISCUSSION	42
8.1 Discussions of results.....	42

8.2 Learning process and professional growth	44
REFERENCES.....	46

1 INTRODUCTION

Electroconvulsive treatment (ECT) is a procedure that is performed while under general anesthesia, in which tiny electric currents are transmitted to the brain, purposefully causing a short-term seizure. ECT appears to alter brain chemistry, which can rapidly alleviate the symptoms of many psychiatric disorders, such as depression, schizophrenia, and catatonia. (Partonen, Raaska, Kampman & Lönnqvist 2021, 1; Mayo Clinic 2018a.) Rasmussen (2019) explained the ECT term by stating that "electro" refers to the use of electrical stimulus, "convulsive" means induction of a convulsion, and "therapy" means it is done to treat mental illnesses. (Rasmussen 2019, 1.) The main reason why ECT is being used today is that it's highly effective and provides faster response compared to medication. Therefore, it can even be a lifesaving treatment for patients who are suffering from severe suicidal or psychotic symptoms. (Partonen et al 2021, 1–2; Rasmussen 2019, 2.) Also, when medications are not tolerated or other types of therapy have failed, ECT may be a viable therapeutic option. (Mayo Clinic 2018a.) ECT is classified as a biological treatment, and it aims to affect an individual's body. Other examples of biological treatment are medication, light, and transcranial magnetic stimulation therapies (TMS). (Mielenterveystalo 2023a; Mielenterveystalo 2023b.) This thesis only studies ECT treatment.

The purpose of this thesis is to map and analyze patients' experiences, attitudes, and recommendations toward ECT treatment. Moreover, the aim of this thesis is to provide beneficial information that can be utilized in the Nursing degree program, especially in mental health education. Nursing students may find the information provided helpful, especially if they decide to pursue a career in mental health. Also, this thesis can also be used as a general handbook for ECT treatment. The research process and data will be conducted with a descriptive literature review, and patient experiences, attitudes, and recommendations will be analyzed using content analysis.

Studying patients' experiences and feedback is relevant because it is patient-centered and provides information that can be utilized to develop and evaluate the treatment, personnel staff, working environment, and devices for better direction. This approach highlights the patients' points of view and perspectives. All these factors can be used to promote patient satisfaction, comfort, and safety. A patient-centered approach is also essential because evidence-based practice in nursing is not only based on the best available evidence-based data, but it also highlights patients' individual needs and expectations. (Hotus 2023.) Furthermore, the law dictates that patients have the right to proper treatment, taking into account their personal needs and autonomy. (Finlex 2023.)

This study is also vital because, in modern psychiatry, ECT treatment has established itself as one of the leading treatments for severe psychiatric disorders, such as depression. (Partonen et al 2021, 1; Rasmussen 2019, 2.) Depression is one of the significant causes of disability pension in Finland because it impairs the ability to function and work. (Masennus 2021; THL 2021.) Therefore, from Finland's national perspective, it is vital to research mental health interventions to treat depression.

In the last twelve years, several bachelor-level studies regarding ECT treatment have been published to theseus.fi website. By typing "Sähköhoito" and using the following limiters: "hoitotyö" and "AMK-opinnäytetyö" the site gave a total of 169 results. By manual search, the author found 16 different ECT-related theses between 2011 and 2022. (Theseus 2023.) Of these 16 studies, only the following three focused on patients' experiences: Marttila (2022), Martikainen, Mielonen & Palm (2021) & Tolonen, Pälvimäki & Kynkäänniemi (2016). Both Martikainen et al (2021) and Tolonen et al (2016) were quantitatively done by questionnaires, and Marttila (2022) conducted by literature review. All these theses brought up patients' negative and positive experiences. In brief, in these studies, ECT was primarily viewed as an effective and beneficial treatment, and the most common adverse experiences were associated with different levels of memory impairments. (Marttila 2022; Martikainen, Mielonen & Palm 2021; Tolonen, Pälvimäki & Kynkäänniemi 2016.)

Other ECT theses can be categorized as: "ECT as a psychiatric treatment for adolescence patients" by Tanaka (2020) and Barinova (2018). "Nurses' experiences towards ECT treatment" by Elomaa, Ilvesaho & Okka (2019). The most prevalent theme was "ECT treatment guidance for patients, relatives, and staff members" by Polkela (2019), Vierikko (2018), Miettinen, Mykkänen & Ruotsalainen (2016), Larsson & Nyström (2015), Patala & Oinonen (2014), Oksa, Koret & Salminen (2014), Honkala & Määttä (2013), Tolonen & Tuomola (2013), Potapova & Alonen (2012) and Martti & Pylväs (2011).

2 MENTAL HEALTH NURSING

ECT is used for psychiatric patients, so it is relevant to holistically comprehend mental health nursing. This chapter explores mental health nursing and its different treatment indications, such as biological and psychosocial interventions.

2.1 Mental health nursing

Mental health nursing, often referred to as psychiatric nursing, is a specialist branch of nursing practice that involves the care of patients suffering from a mental health illness to assist them in recovering and enhancing their quality of life. These mental health disorders include anxiety, depression, bipolar disorder, PTSD, and schizophrenia. (Joyce 2022.) Mental health nurses are knowledgeable about evaluating and treating mental diseases, allowing them to provide specialized care. They collaborate with other medical professionals to get the best clinical results for the patient. People of any age, ethnicity, or socioeconomic level can be affected by mental illness. Consequently, a mental health nurse may work with people from different backgrounds. (Smith 2019.)

In general, mental health nursing means providing psychosocial support by using cooperative methods: presence, discussion, listening, instruction, and doing things together. For example, being present means a nurse is genuinely interested in the patient. The patient may feel that the nurse is individually assigned only for them. Presence also means having a leisurely atmosphere. Moreover, being present signals that a nurse and the patient are equal. Listening to the patient helps a nurse clarify the patient's feelings, emotions, and symptoms, which can be used for the patient's treatment plan. In discussion with the patient, the nurse should keep eye contact and call the patient by name. Doing these two things makes patients feel that they are being individually treated and enhances the nurse-patient relationship. The nurse should lead the discussion based on treatment plans and goals. Also, the nurse can ask open and specific questions, which help to gather new information about the patient. Doing things together can mean that a nurse and the patient play sports, video games, listen to music, or do together any activities that the patient prefers. Doing things together is relevant in mental health nursing because it enhances patients' communication and cooperation skills. Also, it can alleviate stress and bring positive feelings to the patient. (Kuhanen & Kanerva 2017, 151–158.)

2.2 Biological treatments

Pharmaceutical treatments, ECT (electroconvulsive therapy), bright light treatment, and TMS (transcranial magnetic stimulation) are all treatments for mental diseases that try to modify physiological functioning. These are also known as biological treatments. (Mielenterveystalo 2023a; Mielenterveystalo 2023b; APA 2022.) ECT will be addressed in the third chapter.

2.2.1 Pharmacotherapy

Drug treatment is frequently an essential aspect of treating mental health problems, and its role in the total treatment grows directly proportional to the severity of the mental health disorder. Medicines attempt to treat various psychological problems, such as difficulty falling asleep, anxiety, or depression. Their action methods are connected to, for example, normalizing the aberrant activity of brain neurotransmitters. Appropriate drug therapy can abbreviate illness episodes, help to avoid recurrence and chronicity, and considerably reduce human suffering. The drugs used to treat mental illness include mood stabilizers, antidepressants, antipsychotics, sleeping pills, and sedatives. (Mielenterveystalo 2023c; NIH 2022a.)

The advantages of medication therapy frequently surface later, sometimes just days or weeks later, but the negative effects manifest sooner. There is a challenge to finding the right psychiatric medicine because different drugs work differently for different people, and some have adverse effects while others do not. Therefore, a patient may need to search for an appropriate dose for some time or even change the medication. Finding the proper drug can significantly impact symptom alleviation, functional capacity improvement, and, as a result, quality of life. It is also possible that the symptoms can reoccur after discontinuing the medicine, in which case the requirement for medication will be long-term. (Mielenterveystalo 2023c.)

2.2.2 Bright light treatment

The bright light treatment uses artificial light that is visible to the eyes. When using bright light treatment equipment (with a bright light bulb), the patient must sit near enough to the device for the light to be therapeutical. The patient receives bright light treatment for 30-60 minutes, keeping eyes open, but

direct eye contact must be avoided. (Partonen 2022.) Bright light treatment is mostly used in the treatment of seasonal depression. Depression triggered by seasonal changes is also called seasonal affective disorder (SAD). It is caused by the changing of seasons and usually begins in late October. Sadness, lack of energy, and loss of interest in typical activities are typical symptoms. (Cleveland Clinic 2022a.) Bright light treatment has been shown to improve symptoms by activating the brain's blood circulation and neurotransmitters. (Mielenterveystalo 2023b.) Since seasonal depression can recur after treatment, bright light therapy is frequently regimented. Bright light therapy has no absolute contraindications, has minor to no side effects, and can also be used in conjunction with pharmacological therapy in more severe depressions. (Partonen 2022.)

2.2.3 Transcranial magnetic stimulation (TMS)

Transcranial magnetic stimulation (TMS) is a nonsurgical method that employs electromagnetic waves to activate nerve cells in the brain to alleviate depression symptoms. Like ECT, TMS is usually utilized after other depression therapies have failed. Because this treatment for depression contains the delivery of recurrent magnetic pulses, it is known as repetitive TMS or rTMS. An electromagnetic coil is applied on the patient's scalp near the forehead during an rTMS session. The electromagnet gently provides a magnetic pulse that activates nerve cells in the patient's brain's mood regulation and depression area. It is considered to stimulate brain areas that have diminished activity in depression. However, just like in ECT, the biochemistry of why rTMS works is not fully known; the stimulation appears to influence how the brain operates, which helps to alleviate depressive symptoms and increase mood. In general, rTMS is regarded as a safe and well-tolerated treatment. It may, however, have certain adverse effects. These side effects, such as headache, dizziness is typically mild to moderate, improve quickly after a single treatment and gradually diminish with future sessions. (Mayo Clinic 2018b.)

3 ELECTROCONVULSIVE (ECT) TREATMENT

This chapter explicates ECT therapy's history, indications, contraindications, mechanism of action, procedure phases, and side effects. The aim is to gain a comprehensive picture of ECT and to explore nursing interventions in this treatment.

3.1 Historical background

Ladislav J. Meduna, a Hungarian physician, was the first to consider using seizures as a treatment for psychiatric patients in the 1930s. In 1934 he started a clinical study to induce seizures in psychotic patients using chemical agents. These treatments were highly effective, and this method spread worldwide. Nevertheless, chemical agents were unreliable in triggering seizures and took a long time, resulting in patient distress and anxiety. (Rasmussen 2019, 3.)

Two Italian neuropsychiatric researchers, Ugo Cerletti and Luciano Bini made a ground-breaking discovery on ECT treatment. They conducted electrical inducing seizures in lab animals and developed this protocol for humans by applying an electric shock to the head. They started to utilize this method in Rome in 1938 on a catatonic patient. Their results showed that sequences of induced seizures were compelling and helped the patient to be discharged from the hospital. Within years this new electrical method replaced the chemical method as a treatment for severe psychiatric patients worldwide. Even though this was a significant development compared to the previous chemical method, serious downsides still existed. The electrical stimuli were administered to conscious patients, which was a painful and frightening experience. In addition, motor convulsions commonly cause bone fractures. (Rasmussen 2019, 3–4; Heikman, Niemi-Murola & Rosenberg 2006, 28.)

In 1940, curare was introduced as the first muscle relaxant agent during the treatment, but it was replaced by succinylcholine in 1951. (Partonen et al 2021, 1.) One year later, the use of anesthetic agents to achieve unconsciousness, followed by paralytic agents to block motor movements, was developed, and these same principles are being followed to this day. These factors dramatically increased the patient's safety and comfort during ECT treatment. (Rasmussen 2019, 3–4.) In Finland, the use of ECT has remained stable since the 1980s (Partonen et al. 2021, 1). For instance, Aurora hospital in Helsinki

takes charge of about 2000 ECT-treatment per year. The number of treatments in Finland is estimated to be between 10 000 and 20 000 annually. (MTV 2017.)

3.2 Mechanism of action

The development of a widespread clonic seizure is the primary mechanism of action in electroconvulsive treatment (ECT). Introducing an electric current to the patient's brain via electrodes on the patient's head causes this generalized seizure. (Mandal 2019; Rasmussen 2019, 1.) To be successful, ECT must elicit a general convulsion that lasts 25-150 seconds. This necessitates a huge enough quantity of energy to create a widespread convulsion. Electrical currents govern the neurological system, and interrupting those currents with an induced seizure is therapeutic in individuals with severe psychiatric disorders. (Partonen et al 2021, 1.)

It is unclear how the induced convulsion does this, and various animal models have been explored to unravel the underlying mechanism of the therapy's effects. Regardless of the apparent parallels between human and animal brains, many people question the translational utility of this research in comprehending depression in people. (Mandal 2019; Rasmussen 2019, 5–6.) Among the hypotheses emerging from animal studies on the mechanism of ECT is that ECT increases the levels of brain-derived neurotrophic factor (BDNF) and vascular endothelial growth factor (VEGF) in the hippocampal area of the brain, according to murine research. BDNF and VEGF levels in the blood have been shown to stimulate hippocampus neurogenesis. Studies have also demonstrated that ECT enhances BDNF levels in patients who do not react to antidepressant medications. (Mandal 2019; Rasmussen 2019, 5–7.)

3.3 The main indications for ECT-treatment

The following subchapters contain all the main indications for ECT treatment which contain depression, catatonia, bipolar disorder, schizophrenia, Parkinson's disease, and epilepsy.

3.3.1 Depression and psychotic depression

Depression (major depressive disorder) is a worldwide medical condition that harms individuals' functional capacity. It is believed that 5% of people globally suffer from depression; in Finland, it is one of the main reasons for disability pensions. (Petäinen 2022; WHO 2021; APA 2020.) Depression creates melancholy and a loss of interest in previously appreciated activities. It can cause several mental and physical difficulties and reduce the patient's capacity to operate at work and in daily life. For a depression diagnosis, symptoms must continue at least two weeks and show a change in the person's previous level of functionality. (Käypä hoito 2021; APA 2020.) Depression can be divided into mild, moderate, and severe depression (Beyond Blue 2023). Primarily, ECT is used for severe depression in which the patient is suicidal or psychotic and has not reacted to medication. (Mielenterveystalo 2023d; TABLE 1.)

In psychotic depression, patients suffer from delusions and hallucinations. Delusions are untrue ideas or beliefs. During a hallucination, a person sees, hears, tastes, smells, or feels things that do not exist. Psychomotor agitation is another prevalent symptom. This includes being unable to relax or sit still and the patient is frequently moving. A patient suffering from psychotic depression may have psychomotor retardation, in which their thinking and physical motions slow down. Suicidal ideation is more common in psychotic depression than in severe depression. (Health line 2021; NHS 2019.)

The most substantial research evidence for using ECT treatment is in severe and in psychotic depression. Furthermore, thus, ECT is used to treat depressive disorders in over 90% of cases. The National Institute of Health and Care Quality (NICE) recommends that ECT be considered for severe depression that is judged potentially fatal when an immediate response is necessary and if alternative therapies have failed. If the treatment is effective for the patient, then antidepressants should be begun or maintained to avoid relapse. Following ECT, more than 70% of patients experience remission of their mood disorders. (Mills & Elwood 2017, 668; TABLE 1; TABLE 2.) Mielenterveystalo (2023d) and KSSHP (2022) stated that 80 % of patients suffering from depression with psychotic symptoms benefit from ECT treatment. (Mielenterveystalo 2023d; KSSHP 2022.)

3.3.2 Catatonia

Catatonia is a neuropsychiatric syndrome, in which the patient's normal reactions to external stimuli and voluntary movements are abnormally low or absent, but muscle tension and posture are maintained. Catatonia impairs a person's ability to move normally. The most prevalent symptom of catatonia is stupor. (Partonen et al 2021, 2; Health line 2020; TABLE 1.) Stupor is a mental disorder characterized by the absence of spontaneous movement, significantly reduced reactivity to stimulus, and often compromised awareness. (Merriam-Webster 2022.) Catatonia can last from a few hours to weeks, months, or years. It might return regularly for weeks or years following the actual event. Psychotic, depressive, and bipolar disorders can cause catatonia. (Health line 2020.) Generally, ECT is an effective treatment option for catatonia. ECT can be used as a first therapy or, more typically, when benzodiazepines are ineffective. Due to the seriousness of catatonic symptoms, more potent types of ECT, for example, bilateral electrode insertion at moderate-to-high dosages, may be preferable. (Kellner, Obbels & Sienart 2020, 307; TABLE 2.)

3.3.3 Bipolar disorder

Bipolar disorder is a lifelong mood disorder that alters a person's mood, energy level, and capacity to function. Bipolar contains extreme emotional states that often recur for days to weeks, referred to as mood episodes. These mood swings are classified as manic/hypomanic (excessively cheerful or irritated mood) or depression (sad mood). People with bipolar frequently have periods of neutral mood. With proper treatment, it is possible to live a normal life. (Cleveland Clinic 2022b; APA 2021.) Mania causes dramatic changes in emotions, cognition, energy, extroversion, and activity levels. This large degree of physical and mental activity is out of character for the person and is apparent to others. (Cleveland Clinic 2022.)

ECT treats recurrent mania because it provides mood-stabilizing and antidepressant benefits. It is usually reserved for individuals whose pharmaceutical combinations have failed to treat their symptoms satisfactorily. Because most manic episodes may be adequately managed with drugs, ECT is rarely used. Delirious mania, a particularly extreme and potentially deadly type known as 'catatonic excitement,' may be deemed a medical emergency requiring ECT. (Partonen et al 2021, 2; Kellner et al. 2020, 306; TABLE 1.)

3.3.4 Schizophrenia

Schizophrenia is a mental condition in which people have an aberrant interpretation of reality. Schizophrenia can include hallucinations, delusions, and profoundly disturbed thoughts and behaviours that interfere with everyday functioning and can be debilitating. (WHO 2022.) Schizophrenia requires a lifetime of treatment. Schizophrenia symptoms can be divided into positive and negative symptoms. (Mayo Clinic 2020.) Positive symptoms have an impact on an individual's thoughts and actions. These symptoms involve hallucinations, delusions, ergo, seeing and hearing things that are not there. Unusual or unexplainable behavioural shifts. (Medical News Today 2021.) Negative symptoms refer to a diminished or non-existent capacity to perform daily activities. For example, a person cannot take care of personal hygiene, looks emotionless, lacks eye contact and facial impressions, or speaks monotonously. (Mayo Clinic 2020.) ECT addresses acute psychotic disease exacerbations and primarily positive symptoms; it has limited effect on negative symptoms. (Kellner et al. 2020, 306; TABLE 1.) In addition, in studies, ECT is beneficial in treatment-resistant schizophrenia. APA (2021) states that using medicine in addition to ECT may improve its effectiveness. Overall, further studies are needed to determine when ECT is most likely successful in treating schizophrenia. (APA 2021.)

3.3.5 Parkinson's disease and epilepsy

Parkinson's disease is a neurological ailment that produces unintentional or uncontrolled movements such as shivering, rigidity, and difficulties with coordination and balance. (NIH 2022b.). Significant clinical data suggests that ECT improves the core motor and psychological symptoms of Parkinson's disease. It is typically used to treat comorbid depression. To maintain the motor advantages of ECT in Parkinson's disease, maintenance of ECT is essential. (Kellner et al. 2020, 307.)

Epilepsy is a neurological condition defined by recurrent, spontaneous seizures (Epilepsy foundation 2022). A seizure is recognized by aberrant electrical activity in the brain, which affects the mind and body. Status epilepticus is a seizure that lasts over 5 minutes. (John Hopkins Medicine 2022.) ECT has been used to treat severe, treatment-resistant status epilepticus based on the idea that an induced, 'superimposed' seizure might disrupt continuing seizure activity. Unfortunately, the improvement may be transient depending on the condition's etiology and the extent of underlying brain damage. It is seldom used in this context and only as a last solution in desperate situations. (Kellner et al. 2020, 307.) Table

1 summarizes ECT's main indications and table 2 the reasons for maintenance treatment. (TABLE 1; TABLE 2.)

TABLE 1. Summary on the main indications of ECT (Adapted from Partonen et al. 2021, 2)

Main indications for ECT-treatment	
Severe depression	<ul style="list-style-type: none"> • Medication is not effective nor suitable. • Psychotic symptoms. • Catatonic symptoms (depressive stupor-state). • Direct risk of suicide or danger to others. • Severe psychomotor symptoms.
Mania	<ul style="list-style-type: none"> • Medication is not suitable. • Catatonic symptoms.
Schizophrenia	<ul style="list-style-type: none"> • Acute severe positive or catatonic symptoms. • mood symptoms.
Other(s)	<ul style="list-style-type: none"> • Catatonia (neurological diseases). • Drug-resistant neuroleptic malignant syndrome.

TABLE 2. Main reasons to continue ECT treatment (Adapted from Partonen et al 2021, 2)

Main reasons to continue ECT-treatment
<ol style="list-style-type: none"> 1. Symptoms reappear soon after ECT- treatment has ended. 2. Symptoms reappear despite medication. 3. Medication is not appropriate for further treatment. 4. Previously ECT produced better response than medication.

3.4 Practical implementation and nurse's role in the ECT treatment

On average, the length of the ECT treatment series is 6-12 times, and it's given 2-3 times per week. Sometimes it is necessary to conduct maintenance treatment based on individual needs. ECT treatment is usually in conjunction with psychiatric hospitalization, but polyclinic treatment is also an option. A

nurse guides an outpatient to the ECT treatment place, which is usually done in a post anesthesia care unit (PACU), and afterward guides the patient back to the hospital's main entrance when the patient is medically fit to leave the hospital. The same protocol also follows in a ward; a nurse escorts the patient to the PACU and back to the psychiatric ward. (KSSHP 2022.) Registered nurses with additional studies can become ECT-nurse and therefore be responsible for giving an electric shock to the patient's skull. In other terms, ECT-nurse is qualified to do a doctor's task. (KSSHP 2022; Rasmussen 2019, 2.) Next, the preferred pre-studies and factors before, during, and after the treatment are examined.

Recommended studies before ECT for basic healthy under 65-year-old patients include a cardiac electrocardiogram (ECG), thorax X-ray, Complete blood count, middle urine strip screening, and serum electrolytes. Prescribed medications should be studied due to the risk of synergy. If a patient is over 65 years old or has chronic obstructive pulmonary disease (COPD), diabetes, liver, pancreas, or other diseases, additional studies are needed. (Partonen et al. 2021, 3; Leppämäki. 2020, 2.)

Before the procedure, because of anesthesia, the patient should not consume food for at least six hours and not drink liquids for at least four hours. (Tays 2020, 1–2.) In the morning, patients can take inhaled medicines for asthma and COPD and long-acting insulin. Medicines for cardiovascular diseases and thyroxine can be taken with a small amount of water two hours before, and all other medicines are taken after the procedure. (KSSHP 2020.) Regarding medications, it is worth mentioning that lithium should be gradually decreased before the ECT treatment because it lowers the seizure threshold and can increase the risk of prolonged seizures and confusion. (Leppämäki 2020, 3.) Hair should be washed the night before. All jewellery, body piercing, makeup, contact lenses, and dentures should be removed. (KSSHP 2022.) The ward nurse must fulfil the anesthesia form regarding the ECT treatment. It contains information about the patient's recent vitals, morning medication, and medicine list; all these are relevant information for the anesthesia procedure. (Komulainen 2009, 45–46.)

During the procedure, firstly, an anesthesia doctor inserts a cannula, and he/she administers anesthesia via IV to achieve an unconscious state that the patient would not feel the electrical stimulus. (Rasmussen 2019, 2.) Commonly used anesthesia drugs are methohexital and propofol (Leppämäki 2020, 4). Then the anesthesia doctor gives, via IV, muscle-paralyzing medication such as sucolin to prevent limbs from shaking during the seizure, which also minimizes the risk of bone fractures. (Leppämäki 2020, 4; Rasmussen 2019, 2.) The patient is unable to breathe because of anesthetic medication, so, therefore, oxygen is provided through a mask with bag ventilation by an anesthesia nurse. Heart rate, blood pressure, heart rhythm, and oxygen levels are monitored throughout the procedure. ECT-nurse

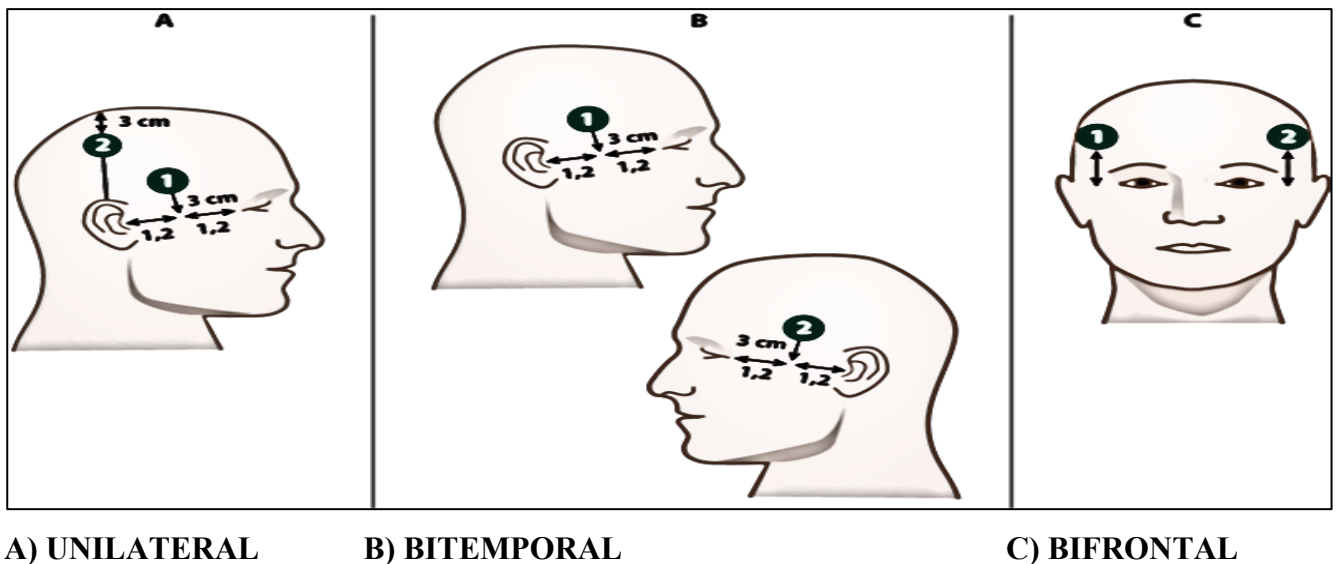
or a doctor puts electrodes in the patient's head and inserts electroshocks into the skull. (SHRM 2023; Rasmussen 2019, 2.) The treatment process lasts about 20 minutes (TAYS 2020, 1).

After the procedure, anesthetics still affect the body for several hours. Therefore, the patient is monitored in the post-anesthesia care unit (PACU) until vital signs and consciousness levels are back to normal. From PACU, a patient can be sent back to the hospital ward or home in the case of an inpatient. (KSSHP 2022; Rasmussen 2019, 2.) Sleepiness and decreased physical ability can occur; thus, physical activity should be avoided. Driving a vehicle and sauna is prohibited, but a patient can live normally. (TAYS 2020, 2.)

3.5 ECT electrode placements

In current ECT practice, there are three types of electrode placements. In unilateral, both electrodes are applied on one side of the head, whereas in bilateral, electrodes are put on both sides. Different variations are used in those described above. One form of bilateral is called bitemporal, whereby each electrode is placed in the temporal fossa, about 3 centimeters above the halfway point between the outer canthus of the eye and the tragus of the ear on each side. In the bifrontal placement, the electrodes are located on the forehead. (Leppämäki 2020, 4; Rasmussen 2019, 106–108.)

Generally, the most used approaches are bitemporal (BT) and right unilateral (RUL). Bitemporal is used in severe psychotic and suicidal cases requiring rapid response. Otherwise, BT is used if a patient does not get a response to 6-10 RUL treatments. In other words, RUL is usually the preferred approach because of its minor cognitive impairments compared to BT. (Partonen et al 2021, 4; Leppämäki 2020, 4.) Partonen et al (2021) and Rasmussen (2019) highlights the principle that only RUL placement should be used in the unilateral approach. The reasoning is that in most people, even left-handed, the left hemisphere is foremost for language skills. Therefore, left-side stimulation should be avoided to minimize language-based memory impairment. (Partonen et al. 2021, 4; Rasmussen. 2019, 106.)



PICTURE 1. Placing of the electrodes (Adapted from Partonen et al. 2021, 4)

3.6 Contraindications

A contraindication is a specific circumstance in which a medicine, operation, or surgery should not be used because it may be hazardous to the patient. Contraindications are classified into two types: relative and absolute contraindication. An absolute contraindication treatment or drug might result in a life-threatening condition and must be avoided. Taking the medicine isotretinoin during pregnancy is an example of an absolute contraindication since it can cause birth abnormalities, miscarriages, and premature newborns. (Drugs 2021; Medline plus 2021.) A relative contraindication procedure or drug should be utilized with prudence. Taking a new medicine that may interact with an existing drug is an example of a relative contraindication. (Drugs 2021; Medline plus 2021.)

Most sources agree that there are no absolute contraindications for ECT treatment (Mills & Elwood 2017, 668; Heikman, Niemi-Murola & Rosenberg 2006, 28–29; Heikman 2004; TABLE 3). However, Leppämäki (2020) states that intracranial pressure is an absolute contraindication. (Leppämäki 2020, 1.) The following table 3 lists absolute and relative contraindications of ECT (TABLE 3).

TABLE 3. Absolute and relative contraindications of ECT-treatment (Adapted from Partonen et al 2021, 3)

ABSOLUTE CONTRAINDICATIONS
None.
RELATIVE CONTRAINDICATIONS
Brain tumor or other type of growing damage in the brain.
Increasing intracranial pressure.
Recent (<1month) cerebral hemorrhage.
Recent (<3month) myocardial infarction.
Cerebrovascular aneurysms.
Hypertension.

3.7 Medical risks and side effects

Like any other medical intervention, ECT has risks and side effects. (Kellner et al 2020, 310.) Side effects, often known as adverse responses, are undesired outcomes that may come from medicines or procedures. (FDA 2022.) Generally, ECT side effects are transient and non-serious and are partly due to anesthetics. Following therapy, over half of the patients have headaches or muscular pains. In most cases, simple analgesia is enough to treat them. (Kellner et al 2020, 310; Leppämäki 2020, 3.) Anesthetic-related side effects such as nausea, confusion, and vomiting occur in around 5 %- 10 % of patients. This prevalence is typical with anesthetic side effects for any cause and is not unique to ECT. (Partonen et al 2021, 3; Mills & Elwood 2017, 668.)

The cardiovascular system is subjected to a significant temporary burden because of ECT. However, cardiac, and neurological problems during or after ECT are sporadic. There are few case reports in which a stroke happened due to ECT. The more typical issue is post-seizure arrhythmias, which are usually benign and temporary. Patient with basic health tolerates these issues well. (Leppämäki 2020, 3.)

Approximately 75 % of patients suffer from memory impairments (Partonen et al. 2021, 3). This factor remains a concern and therefore requires further studies (Mills & Elwood 2017, 668). Anterograde amnesia, a transitory functional memory loss that makes it more difficult to remember new knowledge, may worsen during ECT. It goes away within a week or two of finishing the acute course of ECT and is the reason for the ban on driving, undertaking cognitively demanding activities, or making significant life or financial decisions. (Kellner et al. 2020, 310; Mills & Elwood 2017, 668.)

Retrograde amnesia refers to the loss of memories and is the cognitive consequence that patients and physicians are most worried about. (Leppämäki 2020, 3; Kellner et al. 2020, 310.) Generally, bilateral implementation and prolonged ECT treatment increase the odds of this occurring. Recent events, particularly those during the ECT treatment, are most likely to be forgotten. Poor memory loss can develop, going back months or, in rare cases, years. In most cases, retrograde amnesia heals over weeks. However, specific memories may return more slowly or never. (Kellner et al. 2020, 310.)

3.8 Safeness of ECT treatment

The previous subchapter contained the side effects, but it is good to remember that ECT is one of the safest treatments conducted under general anesthesia. (Kellner et al. 2020, 305.) Heikman (2004) study stated that the ECT-related mortality rate was four deaths per 100 000 treatments (Heikman 2004, 1223). A more recent study Tørring, Sanghani, Petrides, Kellner & Østergaard (2017) indicated that the mortality rate has dropped to 2.1 per 100 000 treatments (Tørring, Sanghani, Petrides, Kellner & Østergaard 2017). Multiple studies and meta-analyses show that most cognitive abnormalities are temporary and resolve within a few days in adults and elderly patients. Most ECT patients view the cognitive side effects as a momentary nuisance rather than a cause to reject potentially life-saving treatment. In addition, most patients will not develop cognitive adverse effects in the months after therapy, although individual variability is significant. (Kellner et al. 2020, 310.) It is worth noting that severe depression can cause memory deficits. If ECT is effective, patients recover from these impairments and frequently have a better memory than before the therapy. (Leppämäki 2020, 3.) Finally, MRI studies prove that ECT does not cause structural changes to the brain, indicating the safety of ECT treatment. (KSHP 2022; Partonen et al. 2021, 3.)

4 PURPOSE, OBJECTIVES AND RESEARCH QUESTIONS

The purpose of this thesis is to map out and analyze patients' experiences, attitudes, and recommendations toward ECT treatment. Moreover, the aim of this is to provide beneficial information that can be utilized in the Nursing degree program, particularly in mental health education. Produced information can benefit nursing students, especially if they choose to work as mental health professionals. In addition, this thesis can be used as a general handbook for ECT treatment.

Experience can be defined as "something personally encountered, undergone, or lived through" (Merriam-Webster 2023a). Attitude is a "mental position/feeling or emotion toward a fact or state" (Merriam-Webster 2023b). The reason why this thesis studies both factors is that they are linked with each other. Patients would form a positive attitude towards treatment if the experience were pleasant. Vice versa, bad treatment experience leads to negative attitudes towards the treatment. (Study and exam 2023.) Also, studying and considering patients' recommendations can give valuable information which can be used to develop the treatment to be more patient-centered.

The research questions for this thesis are:

1. What kind of experiences and attitudes did patients have with the ECT treatment?
2. What recommendations did patients make for improving the ECT treatment?

5 METHODOLOGY

This chapter explains descriptive literature review, which is the study method in this thesis. In addition, the author shows the research process, which contains database intake criteria, search, and analysis. At the end of this chapter is a table showing all ten study articles chosen for the analysis.

5.1 Descriptive literature review

Literature reviews can be defined as: descriptive, systematic, and meta-analysis (Salakari. 2020, 6; Salminen 2011, 6). This thesis is done by a descriptive review. The term review can also mean, estimation, revision, reporting, and inspection. Finkin (2005) defines this method as a systematic, accurate, and reproducible method for identifying, evaluating, and summarizing existing and already published research data from a scientific field. The review is centered on finished conclusions that have been achieved by high-standard research work. (Salakari 2020, 2–4; Salminen 2011, 3–5.)

A literature review is used to evaluate, compare, classify, and comment on relevant previous research and proportion it to the author's research. That is, it gathers the results of studies that are the basis for new research findings. The literature review can include qualitative and a combination of quantitative methods as a research technique. A literature review aims to develop an existing theory and build a new one in the same process. This method builds a holistic picture of the studied subject. (Salakari 2020, 1–5; Salminen 2011, 2–3, 5.)

The first task is formulating the research question(s) (Salminen 2011, 9). There can be one to three research questions, which should be as straightforward as possible (Johansson, Axelin, Stolt & Ääri 2007, 6). The next step is to select search phrases and databases. Thirdly is the selection of the actual study articles. A profound selection of search terms is intended to limit the search results so that the remaining material meets the research question(s). Research findings should be studied objectively. (Salminen 2011, 9–10.)

5.2 Database intake criteria

A descriptive literature review contains searched information, and criteria must be defined for this intake. The selected admission criteria make a systematic literature review possible. Selecting precise intake criteria prevents systemic errors. (Salakari 2020, 13; Salminen 2011, 10–11.) The inclusion and exclusion criteria selected for this thesis are listed in the table 4 below, and their justifications are mentioned after that. (TABLE 4.)

TABLE 4. Inclusion and exclusion criteria for the study

INCLUSION	EXCLUSION
<ul style="list-style-type: none"> • Study material focuses on patient experiences and attitudes towards ECT-treatment. 	<ul style="list-style-type: none"> • Study material does not focus on patient experiences and attitudes towards ECT-treatment
<ul style="list-style-type: none"> • qualitative and quantitative studies 	<ul style="list-style-type: none"> • Reviews
<ul style="list-style-type: none"> • Full text is available 	<ul style="list-style-type: none"> • Full text is unavailable
<ul style="list-style-type: none"> • Published between 2000 and 2022. 	<ul style="list-style-type: none"> • Published in 1999 or earlier.
<ul style="list-style-type: none"> • Peer reviewed. 	<ul style="list-style-type: none"> • Has not been peer reviewed.
<ul style="list-style-type: none"> • Original scientific publications from the databases 	<ul style="list-style-type: none"> • Opinion pieces, editorials, and publications not from the databases
<ul style="list-style-type: none"> • Studies that are published in English 	<ul style="list-style-type: none"> • Other languages

This thesis examines studies published between 2000 and 2022 because, according to Centria-Finna, ECT research has dramatically increased during this timeline. The figure 1 below demonstrates this (FIGURE 1). By typing “electroconvulsive therapy” into the international electric materials section, the database gave the following results. (Centria-Finna 2022.)

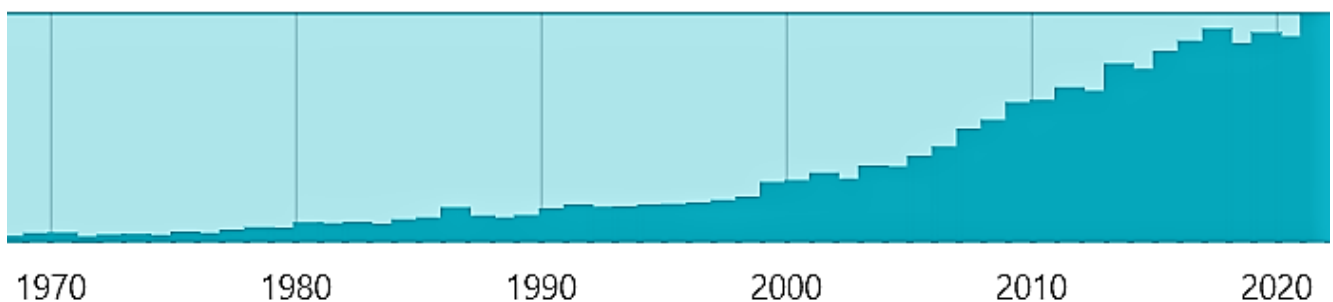


FIGURE 1. ECT research timeline according to Centria-finna (Centria-Finna 2022)

In addition, by ruling out older studies, the author can achieve newer information about the study phenomenon, which is more relevant to today's working life. Using specific search terms related to the topic makes it possible to rule out irrelevant studies for this thesis.

Peer review is intended to examine the validity and quality of research submitted for publication. The aim is to protect scientific integrity by screening out invalid or low-quality articles; thus, peer-reviewed articles are more trustworthy than non-peer-reviewed ones. (Wiley 2022.) This thesis uses exclusively original scientific publications, which are peer-reviewed, and contain evidence-based knowledge. Opinion pieces, editorials, and non-peer-reviewed studies do not possess these same attributes and therefore are excluded. Only by reading the whole text can the author achieve a comprehensive picture of the study, which limits the chances of misconceptions. More than abstracts are needed to make conclusions. Therefore, this thesis only analyses full-text articles. The chosen language is English because English is a universal language and the most used in the scientific field.

5.3 Database search

Centria University of Applied Sciences provides access to academic databases that are accessible for registered students. These databases can be found in Centria's library libguides. The international databases that are used in the thesis are Academic search complete (ASC) and Cinahl. Both databases comprise plenty of nursing, healthcare, and medical-related subjects. The author also conducted trial searches from Medline, Sage journals, and Science direct databases, but no new studies were found; thus, only ASC and Cinahl were selected.

For both databases author used an advanced search phase with identical search terms, Boolean operators, limiters, and field options. The search terms and Boolean operators were: ECT **OR** "Electroconvulsive therapy." **AND** patient* **OR** recipient*, **AND** experience* **OR** attitude*. The field option was "title," and the limiters were the following: "Peer Reviewed," "Language: English," and "Published date: 2000-2022". The Prisma figure below demonstrates all the search phases from the database search. (FIGURE 2.)

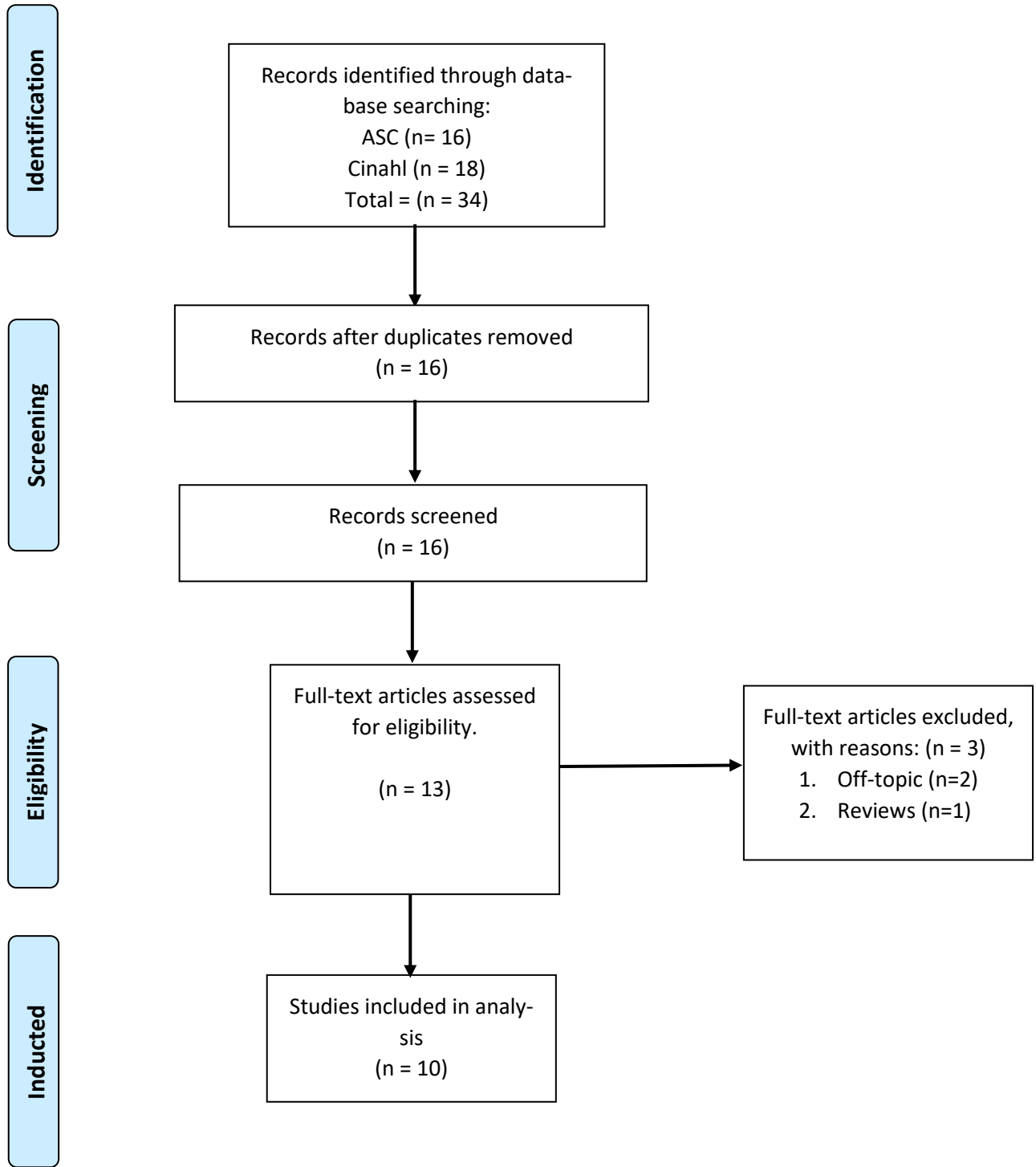


FIGURE 2. Prisma flow diagram (Adapted from Moher, Liberati, Tetzlaff & Altman 2009)

5.4 Data analysis

In this thesis, the chosen ten articles (n=10) will be analyzed by content analysis. The content analysis examines the material by categorizing, searching for similarities and differences, and summarizing the materials. Content analysis is a text analysis that looks at already textual or modified material. The examined text can be almost anything, such as books, interviews, and articles. The content analysis aims to form a summarized description of the study phenomenon. (Columbia 2021; Tuomi & Sarajärvi 2018, 105.) The table 5 below shows all the study articles (n=10) in alphabetical order, and it provides a summary of every article, containing objectives, main indications, methods, results, and conclusions. (TABLE 5.)

TABLE 5. The chosen articles for the analysis (n =10).

Authors, title & country	Objective & indications	Methods	Results	Conclusions
Coman. 2022. <i>Recipients' experience with information provision for electroconvulsive therapy (ECT)</i> . Norway.	The study examines patients' experiences with information provision about ECT. Main indications: unipolar depression, postpartum depression & bipolar disorder.	In-depth interviews were done with 21 (18 women and three men) patients (aged 21 to 65). Thematic analysis revealed major components: pre-treatment knowledge, written consent experience, the need for information depth, and life post-ECT.	Although a few participants were satisfied with the material provided, most experienced a lack of education during therapy. Their assessment was mostly centered on verbal knowledge and insufficient and inconsistent information on official health websites and media. Patients also noted a shortage of follow-up services to address (neuro)psychological problems.	Improved access to current factual and descriptive information should aid in patient education and autonomy. Improved follow-up and more diverse portrayals of ECT experience in the media and on health information websites are required to educate, enhance consent processes, and eliminate stigma.
Dan, Grover & Chakrabarti. 2014. <i>Knowledge and Attitude of Patients with Psychiatric</i>	The study intended to assess ECT knowledge and attitudes among patients with mental	Questionnaires were used to examine knowledge and attitudes about ECT among	Most participants were uninformed of the fundamentals of ECT. Relatives	Because patients and relatives have limited understanding and a negative attitude toward ECT,

<p><i>Disorders and their Relatives Toward Electroconvulsive Therapy.</i> Pakistan.</p>	<p>diseases and their family members.</p> <p>The main indications: in general, psychiatric disorders, the study didn't specify.</p>	<p>100 patients (61 men and 39 women, mean age of 37, 56 years) with mental disorders and their healthy family members.</p>	<p>were slightly better knowledgeable and more optimistic about ECT than patients, but the differences were not statistically significant. There was no significant difference in knowledge and attitude between patients who got their information from physicians (n=23) and other sources (n=77). Amongst relatives who got their information from physicians (n=27) were more knowledgeable than those who got it from different sources (n=73).</p>	<p>medical personnel should provide accurate information about the therapy to patients and relatives to promote the acceptance of this treatment.</p>
<p>Guruvaiah, Veerasamy, Naveed, Kudlur, Chaudary & Paraiso. 2017. <i>Patients' experiences of and attitudes towards ECT.</i> United Kingdom.</p>	<p>The study aimed to examine patients' and carers' attitudes and experiences regarding ECT.</p> <p>Main indications: Severe depression, bipolar disorder & Schizophrenia.</p>	<p>Interviewers contacted patients one at a time to set up appointments for face-to-face or telephone interviews. Interviewers used the questionnaire to collect experiences and attitudes. The study included 30 (28 women and two men, mean age of 62) patients.</p>	<p>Most participants said ECT was a beneficial treatment that worked faster than drugs and that they would undergo it again if necessary. The top three side-effects were memory impairment, confusion, and headache.</p>	<p>According to the findings of this study, patients and carers had favourable overall experiences and attitudes toward ECT treatment.</p>
<p>Iodice, Dunn, Rosenquist,</p>	<p>This research looked at the stability of patients'</p>	<p>At two and four weeks after treatment,</p>	<p>At both two (53%, n=34) and four weeks (52%,</p>	<p>In conclusion, recent research has</p>

<p>Hughes & McCall 2002. <i>Stability over time of patients' attitudes toward ECT.</i> USA.</p>	<p>attitudes toward ECT.</p> <p>Main indications: Major depressive order, bipolar disorder.</p>	<p>authors conducted surveys of 64 patients (41 women and 23 men, mean age of 56,7 years) to assess their attitudes toward ECT.</p>	<p>n=33) after ECT, most patients answered that they would be 'likely' or 'very likely' to select ECT as a therapeutic option if their depression recurred.</p>	<p>found that patients' perceptions of ECT are typically favorable. We discovered that attitudes toward ECT were constant and largely favorable during the immediate post-ECT interval (53%, n=34 and 52%, n=33). These findings are important for patients who are undergoing or planning ECT treatment.</p>
<p>Khan, Nazar, Ul Hag & Hussain. 2020. <i>Assessment of attitudes of patients with psychiatric disorders regarding electroconvulsive therapy as a treatment option.</i> Pakistan.</p>	<p>To measure psychiatric patients' attitudes about ECT as a therapeutic option.</p> <p>The main indications: in general, psychiatric disorders, the study didn't specify.</p>	<p>This study included 154 patients (104 males and 50 females, mean age of 35) with previous experience with electroconvulsive treatment (ECT). Their attitudes were evaluated based on their replies to 15 questions on a Likert Scale, with each question scoring 01-05.</p>	<p>Overall, 73% of patients had positive attitudes towards ECT, whereas 27% were negative.</p>	<p>Most patients regarded ECT as a beneficial therapy method. Also, media should be utilized to highlight the benefits of ECT.</p>

<p>Koopowitz, Chur-Hansen, Reid & Blashki, 2003. <i>The subjective experience of patients who received electroconvulsive therapy.</i> Australia.</p>	<p>This study attempts to give a more distinct perspective on what patients experience with ECT.</p> <p>Main indications: Major depression and bipolar disorder.</p>	<p>Eight patients (five females and three males, mean age of 35,4 years) attitudes and experiences with ECT were examined using semi-structured interviews.</p>	<p>The interviewers identified eleven significant topics, but only four were chosen for discussion. The four themes were fear of ECT, attribution of cognitive decline and memory loss on ECT, positive ECT experiences, and patient recommendations.</p>	<p>Patients' expressed fears provide a chance to address aspects of the process that cause the most anxiety. These were closely related to recommendations made by numerous patients throughout the interviews. Patients' impressions of the cognitive consequences of ECT may not always match those widely documented in the ECT literature. Positive ECT experiences were more complicated than merely their effectiveness. Future study is required to examine and address patients' experiences with ECT.</p>
<p>Li, An, Zhu, Chiu, Ungvari, Ng, Lai & Xiang. 2015. <i>Knowledge and Attitudes of Patients and Their Relatives Toward Electroconvulsive Therapy in China.</i> China.</p>	<p>To explore patients' and their relatives' knowledge, experiences, and attitudes toward ECT.</p> <p>The main indications: are bipolar disorder, schizophrenia, and major depression.</p>	<p>Self-reported questionnaires were administered to up to 420 people, including ECT patients (n = 210, men 117 & 93 women, mean age 34,2 years) and their families (n = 210).</p>	<p>Prior to ECT, patients and their families were not given appropriate information, notably concerning the manner of administration, hazards, and side effects. Memory impairment was the most often reported adverse effect of ECT by patients. Both patients and their families were enthusiastic about</p>	<p>Mental health providers must address the lack of ECT information offered to patients and their families before treatment.</p>

			ECT and were pleased with its therapeutic results.	
Rafoul, Mashiach-Eizenberg, Hasson-Ohayon & Roe. 2020. <i>Knowledge about, attitudes toward, and willingness to undergo electroconvulsive therapy among mental health patients, staff, and family members.</i> Israel.	It has been claimed that ECT is underutilized due to a lack of understanding and stigmatized unfavourable attitudes against it. The main indications: are bipolar disorder, schizophrenia, and major depression.	The study analyzed and compared 227 individuals from three groups: psychiatric staff members (n=104), patients with severe mental illness (SMI) (n=61, 34 men and 27 women, mean age 42,3 years), and relatives of people with SMI (n=62). Respondents completed questionnaires that examined their knowledge about, attitude toward, and readiness to be treated with ECT.	Staff members were found to be the most knowledgeable, to have the most positive attitudes, and to be the most eager to endure ECT. Family members indicated less knowledge, a less positive attitude, and less willingness, whereas SMI patients showed the least in all three factors.	The findings imply that the amount of direct impact and personal significance, in addition to knowledge of and attitudes regarding ECT, influence attitudes toward and willingness to undertake treatment.
Rajagopal, Chakrabarti, Grover & Khehra 2012. <i>Knowledge, experience & attitudes concerning electroconvulsive therapy among patients & their relatives.</i> India.	The study examined ECT knowledge, experiences, and attitudes among patients treated with bilateral ECT and their relatives. The main indications: Schizophrenia, Major depression, and bipolar disorder.	A total of 153 ECT participants, including 77 patients (46 males and 31 females, mean age of 36 years) and relatives, were surveyed using questionnaires aimed at assessing their knowledge and	The treatment was mostly unknown to the patients. Though the majority did not find their ECT experience unpleasant, some indicated dissatisfaction with features such as informed consent, treatment anxiety, and	The findings support the assumption that ECT recipients are usually positive about the therapy. However, they also highlight areas where ECT practice needs to be improved to increase patient and relative experience.

		attitudes toward ECT.	memory impairment. Whereas most patients were positive regarding ECT, ambivalent attitudes were widespread, but negative views were rare.	
Zhang, Zhou, Zhang, NG, Ungvari, Wang, & Xiang. 2018. <i>Knowledge and attitudes of older psychiatric patients and their caregivers towards electroconvulsive therapy.</i> China.	This study aimed to examine the knowledge, experiences, and attitudes of Chinese elderly patients and their carers about ECT. The main indications: are Major depression, bipolar disorder, and schizophrenia.	A total of 216 individuals were recruited, including 118 patients (34 men and 84 women, mean age 63, 6 years) and 98 caretakers. Self-reported questionnaires were used to measure their knowledge and attitudes toward ECT.	ECT was widely regarded as useful, effective, and safe; around two-thirds of patients and caregivers agreed that therapy should be reserved for severe psychiatric disorders. ECT caused adverse effects in more than half of the patients, with memory impairment being the most typically mentioned.	Physicians at Chinese mental institutions must offer enough information about ECT to elderly patients and their caretakers before therapy, notably the treatment procedure and potential side effects.

6 RESULTS

In this chapter, study articles are analyzed by using content analysis. The first subchapter explores all the essential matters about the articles, such as study origins, ECT methods, and sample sizes. The following subchapters focus on answering study questions: 1.) What kind of experiences and attitudes did patients have with the ECT treatment? and 2.) What recommendations did patients make for improving the ECT treatment?

6.1 General information about the study articles

The total amount of chosen articles from databases (Academic search complete & Cinahl) was ten (n=10). These five studies can be found only found from Academic search complete: Coman (2022), Khan, Nazar, Ul Hag & Hussain (2020), Dan, Grover & Chakrabarti (2014), Rajagopal, Chakrabarti, Grover & Khehra (2012) and Iodice, Dunn, Rosenquist, Hughes & McCall (2002).

These four can be found both in Academic search complete and Cinahl: Rafoul, Mashiach-Eizenberg, Hasson-Ohayon & Roe (2020), Zhang, Zhou, Zhang, NG, Ungvari, Wang, & Xiang (2018), Li, An, Zhu, Chiu, Ungvari, Ng, Lai & Xiang (2015) and Koopowitz, Chur-Hansen, Reid & Blashki (2003). This one study can be found only in Cinahl: Guruvaiah, Veerasamy, Naveed, Kudlur, Chaudary & Paraiso (2017). More preciously, only Cinahl provided a direct link to the pdf file. To summarize, five studies were from ASC. Four studies can be found in both databases, and one study was from Cinahl. All the studies were published between 2002 and 2022; therefore, the study timeline was 20 years.

Two studies were published in India (Dan et al 2014; Rajagopal et al 2012) and other two (Zhang et al 2018; Li et al 2015) in China. Coman (2022) in Norway, Rafoul et al (2020) in Israel, Kahn et al (2020) in Pakistan, Guruvaiah et al (2017) in United Kingdom, Koopowitz et al (2003), in Australia and Iodice et al (2002) in USA. Thus, the study articles came from many different parts of the world, demonstrating that ECT is being used and studied worldwide.

When it comes to data collection and analysis, quantitative research studies numbers and statistics, whereas qualitative research studies words and meanings. Both are necessary for acquiring various types of information. (Streetkerk 2023.) Three studies were qualitative, done by face-to-face or

through telephone interviews: Coman (2022), Guruvaiah et al (2017) & Koopowitz et al (2003).

Seven, rest of the studies were quantitative done by questionnaires: Kahn et al (2020), Rafoul et al (2020), Zhang et al (2018), Li et al (2015), Dan et al (2014), Rajagopal et al (2012) & Iodice et al (2002).

Out of the ten, these five studies mentioned their ECT approach: Zhang et al (2018), Guruvaiah et al (2017), Li et al (2015), Rajagopal et al (2012) and Iodice et al (2002). These studies used bitemporal, with one exception being that Iodice et al (2002) used both bilateral and unilateral approaches. The following five studies didn't mention their ECT approach: Coman (2022), Rafoul et al (2020), Kahn et al (2020), Rafoul et al (2020), Dan et al (2014) and Koopowitz et al (2003).

The following information is a summary that can be found from table 5. The total sample size of all articles (n=10) was 843 patients which 427 were men, and 417 were women. Nine studies informed the mean age, and the mean age from these nine studies was 44,8 years. Coman (2022) didn't mention mean age, but he did inform that the age gap in the study was between 21 and 65 years old. According to eight study articles, the main indications for ECT were in the following order: major depression, bipolar disorder, and schizophrenia. Kahn et al (2020) and Dan et al (2014) informed only generally that ECT was being used for psychiatric disorders, but they didn't specify for which disorders. (TABLE 5.)

6.2 Patients' experiences towards ECT treatment

According to the study articles patients' experiences were categorized into negative and positive experiences. The following subchapters examines both views.

6.2.1 Negative experiences

Six articles of ten comprehended negative experiences towards ECT. The table 6 below shows patients' negative experiences towards ECT. Side effects are regarded as negative experiences in this analysis. (TABLE 6.)

TABLE 6. Content analysis on negative experiences towards ECT.

Original result	Condensed meaning	Subcategory	Category
“The most common was memory impairment (65.7%) followed by headache (30.0%) and short-lived confusion (30.0%)” (Li et al 2015).	Side effects included: memory impairment, headache, and confusion.	Negative experienced due to anesthesia and electrical stimulus.	Negative experiences towards ECT treatment.
“Top three most common side effect were: memory impairment 80%, Confusion 43%, Headache 36%.” (Guruvaiah et al 2017.)			
“The most common adverse effects included memory impairment (62.6%), headache (33.6%), and muscle pain (29.9%)” (Zhang et al 2018).	Side effects included: memory impairment, headache, and muscle pain.		
“About half of the patients complained of memory impairment, which they found distressing.” (Rajagopal et al 2012.)	Memory impairment felt distressing.		
“Only one patient (out of eight) did not feel memory or cognition was affected” (Koopowitz et al 2003).	Patients suffered from memory and cognition impairment.		
“Eight participants experienced more memory struggles than described in the consent information” Coman 2022).			

<p>“Most experienced fear at the time of the ECT” (Koopowitz et al 2003).</p>	<p>Fears and unpleasant experiences.</p>	<p>Negative experiences due to other factors</p>
<p>“Some of the unpleasant experiences reported were during the recovery period, anaesthetic injection and waiting for treatment. Oxygen mask was not comfortable.” (Guruvaiah et al 2017.)</p>		

Most above-mentioned negative experiences came about due to the use of anesthesia medicines and the actual electric stimulus inserted into the skull. The most common cognitive side effects were memory impairment, and confusion. Memory impairment was mentioned in six articles which five articles gave numerical values. The highest memory impairment percentage was 87,5 % (Koopowitz et al 2003, 51), and the lowest was 50 % (Rajagopal et al 2012, 208). The mean of all these five articles was 69,12 % (Zhang et al 2018, 348; Guruvaiah et al 2017, 20; Li et al 2015, 251; Rajagopal et al 2012, 206, 208; Koopowitz et al 2003, 51).

Confusion was mentioned in four articles which three provided numerical values. The highest percentage was 43 % (Guruvaiah et al 2017, 20), the lowest 14 % (Zhang et al 2018, 348) and the mean was 29 % (Zhang et al 2018, 348; Guruvaiah et al 2017, 20; Li et al 2015, 251.) Muscle pain, nausea, and headache can be categorized as physical or somatic side effects. All these three were mentioned in the same three articles. Muscle pain's mean percentage was 17,6 %, headache's 33,2 %, and nausea's 9,3 %. (Zhang et al 2018, 348; Guruvaiah et al 2017, 20; Li et al 2015, 251.) In conclusion, on average, the most frequent side effects that were numerically informed were memory impairment (69,12 %), headache (33,2 %), confusion (29 %), muscle pain (17,6 %), and nausea (9,3 %).

In addition, patients also informed their fears, worries, and unpleasant experiences regarding ECT treatment. These negative experiences can be categorized as general fears and uncomfortableness towards ECT, medical equipment, and medical interventions. In Koopowitz et al (2003) study, fears about ECT varied from not waking up after the treatment to concern that it might cause personality

change. There was widespread concern about brain injury. (Koopowitz et al 2003, 51.) In Zhang et al (2018) and Guruvaiah et al (2017) studies, patients also reported negative experiences that were associated with waiting time prior to ECT treatment, recovery time, wearing oxygen masks, anesthetic injection and being worried about the fact that electricity is being inserted to the skull. (Zhang et al 2018, 348; Guruvaiah et al 2017, 17–20.)

6.2.2 Positive experiences

Consequently, six articles of ten dealt with positive experiences with ECT treatment. The table 7 below shows patients' positive experiences towards ECT. (TABLE 7.)

TABLE 7. Content analysis on positive experiences towards ECT.

Original result	Condensed meaning	Subcategory	Category
“ECT was helpful 66%, ECT was better than drugs 59%” (Rajagopal et al 2012).	ECT is beneficial and more effective than drugs.	Positive clinical experiences towards ECT.	Positive experiences towards ECT.
“ECT is a useful procedure 80%, ECT gets you better than drugs 70%” (Guruvaiah et al 2017).			
“ECT was beneficial 74,8%, ECT has been more effective than drugs 66,4%, ECT is more rapid than drugs 64,5%.” (Zhang et al 2018.)			
“I basically believe it saved my life – without ECT I would not be	ECT can be a lifesaving treatment.	Positive subjective experiences towards ECT.	

here, sitting talking to you today” (Koopowitz et al 2003).

“That there’s a treatment that can actually really save you” (Coman 2022).

Patients were frequently asked about the clinical effectiveness of the ECT treatment. Questionnaires acquired information about did patients view ECT as a beneficial treatment, meaning that did the treatment improved their mental health condition. In addition, questions evaluated ECT effectiveness compared to medical treatment.

These four articles (Zhang et al 2018; Guruvaiah et al 2017; Li et al 2015; Rajagopal et al 2012) mentioned numerical values on how beneficial ECT was and its effectiveness compared to medical treatment. The highest percentage of beneficially was 80% (Guruvaiah et al 2017, 20), the lowest was 66% (Rajagopal et al 2012, 204), and the mean average was 73,3%. The mean percentage on effectiveness was 63,5%, indicating that patients felt that ECT was better or “more effective” compared to medical treatment. (Zhang et al 2018, 346; Guruvaiah et al 2017, 20; Li et al 2015, 250; Rajagopal et al 2012, 204.)

In addition, in these two articles (Zhang et al 2018; Li et al 2015), on average, 64,4% of patients added that ECT effects also more rapidly compared to drugs. (& Zhang et al 2018, 346; Li et al 2015, 250.) In conclusion, on average, 73,3 % of patients viewed ECT as a beneficial treatment, 63,5 % felt that ECT was more effective compared to drugs, and 64,4 % said that ECT is also more rapid-acting compared to drugs.

In three quantitative (Coman 2022; Guruvaiah et al 2017; Koopowitz et al 2003) studies, patients shared their positive experiences towards ECT. For instance, both Coman (2022) and Koopowitz et al (2003) patients viewed ECT as a lifesaving procedure (Coman 2022, 5; Koopowitz et al 2003, 52). In Guruvaiah et al (2017) study, patients shared their positive experiences via comments like “Staff were very relaxed and friendly; scary imagination reduced by staff; the atmosphere was very nice and caring” and “overall it was a pleasant experience.” (Guruvaiah et al 2017, 17–18.)

6.3 Patients' attitudes towards ECT treatment

Ten articles comprehended patients' attitudes towards ECT treatment or at least the word "attitude" was mentioned in all articles. As a result of analysis two subcategories were found: positive attitudes and factors that affect attitudes. The table 8 below demonstrates patients' attitudes toward ECT. (TABLE 8.)

TABLE 8. Content analysis on patients' attitudes towards ECT.

Original result	Condensed meaning	Subcategory	Category
"Consequently, most (51, 66%) were willing to repeat the treatment" (Rajagopal et al 2012).	Willingness to repeat the treatment.	Positive attitudes.	Attitudes towards ECT treatment.
"Majority of patients had a positive attitude toward ECT" Li et al 2015).	Most patients had positive attitudes.		
"Attitudes toward ECT are more likely to be favourable when shaped by personal experience and information obtained from doctors, rather than media portrayals of the treatment." (Dan et al 2014.)	Personal experience and information effects on positive attitudes.	Factors that affect attitudes.	
"The finding that the greater the knowledge of ECT, the more positive was the attitude among all groups is consistent with most previous studies." (Rafoul et al 2020.)	Greater knowledge equals more positive attitude.		

Five articles evaluated positive attitudes towards ECT by asking if patients were ready to repeat the treatment if their depression recurred. The highest percentage was 80 % (Guruvaiah et al 2017, 20), the lowest was 52,5 % (Iodice et al 2002, 90.), and the mean was 61,1 %. (Zhang et al 2018, 347; Guruvaiah et al 2017, 20; Li et al 2015, 250; Rajagopal et al 2012, 204; Iodice et al 2002, 90.)

Iodice et al (2002) concentrated on the aforesaid question, and the aim was to study the stability of patients' attitudes toward ECT at two and four weeks after treatment by only asking through a questionnaire that would patients repeat the treatment, if necessary. At both two (53%) and four weeks (52%) post-ECT, most patients reported that they would be 'likely' or 'very likely' to select ECT as a treatment option if their depression recurred. The strong relation between the 2 and 4 weeks post-ECT survey responses, as well as the lack of a significant variation in the mean, imply that patient opinions regarding ECT remain consistent during this time. This result is even more striking because this period is associated with potentially fast clinical change, including alterations in mood and memory. (Iodice et al 2002, 89–91.)

Overall, seven articles of ten articles mentioned that most (>50 %) patients had positive attitudes toward treatment. (Khan et al 2020, 565; Rafoul et al 2020, 219; Zhang et al 2018, p. 345; Guruvaiah et al 2017, 21; Li et al 2015, 252; Rajagopal et al 2012, 204; Iodice et al 2002, 90.) In the remaining's three articles: by Dan et al (2014), only 45 % had positive attitudes toward ECT (Dan et al 2014, 267). These two qualitative studies Coman (2022) and Koopowitz et al (2003), didn't mention numerical values on attitudes, but patients seem to have both positive and negative views towards the treatment. (Coman 2022, 1–9; Koopowitz et al 2003, 49–53.)

Rafoul et al (2020) and Dan et al (2014) studied factors that impact patients' attitudes. According to Rafoul et al (2020), patients who had received ECT were more eager to undertake the treatment compared to patients who had never received ECT. Furthermore, the greater the knowledge of ECT, the more positive the attitude is coherent with most prior studies that found a positive correlation between knowledge and attitude, such that the more knowledgeable the patients, the more positive their attitudes. (Rafoul et al 2020, 215, 221–224.) In addition, Dan et al (2014) stated that personal experience and knowledge gained from professionals, instead of media depictions of the treatment, are more likely to lead to favourable attitudes regarding ECT. (Dan et al 2014, 268.) Thus, according to these studies mentioned above, past experiences, knowledge, and information source can affect patients' attitudes toward ECT treatment.

6.4 Patients' recommendations for improving the ECT treatment

Three articles out of ten contained information on patient recommendations and suggestions on ECT treatment. These were all qualitative studies. The table 9 below shows patients' recommendations for ECT treatment. (TABLE 9.)

TABLE 9. Content analysis on patients' recommendations towards ECT

Original result	Condensed meaning	Subcategory	Category
“The waiting time prior to the procedure should be decreased” (Koopowitz et al 2003).	To reduce waiting time.	Recommendations to improve patients' experiences towards ECT treatment	Recommendations
“Waiting time could be minimised, as it makes one nervous” (Guruvaiah et al 2017).			
“More explanation on ECT treatment would be better” (Guruvaiah et al 2017).	To improve patient education.		
“Staff communication with patients both before and throughout the procedure” (Koopowitz et al 2003).			
“Prevent patients being exposed to the discomfort of other patients” (Koopowitz et al 2003).	To prevent discomfort.		
“All the patients who were interviewed felt that more research into what patients actually experience was needed.” Koopowitz et al 2003).	To study patient experiences.		
“Society in general should be updated with knowledge about ECT's antidepressant effects to balance the information on risks.” (Coman 2022.)	To inform about ECT's benefits to people.		

Guruvaiah et al (2017) and Koopowitz et al (2003) similarly pointed out a recommendation to reduce the waiting time before ECT treatment. Both studies stated that waiting time increases nervousness and anxiety among patients. (Guruvaiah et al 2017, 18; Koopowitz et al 2003, 53.) Koopowitz et al (2003) stated that it would be better if a patient could go straight to the treatment: “If you just go straight in, it’s not so bad” (Koopowitz et al 2003, 53). According to Guruvaiah et al (2017) most patients waited approximately 15-30 minutes, and only a few had to wait over 30 minutes prior to ECT. The study also noted that the time required to complete the necessary paperwork and practicalities before each treatment should be weighed against the actual waiting time. (Guruvaiah et al 2017, 17, 20.) Generally, people dislike waiting, and especially in this context, it can also increase patient discomfort; therefore, this issue should be considered in ECT treatment.

Guruvaiah et al (2017) recommended that the procedure be explained more appropriately, and in Koopowitz et al (2003) study, patients recommended enhancing communication between staff and patients. (Guruvaiah et al 2017, 19 & Koopowitz et al 2003, 53.) Also, in Coman (2022) patients recommended reader-friendly materials and information in all phases of the treatment. (Coman 2022, 6.) These recommendations fall into the patient education category because explaining the procedure to the patient requires adequate communication skills and flow of information from the nurse.

Koopowitz et al (2003) recommended preventing ECT patients' discomfort by avoiding exposure to other patients' discomforts (Koopowitz et al 2003, 53). The background to this suggestion was that in this study, ECT was performed in the general lobby of the hospital. Therefore, ECT patients were subjected to different levels of other patient groups' discomforts in both pre- and post-ECT treatment. Some study patients thought that ECT was connected to these non-ECT treatment discomforts. (Koopowitz et al 2003, 53–54.) In this case, patients should be informed that other patient groups were being treated in the same facilities, and their medical condition wasn't linked to ECT. To avoid this discomfort, ECT patients should have their area for waiting and the treatment itself. For instance, nurses could use curtains or screens in the recovery room to promote privacy and create a separate area for ECT patients.

In Koopowitz et al (2003), all the patients agreed that a more significant study into patients' experience was required (Koopowitz et al 2003, 53). The idea behind this recommendation is that the patients wanted to know what other patients have experienced from the same treatment. Likewise, people generally look for “real life” and biased opinions or experiences from others because it helps to evaluate if the product or treatment is good and worth the money. In addition to healthcare professional

data, ECT treatment sites could also contain a section where real-life patients share their experiences because it could enhance treatment transparency and approachability.

Finally, in Coman's (2022) study, patients proposed that the public should be informed by up-to-date ECT information, which should consist of data on the treatment's benefits and not only bringing the risk factors. This would reduce the stigma regarding ECT and boost its acceptance as an effective treatment for severe psychiatric disorders. (Coman 2022, 1, 5.)

7 ETHICAL ISSUES AND TRUSTWORTHINESS

This chapter contains research ethics and the reliability and trustworthiness of his thesis. The author also ponders the strengths and weaknesses of this thesis.

7.1 Ethical principles for research and science

Research ethics is the cornerstone for all scientific work. Ethics has originally developed from the medical field which is understandable because the main study participants are humans. It is said that research ethics can be categorized as a normative ethics, which tries to find the right principles that the research should follow. Research ethics can be divided into internal and to external. Internal research ethics refers to trustworthiness and truthfulness. The basic qualification is that the research data is not faked or created from scratch. The common rules formed by the science community should be followed. For instance, on how to inform about the results and how are in charge in all different research processes. As the term suggests external evaluates how outside factors could affect the research. What was the chosen subject and how the research is conducted? Typical example of this is financier's motive to support specific kind of research. Research should also be critical which requires critical and versatile evaluation about own work. Arguments and methods should be well explained. (Kankkunen & Vehviläinen-Julkunen 2017, 211–213.)

Kankkunen & Vehviläinen-Julkunen (2017) highlight ethical principles made by Pietarinen (2002) Firstly, researcher should be internally interested about the subject and that the information would be as valid and reliable as possible. Research ethics requires total transparency and trust worthiness which means that any type of fraud practice is strictly forbidden. A researcher should be aware that the research is not harmful to anybody and be critical that the scientific information is used according to ethical principles. In addition, a researcher should work in a way that promotes professional work and respect other researchers and see them as equal. (Kankkunen & Vehviläinen-Julkunen 2017, 211; Muukkonen 2010, 16–17.) In this thesis, above mentioned ethical principles are implemented by the fact that the author has a great interest in mental health nursing and ECT treatment. This thesis's contents can be used in the nursing profession; thus, the achieved information is relevant. In this thesis, there are no risks in identifying any persons, which emphasizes human dignity, anonymity, and harmlessness.

Plagiarism refers to presenting another's publisher's work as your own with or without their permission. For example: referring to a text without fully acknowledging the original source. Plagiarism is always a sanctionable offense. (University of Oxford 2021; Kankkunen & Vehviläinen-Julkunen 2017, 224.) Plagiarism can be avoided by using the right reference technique (UEF 2021). In addition, every thesis will go through a plagiarism identification program (Arene 2020, 8). Centria UAS utilizes turnitin-program for this purpose (Centria 2022). Also, composition, indifference, and distortion of observation can be seen as fraud action. (University of Jyväskylä 2022.) The author aims to represent study results as genially and objectively as possible without biased. For instance, the content analysis contained many straight citations from the studies, which verifies previous statements. The University of Turku states that a student should ask permission from the publisher if pictures are being used due to copyright issues. (University of Turku 2023.) Therefore, the author emailed publisher Duodecim regarding picture 1 used in this thesis (PICTURE 1). Duodecim replied and granted permission with the condition that the author provides a citation to the article. This thesis references all materials (pictures, figures, tablets, body text) to the original publication. There is a compiled list of references in alphabetical order at the end of the thesis.

7.2 Reliability and trustworthiness

Systematic review demands at least two authors, but this thesis was done by descriptive review, so one author is sufficient. (Salakari 2020 9, 13.) This thesis has been done individually, the author read through the studies several times, and the chosen literature has been from reliable sources. The whole thesis process has been examined numerous times, increasing reliability. Pudas-Tähkä & Axelin (2007) stated that help from experts improves the reliability of the thesis and that the systematic search process of databases is the most critical part of the thesis process. This is because if errors occur in the search phase, then results will be unreliable, and therefore help from experts would improve the reliability in this area. (Pudas-Tähkä & Axelin 2007, 49, 55.)

Therefore, the author utilized Centria's library staff. Through this expertise help, the author was given knowledge and guidance about search terms, advanced search options, Boolean operators, and how to get the best possible search results from the databases. Through this process, the author could limit the searches to get specific search results focused primarily on research questions. For instance, limiting

the field option to "title" meant that databases didn't show articles where search terms were found outside of the "title," for example, in the abstract or text. It is possible that some relevant studies weren't found because of this limitation.

Nevertheless, ten studies were found, which all contained data on patients' experiences and attitudes. Eventually, with the help of library staff author was able to create a specific and limited advanced search which was fully displayed in chapter five. This means that anyone can type this advanced search and easily find all the study articles and achieve the same results as the author did. This improves the transparency, repeatability, and trustworthiness of this thesis. In addition, this thesis relied on the supervisor's expertise, which made this thesis more reliable and trustworthy. For instance, at first, all ten study articles were sent to the supervisor, who examined and verified that all articles were scientific and relevant to the research questions. Only after the supervisor's approval did the author start to study and analyze the articles.

In the analyze phase, the author may have missed some minor results or findings from the articles because the articles contained so much data. In addition, when counting percentages, there is always a chance that an error can occur. But then again, the author is quite confident that all the key results and findings were found and that all percentages were counted correctly because the author read and counted articles multiple times, used highlighters, and control + f when searching specific terms. In addition, to percentages, all the numerical values were cited, and thus the reader can check and count the same numbers as the author. Also, most articles were reader-friendly and contained informative abstracts, which meant that all key results were relatively easy to find.

Insufficient sample or data size can be seen as study limitations (Wordwice 2022). Also, previous thesis writers on this subject saw a small sample size as a limiting factor in their qualitative study. (Martikainen et al 2021; Tolonen et al 2016.) The author reflects that one of this thesis's main strengths was sufficient data consisting of ten full-text articles and its adaption to the Finnish context. The analysis contained three qualitative and seven quantitative studies. The advantages of both methods are that the study provided numerical values and subjective experiences. But on the other hand, having just one study method would have been easier to analyze because of uniformity. Finally, not all articles informed which the ECT method is being used. This can be seen as a study weakness because unilateral and bilateral methods differ. Bilateral is more effective than unilateral, but on the other hand, it predisposes more to cognitive side effects. To avoid misconceptions and to bring clarity to the reader, ECT-related articles should always inform the method of choice.

8 DISCUSSION

This final chapter examines the most important study conclusions that are relevant from a patient's perspective and what nurses should consider in ECT treatment. The author also points out further study suggestions and reflects on his learning process and professional growth during the thesis work.

8.1 Discussions of results

According to the study results, on average, the most frequent side effects or negative experiences were memory impairment (69,12 %), headache (33,2%), confusion (29%), muscle pain (17,6%), and nausea (9,3%). In the theoretical framework (chapter three), KSSHP (2022), Leppämäki (2020), and Kellner et al (2020) stated the same, that transient, non-serious side effects of ECT originate mainly from anesthesia and comprise headaches, nausea, and muscular pains. (KSSHP 2022; Kellner et al 2020, 310; Leppämäki, 2020, 3.) In brief, electric stimuli explain most memory impairments, and anesthesia medicines (including muscle relaxants) explain nausea, confusion, and so forth. (APA 2023; ADC 2022; NHS 2021.) Both the results and the theoretical chapter indicated that memory impairment is the most common side effect or negative experience in ECT treatment. Partonen et al (2021) stated that about 75 % of patients suffer from memory impairments, while the mean (69,12 %) was slightly lower in the articles.

Bilateral ECT is associated strongly with memory impairments because it affects both (left and right) cerebral hemispheres. This factor was also mentioned in at least one article Guruvaiah et al (2017) and in the theoretical chapter. (Kellner et al 2020, 310; Leppämäki 2020, 4; Guruvaiah et al 2017, 20.) Nevertheless, the articles did not mention cardiac and neurological-related adverse effects, but Leppämäki (2020) stated that these cases are rare in the ECT treatment. (Leppämäki 2020, 3.)

According to the results, on average, 73,3 % of patients viewed ECT as a beneficial treatment, 63,5 % felt that ECT was more effective than drugs, and 64,4 % said that ECT is more rapid than drugs. Also, in seven articles out of ten, most (>50 %) patients had positive attitudes toward ECT, and on average 61,1 % of patients were ready to repeat the treatment if necessary. In addition, in all three quantitative studies, patients viewed ECT as a lifesaving treatment. (Coman 2022; Guruvaiah et al 2017; Koo-powitz et al 2003.) All positive findings are aligned with the theoretical framework. For example, Partonen et al (2021), Rasmussen (2019), and other sources agreed that ECT is an effective treatment and

provides more rapid results than drugs. In urgent situations, it can be a lifesaving treatment. Also, both results and the theoretical chapter stated that the main indications for ECT are major depression, bipolar disorder, and Schizophrenia. (Partonen et al 2021, 1–2; Kellner et al 2020, 304–305; Rasmussen 2019, 1–2.)

Even though these research articles were published worldwide, their results and information data were nearly identical to many Finnish sources used in the theoretical framework. The main positive and negative factors and ECT indications were nearly identical. This demonstrates that this thesis's results apply to the Finnish context. In conclusion, many Finnish sources used in the theoretical framework verify the thesis's study results that ECT is an effective, rapid, and even lifesaving treatment for severe psychiatric disorders.

The purpose of this thesis was to map out and analyze patients' experiences, attitudes, and recommendations toward ECT treatment. This thesis aimed to provide beneficial information that can be utilized in the Nursing degree program, especially in mental health education. In addition, produced information could benefit future mental health nurses, and the thesis could be used as a general handbook for ECT treatment. The thesis was conducted with a descriptive literature review, and articles were analyzed by content analysis. According to the study articles (n =10), most patients had positive experiences and attitudes toward ECT treatment. Most patients viewed ECT treatment as being more rapid-acting and effective than medications, and overall, ECT presented itself as a life-saving and beneficial treatment. Articles indicated that most patients had positive attitudes towards ECT because they were ready to repeat the treatment if their depression recurred. Also, factors that influence patients' attitudes are past experiences, knowledge, and information sources.

Most negative experiences were associated with memory impairment and anesthesia-related side effects such as nausea, vomiting, muscle pain, and headache. Overall, according to the study articles, ECT's treatment benefits outweighed the disadvantages, and ECT was viewed as an effective treatment for severe psychiatric diseases. As mentioned in the previous chapter, these study results, and the theoretical framework's views on ECT are almost identical. Therefore, ECT has its place in psychiatric nursing and should be mentioned in mental health education.

The key finding from the recommendations was that patients wanted improvements in patient education. Patient education is essential to the nursing profession because it increases patient satisfaction and safety. Patient education requires a flow of information and communication skills. (Kirimlioğlu

2018.) For instance, in this context, nursing staff should provide knowledge of both positive and negative consequences of ECT before the treatment. A nurse should provide patient education in all phases of the treatment in an understandable way. This means that a nurse should avoid using Latin and medical terms and provide information using everyday language. A nurse could also give handouts to patients, which would consist of all the basic information about the ECT treatment.

Patients also recommended reducing the waiting time because it increases their anxiety. Moreover, ECT patients suggested that they should have their own waiting room and procedure place. This way, ECT patients would not be exposed to other patient groups. For mental health patients with severe symptoms, this might be beneficial for reducing their stress and anxiety levels. Finally, patients wanted more research on patient experiences. Authentic patient experiences can help others to evaluate the treatment's benefits and side effects such as memory impairments.

Both study articles and the theoretical framework indicated that most patients suffered from memory impairment after receiving ECT treatment. The severity varies in patients, but as Mills & Elwood (2017) stated, this area still raises concern and hasn't been researched enough. (Mills & Elwood 2017, 668.) To increase patient comfort and safety, the cognitive side effects of ECT require more research. For instance, to study new ways to enhance unilateral or bilateral approaches and test new variations that would end up with the least amount of cognitive side effects.

8.2 Learning process and professional growth

The author has learned and developed his research skills during this thesis process. The author has learned how to conduct a literature review and content analysis. In addition, the author has learned how to search databases to find peer-reviewed, up-to-date, and evidence-based knowledge. These skills can be used in the future when reliable data are needed for a specific purpose. The author has also acquired a lot of general knowledge on mental health nursing. Mostly author's learning process has been associated with the ECT treatment, which was the main study objective in this thesis. In the theoretical framework, the author gained holistic knowledge of the main ECT indications, contraindications, its advantages, and disadvantages, and where nurse's role in the different parts of the treatment. Especially database search, and analysis phases increased the author's critical thinking and academic writing. After all, this thesis was the author's first 15-credit bachelor-level work, and all factors described above played a part in the learning process. This learning process will be especially useful if

the author decides to continue studies in a master's program because of the gained experience on how to write a thesis.

Professional growth is a process in which a student gathers the knowledge, skills, and abilities during his life that enable him to meet the demands of his profession. It is possible to self-develop oneself in many ways, such as: by reading literature, practicing procedures or skills in the practice placement, or working life. (Nyman & Lahtinen 2021; Rautava-Nurmi; Westergård: Henttonen; Ojala & Vuorinen 2020, 15.) The nursing profession requires much theoretical knowledge. During the thesis process, the author gradually increased his knowledge of mental health nursing, especially about ECT treatment. During the nursing program, the author has concluded that the best way to grow professionally is to put theoretical knowledge into practice. Professional growth in nursing is a life-long journey that primarily consists of keeping up with up-to-date research companies with practical work. A nurse should be able to maintain and be willing to learn new skills, procedures, and interventions throughout their career. Overall, the author reflects that his critical thinking, research skills, and knowledge have increased during this thesis process. This all-boost professional growth and are beneficial assets in his future working life.

REFERENCES

- ADC. 2022. *Side Effects of Muscle Relaxers*. Available at: <https://urly.fi/31ms>. Accessed 7 February 2023.
- APA. 2020. *What is depression?* Available at: <https://urly.fi/31mt>. Accessed 11 September 2022.
- APA. 2021. *What Are Bipolar Disorders?* Available at: <https://urly.fi/31mu>. Accessed 20 September 2022.
- APA. 2022. *APA Dictionary of Psychology*. Available at: <https://dictionary.apa.org/biological-therapy>. Accessed 8 August 2022.
- APA. 2023. *What is Electroconvulsive Therapy (ECT)?* Available at: <https://www.psychiatry.org/patients-families/ect>. Accessed 7 February 2023.
- Arene. 2020. *Ethical recommendations for thesis writing at universities of applied sciences*. Available at: <https://urly.fi/30HJ>. Accessed 13 November 2021.
- Barinova, J. 2018. *Sähköhoito nuorisopsykiatrisena hoitomuotona*. Laurea-ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/31mx>. Accessed 10 July 2022.
- Beyond Blue. 2023. *Types of depression*. Available at: <https://urly.fi/31qd>. Accessed 5 February 2023.
- Centria. 2022. *Centrian opinnäytetyö- ja kirjoitusohjeet 2022*. Available at: <https://libguides.centria.fi/c.php?g=691790&p=4956688>. Accessed 12 December 2022.
- Cleveland Clinic. 2022a. *Seasonal Depression (Seasonal Affective Disorder)*. Available at: <https://my.clevelandclinic.org/health/diseases/9293-seasonal-depression>. Accessed 16 November 2022.
- Cleveland Clinic. 2022b. *bipolar disorder*. Available at: <https://my.clevelandclinic.org/health/diseases/9294-bipolar-disorder>. Accessed 12 September 2022.
- Columbia. 2021. *Content Analysis*. Available at: <https://urly.fi/31qj>. Accessed: 13 November 2021.
- Coman, A. 2022. Recipients' experience with information provision for electroconvulsive therapy (ECT). *BMC Psychiatry*. 2/4/2022, Vol. 22 Issue 1, p1-9. Available at: <https://urly.fi/31mw>. Accessed 15 October 2022.
- Dan, A., Grover, S. & Chakrabarti, S. 2014. Knowledge and attitude of patients with psychiatric disorders and their relatives toward electroconvulsive Therapy. *Indian Journal of Psychological Medicine*. Jul-Sep2014, Vol. 36 Issue 3, p264-269. Available at: <https://urly.fi/30HN>. Accessed 15 October 2022.
- Drugs. 2021. *What does contraindication mean?* Available: <https://www.drugs.com/medical-answers/contraindication-mean-3561035/>. Accessed 19 May 2022.
- Elomaa, A., Ilvesaho, S., Okka, I. & Rossi, N. 2019. *Sairaanhoitajien kokemuksia sähköhoidon toteuttamisesta Kymenlaakson psykiatrisessa sairaalassa*, Xamk ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/30HM>. Accessed 10 July 2022.

- Elwood, P. & Mills, J. 2017. Electroconvulsive therapy. *InnovAiT*, 10(11), 667–670. Available at: <https://journals.sagepub.com/doi/abs/10.1177/1755738017726559>. Accessed 19 May 2022.
- Epilepsy foundation. 2014. *Status Epilepticus*. Available at: <https://www.epilepsy.com/complications-risks/emergencies/status-epilepticus>. Accessed 1 October 2022.
- FDA. 2022. *Finding and Learning about Side Effects (adverse reactions)*. Available at: <https://urly.fi/31mz>. Accessed 27 October 2022.
- Finlex. 2023. *Laki potilaan asemasta ja oikeuksista*. Available at: <https://finlex.fi/fi/laki/ajantasa/1992/19920785>. Accessed 3 March 2023.
- Guruvaiah, L., Veerasamy, K., Naveed, M., Kudlur, S., Chaudary, F. & Paraiso, A. 2017. Patients' experiences of and attitudes towards ECT. *Progress in Neurology & Psychiatry*, Jun2017; 21(2): 16-21. Available at: <https://wchh.onlinelibrary.wiley.com/doi/epdf/10.1002/pnp.466>. Accessed 12 October 2022.
- Health line. 2020. *What You Need to Know About Catatonia*. Available at: <https://www.healthline.com/health/catatonia>. Accessed 16 November 2022.
- Health line. 2021. *Major Depression with Psychotic Features (Psychotic Depression)*. Available at: <https://www.healthline.com/health/depression/psychotic-depression>. Accessed 15 November 2022.
- Health line. 2022. *Can Electroconvulsive Therapy Help People With Schizophrenia?* Available at: <https://www.healthline.com/health/schizophrenia/ect-for-schizophrenia>. Accessed 15 August 2022.
- Heikman, P. 2004. Sähköhoidon uusia näkökulmia. *Lääketieteellinen aikakauskirja Duodecim* 2004;120(10):1219–25. Available at: <https://www.duodecimlehti.fi/duo94286>. Accessed 10 December 2021.
- Heikman, P., Niemi-Murola, L. & Rosenberg, P-H. 2006. Aivojen sähköhoito ja anestesia. *Finnanest* 2006, 39 (1). Available at: http://www.finnanest.fi/files/a_heikman.pdf. Accessed: 10 November 2021.
- Honkala, M. & Määttä, H. 2013. *Vaikeasti masentuneen potilaan ECT-hoito: Perehdytysopas sähköhoidosta*. Kokkola: Centria ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/31mA>. Accessed 7 July 2022.
- Hotus. 2023. *Hoitotyöntekijän näyttöön perustuva päätöksenteko*. Available at: <https://www.hotus.fi/hoitotyontekijan-nayttoon-perustuva-paatoksenteko/>. Accessed 3 March 2023.
- Iodice, A., Dunn, A., Rosenquist, P., Hughes, D. & McCall, W. 2002. Stability over time of patients' attitudes toward ECT. *Psychiatry Research*. Jan2003, Vol. 117 Issue 1, p89. Available at: <https://urly.fi/2Twy>. Accessed 13 October 2022.
- Johansson, K., Axelin, A., Stolt, M. & Ääri, R-L. 2007. Systemaattinen kirjallisuuskatsaus ja sen tekeminen. *Hoitotieteen laitoksen julkaisuja. A. Tutkimuksia ja raportteja. no. 51 Turku: Turun yliopisto* 2007 120s. Accessed 2 November 2021.

- John Hopkins Medicine. 2022. *What is status epilepticus?* Available at: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/status-epilepticus>. Accessed 3 October 2022.
- Joyce. 2022. *What is a Psychiatric Mental Health Nurse?* Available at: <https://www.joyce.edu/blog/what-is-mental-health-nursing/>. Accessed 5 August 2022.
- Kankkunen, P. & Vehviläinen-Julkunen, K. 2017. *Tutkimus hoitotieteessä*. 5. painos. Sanoma Pro Oy. Accessed 1 November 2021.
- Käypä hoito. 2021. *Depressio*. Available at: <https://www.kaypahoito.fi/hoi50023#s18>. Accessed: 10 November 2021.
- Kellner, C-H., Obbels, J. & Sienart, P. 2020. From Research to Clinical Practice. When to consider electroconvulsive therapy (ECT). *Acta Psychiatrica Scandinavica*. Apr2020, Vol. 141 Issue 4, p304-315. Available at: <https://urly.fi/30HC>. Accessed 10 December 2022.
- Khan, G., Nazar, Z., Ul Hag, M., Hussain, M. 2020. Assessment of attitudes of patients with psychiatric disorders regarding electroconvulsive therapy as a treatment option. *Pakistan Journal of Medical Sciences*. Mar/Apr2020, Vol. 36 Issue 3, p565-568. Available at: <https://urly.fi/30HK>. Accessed 12 October 2022.
- Kirimlioğlu, N. 2018. Patient education and its importance in terms of patient safety. *International Journal of Research - GRANTHAALAYAH* 6(12):109-120. Available at: <https://urly.fi/338D>. Accessed 2 March 2023.
- Komulainen, M. 2009. *Anestesiaomakkeen preoperatiivinen kirjaaminen osana potilasturvallisuutta. Opas Kuopion yliopistollisen sairaalan leikkausyksikkö 1:n potilaita preoperatiivisesti hoitaville yksiköille*. Kuopio: Savonia Ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: https://www.theseus.fi/bitstream/handle/10024/7076/Komulainen_Marleena.pdf. Accessed 6 January 2023.
- Koopowitz, L., Chur-Hansen, A., Reid, S. & Blashki, M. 2003. The subjective experience of patients who received electroconvulsive therapy. *Australian & New Zealand Journal of Psychiatry*. Feb2003, Vol. 37 Issue 1, p49-54. Available at: <https://urly.fi/31mB>. Accessed 13 October 2022.
- Krucik, G. 2019. *Stupor*. Available at: <https://www.healthline.com/health/stupor#symptoms>. Accessed 5 September 2022.
- KSSHP. 2022. *Sähköhoito- eli ECT-ohje potilaalle*. Available at: <https://urly.fi/31mC>. Accessed 14 November 2022.
- Kuhanen, C. & Kanerva, A. 2017. *Mielenterveyshoitotyö*. 5. painos. Sanoma Pro Oy. Accessed 3 March 2023.
- Larsson, J. & Nyström, A. 2015. *ECT som stöd för patientens helhetsvård - en kvalitativ studie: Förverkligande vid Lojo sjukhusdistrikt*. Hoitotyön koulutusohjelma. Opinnäytetyö. Helsinki: Arcada-ammattikorkeakoulu. Available at <https://urly.fi/33jD>. Accessed 19 November 2022.
- Leppämäki, S. 2020. *Ohje depression sähköhoidon käytännön toteutuksesta*. Available at: <https://www.kaypahoito.fi/nix02125>. Accessed: 5 November 2021.

- Li, Y., An, F-R., Zhu, H., Chiu, H., Ungvari, G., Ng, C., Lai, K., Xiang, Y-T. 2015. Knowledge and attitudes of patients and their relatives toward electroconvulsive therapy in China. *Perspectives in Psychiatric Care*. Oct2016, Vol. 52 Issue 4, p248-253. Available at: <https://urly.fi/31qf>. Accessed 17 October 2022.
- Mandal, A. 2019. *Electroconvulsive Therapy Mechanism*. Available at: <https://www.news-medical.net/health/Electroconvulsive-Therapy-Mechanism.aspx>. Accessed 4 September 2022.
- Martikainen, V., Palm, J. & Mielonen, M. 2021. *Potilaiden kokemukset ECT-hoidosta Etelä-Savon sosiaali- ja terveystieteiden kuntayhtymän alueella*. Mikkeli: Xamk ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/30HG>. Accessed 9 July 2022.
- Marttila, T. 2022. *Potilaiden kokemuksia ECT-hoidosta: katsaus kirjallisuuteen*. Turku: Turun ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/33jJ>. Accessed 10 July 2022.
- Masennus. 2021. *Masennuksesta johtuva työkyvyttömyys on merkittävä haaste*. Available at: <https://urly.fi/31eb>. Accessed 6 November 2021.
- Mayo Clinic. 2018a. *Electroconvulsive therapy (ECT)*. Available at: <https://www.mayoclinic.org/tests-procedures/electroconvulsive-therapy/about/pac-20393894>. Accessed 15 December 2022.
- Mayo Clinic. 2018b. *Transcranial magnetic stimulation*. Available at: <https://www.mayoclinic.org/tests-procedures/transcranial-magnetic-stimulation/about/pac-20384625>. Accessed 29 September 2022.
- Mayo clinic. 2020. *Schizophrenia*. Available at: <https://urly.fi/31ec>. Accessed 20 August 2022.
- Mayo Clinic. 2022. *Jet lag disorder*. Available at: <https://urly.fi/31ed>. Accessed 6 August 2022.
- Medical News Today. 2021. *What to know about the positive symptoms of schizophrenia*. Available at: <https://www.medicalnewstoday.com/articles/positive-symptoms-of-schizophrenia>. Accessed 25 August 2022.
- Medlineplus. 2022. *Contraindication*. Available: <https://medlineplus.gov/ency/article/002314.htm>. Accessed 25 May 2022.
- Merriam-Webster. 2022. *Stupor*. Available at: <https://www.merriam-webster.com/dictionary/stupor>. Accessed 20 September 2022.
- Merriam-Webster. 2023a. *Experience*. Available at: <https://www.merriam-webster.com/dictionary/experience>. Accessed 5 February 2023.
- Merriam-Webster. 2023b. *Attitude*. Available at: <https://www.merriam-webster.com/dictionary/attitude>. Accessed 5 February 2023.
- Mielenterveystalo. 2023a. *Mielialahäiriöiden diagnoosit*. Available at: <https://www.mielenterveystalo.fi/fi/masennus/mielialahairioiden-diagnoosit>. Accessed 5 February 2023.

- Mielenterveystalo. 2023b. *Kirkasvalohoito kaamosmasennukseen*. Available at: <https://www.mielenterveystalo.fi/fi/masennus/kirkasvalohoito-kaamosmasennukseen>. Accessed 5 February 2023.
- Mielenterveystalo. 2023c. *Lääkehoito mielenterveyshäiriöissä*. Available at: <https://www.mielenterveystalo.fi/fi/laakehoito-mielenterveyshairioissa>. Accessed 5 February 2023.
- Mielenterveystalo. 2023d. *Aivojen sähköhoito*. Available at: <https://www.mielenterveystalo.fi/fi/aivojen-sahkohoito>. Accessed 5 February 2023.
- Moher, D., Liberati, A., Tetzlaff, J. & Altman, D-G. 2009. The prisma group (2009). Available at: <https://guides.lib.lsu.edu/c.php?g=872965&p=6269176>. Accessed 20 December 2022.
- MTV. 2017. *MTV vieraili sairaalassa: Sähköshokkeja käytetään edelleen Suomessa vaikeasti masentuneiden hoidossa – "Tulokset kiistattomia"*. Available at: <https://urly.fi/30HI>. Accessed: 10 November 2021.
- Muukkonen, P. 2010. Tieteen etiikan keskeiset ongelmat ja tutkimuseettiset periaatteet Suomessa. *Tieteessä tapahtuu* 2/2010. Available at: <https://journal.fi/tt/article/view/2680/2454>. Accessed 10 November 2021.
- NHS. 2019. *Psychotic depression*. Available at: <https://www.nhs.uk/mental-health/conditions/psychotic-depression/>. Accessed 15 November 2022.
- NHS. 2021. *Anaesthesia*. Available at: <https://www.nhs.uk/conditions/anaesthesia/>. Accessed 7 February 2023.
- NIH. 2022a. *Mental Health Medications*. Available at: <https://www.nimh.nih.gov/health/topics/mental-health-medications>. Accessed 6 August 2022.
- NIH. 2022b. *Parkinson's Disease: Causes, Symptoms, and Treatments*. Available at: <https://www.nia.nih.gov/health/parkinsons-disease>. Accessed 10 October 2022.
- Nyman, L. & Lahtinen, P. 2021. *Ohjatun harjoittelun merkitys opiskelijan ammatillisessa kasvussa*. Saatavilla: <https://www.labopen.fi/lab-pro/ohjatun-harjoittelun-merkitys-opiskelijan-ammattillisessa-kasvussa/>. Accessed 12 December 2022.
- Oinonen, J. & Patala, M. 2014. *ECT-hoito-opas potilaille ja omaisille*. Mikkeli: Xamk ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/33jG>. Accessed 12 July 2022.
- Oksa, A., Koret, S. & Salminen, J. 2014. *Sähköhoidon potilasohjaus DVD*. Turku: Turun ammattikorkeakoulu. Hoitoalan koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/33jH>. Accessed 9 July 2022.
- Pälvimäki, M., Tolonen, A. & Kynkäänniemi, S. 2016. *Potilaiden kokemuksia sähköhoidosta*. Oulu: Oulun ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/33jI>. Accessed: 10 November 2022.
- Partonen, T. 2022. *Kaamosmasennus*. Available at: <https://www.terveyskirjasto.fi/dlk00377>. Accessed 14 September 2022.

- Partonen, T., Raaska, K., Kampman, O. & Lönnqvist, J. 2021. *Aivojen sähköhoito (ECT)*. Available at: <https://urly.fi/31qi>. Accessed: 7 November 2021.
- Petäinen, M. 2022. *Masennus vie työkyvyttömyyseläkkeelle yhdeksän ihmistä päivässä – naisia useammin kuin miehiä*. Available at: <https://urly.fi/31e6>. Accessed 10 September 2022.
- Poikela, R. 2019. *Potilasohje sähköhoidosta*. Savonlinna: Xamk ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/31e7>. Accessed 7 July 2022.
- Potapova, I. & Alonen, M. 2012. *Aivojen sähköhoito: Ohjausvideo aivojen sähköhoidosta Oulun yliopistollisessa sairaalassa*. Oulu: Diakonia ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/31e5>. Accessed 8 July 2022.
- Pudas-Tähkä, S-M. & Axelin, A. 2007. *Systemaattinen kirjallisuuskatsaus ja sen tekeminen*. Hoitotieteen laitoksen julkaisuja, A, Tutkimuksia ja raportteja, ISSN 1236-7370; 51. Turku: Turun yliopisto 2007. Accessed 6 November 2021.
- Pylväs, J. & Martti, J. 2011. *Sähköhoito mielenterveyspotilaiden hoidossa: Sähköinen potilasopas sähköhoitoa saaville potilaille, heidän omaisilleen sekä alan ammattilaisille*. Kemi: Kemi-Tornion ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/31e8>. Accessed 7 July 2022.
- Rafoul, B., Mashiach-Eizenberg, M., Hasson-Ohayon, I. & Roe, D. 2020. Knowledge about, attitudes toward, and willingness to undergo electroconvulsive therapy among mental health patients, staff, and family members. *International journal of mental health 2020, Vol. 49, NO. 3, 215–228*. Available at: <https://urly.fi/31qg>. Accessed 10 October 2022.
- Rajagopal, R., Chakrabarti, S., Grover, S. & Khehra, N. 2012. Knowledge, experience & attitudes concerning electroconvulsive therapy among patients & their relatives. *Indian Journal of Medical Research. Feb 2012, Vol. 135 Issue 2, p201-210*. Available at: <https://urly.fi/31mr>. Accessed 16 October 2022.
- Rasmussen, K. 2019. *Principles and Practice of Electroconvulsive Therapy*. American Psychiatric Association Publishing. Available at: <https://ebookcentral-proquest-com.ezproxy.centria.fi/lib/cop-ebooks/reader.action?docID=5750235>. Accessed 20 October 2021.
- Rautava-Nurmi, H., Westergård, A., Henttonen, T., Ojala, M. & Vuorinen, S. 2020. *Hoitotyön taidot ja toiminnot*. 7. painos. Sanoma Pro Oy. Accessed 10 December 2022.
- Ruotsalainen, R., Mykkänen, M. & Miettinen, N. 2016. *ECT-hoidon potilasohjausmateriaali: Esittelyvideo ja potilasopas Julkulan sairaalan neuromodulaatioryhmän masennus- ja skitsofreniapotilaiden potilasohjauksen tueksi*. Kuopio: Savonia-ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/30HF>. Accessed 10 July 2022.
- Salakari, M. 2020. *Systemoitu kirjallisuuskatsaus tiedon tuottamisen menetelmänä*. Available at: https://tohtori.turkuamk.fi/uploads/2020/04/92b18b03-kirjallisuuskatsaus_20.4.20.pdf. Accessed 9 November 2021.

- Salminen, A. 2011. *Mikä kirjallisuuskatsaus?* Vaasan yliopisto. Available at: https://osuva.uwasa.fi/bitstream/handle/10024/7961/isbn_978-952-476-349-3.pdf?sequence=1&isAllowed=y. Accessed 11 November 2021.
- SHRM. 2023. *Nurse Anesthetist*. Available at: <https://www.shrm.org/resourcesandtools/tools-and-samples/job-descriptions/pages/nurse-anesthetist.aspx>. Accessed 5 January 2023.
- Smith, Y. 2019. *Mental health nursing*. Available at: <https://www.news-medical.net/health/Mental-Health-Nursing.aspx>. Accessed 5 August 2022.
- Streefkerk, R. 2023. *Qualitative vs. Quantitative Research*. Available at: <https://www.scribbr.com/methodology/qualitative-quantitative-research/>. Accessed 5 February 2023.
- Study and exam. 2023. *Attitude formation*. Available at: <https://www.studyandexam.com/attitude-formation.html>. Accessed 5 February 2023.
- Tanaka, T. 2020. *ECT-hoito nuorisopsykiatrisessa hoitotyössä*. Jyväskylä: Jyväskylän ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/30HE>. Accessed 9 July 2022.
- Tays. 2020. *Psykiatrinen sähköhoito Pitkäniemen sairaalassa*. Available at: <https://urly.fi/31qh>. Accessed 4 November 2021.
- Tays. 2021. *Masennuksen erityistilanteet*. Available at: <https://urly.fi/33jo>. Accessed 5 November 2021.
- Theseus. 2023. *Theseus*. Available at: <https://www.theseus.fi/>. Accessed 5 January 2023.
- THL. 2021. *Mielialahäiriöt*. Available at: <https://thl.fi/fi/web/mielenterveys/mielenterveyshairiot/mielialahairiot>. Accessed 5 November 2021.
- Tolonen, T. & Tuomola, J. 2013. *Sähköhoidon opas potilaille ja omaisille*. Turku: Turun ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/30Hz>. Accessed 7 July 2022.
- Tørring, N., Sanghani, S-N., Petrides, G., Kellner, C-H. & Østergaard, S-D. 2017. The mortality rate of electroconvulsive therapy: a systematic review and pooled analysis. *Acta Psychiatry Scand* 2017 May;135(5):388-397. Available at: <https://pubmed.ncbi.nlm.nih.gov/28332236/>. Accessed 19 May 2022.
- Tuomi, J. & Sarajärvi, A. 2018. *Laadullinen tutkimus ja sisällönanalyysi*. 1. Painos. Kustannusosakeyhtiö Tammi. Accessed 7 November 2021.
- UEF. 2021. *Mitä julkaisuille saa tehdä? Tekijänoikeudet, plagiointi, viittaaminen*. Available at: <https://urly.fi/31qw>. Accessed 12 November 2021.
- University of Jyväskylä. 2022. *Viittaustekniikka*. Available at: <https://www.jyu.fi/hytk/fi/laitokset/mutku/opiskelu/seminaariohjeet/viittaustekniikka>. Accessed 12 November 2021.

University of Oxford. 2021. *Plagiarism*. Available at: <https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism>. Accessed 12 November 2021.

University of Turku. 2023. *Kuvien käyttö opinnäytetyössä*. Available at: <https://utu-guides.fi/c.php?g=655626&p=4624881>. Accessed 20 January 2023.

Vierikko, T. 2018. *Voimavaraistumista tukeva potilasohjaus: ohje sähköhoitoon (ECT) tulevalle potilaalle psykiatrian avohoidon tukiosastolla*. Turku: Turun ammattikorkeakoulu. Hoitotyön koulutusohjelma. Opinnäytetyö. Available at: <https://urly.fi/31qv>. Accessed 10 July 2022.

WHO. 2021. *Depression*. Available at: <https://www.who.int/news-room/fact-sheets/detail/depression>. Accessed 5 September 2022.

WHO. 2022. *Schizophrenia*. Available at: <https://www.who.int/news-room/fact-sheets/detail/schizophrenia>. Accessed 30 August 2022.

Wiley. 2022. *What is peer review?* Available at: <https://authorservices.wiley.com/Reviewers/journal-reviewers/what-is-peer-review/index.html>. Accessed 12 December 2022.

Wordvice. 2022. *How to Present the Limitations of the Study*. Available at: <https://blog.wordvice.com/how-to-present-study-limitations-and-alternatives/>. Accessed 17 December 2022.

Zhang, Q-E., Zhou, F-U., Zhang, L., NG, C., Ungvari, G., Wang, G. & Xiang, Y-T. 2018. Knowledge and attitudes of older psychiatric patients and their caregivers towards electroconvulsive therapy. *Psychogeriatrics*. Sep2018, Vol. 18 Issue 5, p343-350. Available at: <https://urly.fi/30HB>. Accessed 15 October 2022.