LAMK Lahden ammattikorkeakoulu
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Managing mental disorders during pregnancy in the field of nursing care

A systematic literature review

LAHTI UNIVERSITY OF APPLIED SCIENCES
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ABSTRACT

In this thesis, the aim is to address factors that need to be taken into account as a nurse in the management of a mental disorder during pregnancy. The purpose of the thesis is to improve nursing care of mental disorders in pregnant women. The purpose is formed to enhance professional expertise of nurses. The amount of earlier studies regarding this topic is low.

The undertaken method is a systematic literature review. Total amount of seven studies were included. Two research questions were set in consensus with the purpose and aim as follows: as a nurse, what factors need to be taken under the consideration in the management of a mental disorder of a pregnant woman and are there non-pharmacological treatment options for mental disorders during pregnancy. The analysis was conducted with a qualitative analyzing method.

The results underline the significance of monitoring the course of a mental disorder during pregnancy. Building a confidential care relationship with the patient, educating, supporting and caring are professional nursing skills in management of prenatal mental disorders. Committing the patient to the treatment is a necessary part of nursing care.

The literature review discovered lacking evidence concerning non-pharmacological treatment options for mental disorders during pregnancy. However, promising outcomes occurred from transcranial magnetic stimulation, tai chi, yoga, computer-assisted cognitive behavioral therapy and mindfulness. The findings can be utilized for instance in psychiatric wards and in maternity clinics. The results can be applied by multiple health care professional groups in their field. Additionally, international nursing students and nurses in Finland may utilize this literature review.

Key words: pregnancy, gestation, mental disorder, mental illness, mental health, depression, eating disorders, schizophrenia, anxiety disorders, nursing, management, treatment

Lahden ammattikorkeakoulu
Hoitotyön koulutusohjelma

LAKANIEMI, SONJA VALTOKARI, SIIRI:

Mielenterveyshäiriöiden hoitotyö raskauden aikana
Systemaattinen kirjallisuuskatsaus

Hoitotyön opinnäytetyö, 45 sivua, 12 liitesivua

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TIIVISTELMÄ

Opinnäytetyön tavoitteena oli osoittaa tekijöitä, jotka tulee ottaa huomioon raskaana olevan naisen mielenterveyshäiriön hoitotyössä. Opinnäytetyön tarkoituksena oli parantaa raskaana olevan naisen mielenterveyshäiriön hoitoa. Tarkoitus on laadittu hoitotyön näkökulmasta tukemaan sairaanhoitajan ammatillista osaamista. Aikaisempaa tutkimustietoa aiheesta on vähän.

Opinnäytetyö on systemaattinen kirjallisuuskatsaus. Katsaukseen otettiin mukaan yhteensä seitsemän tutkimusta. Ennen hakua asetettiin kaksi tutkimuskysymystä sekä opinnäytetyön tarkoitus ja tavoite. Tutkimuskysymykset olivat seuraavanlaiset: mitä tekijöitä tulee ottaa huomioon raskaana olevan naisen mielenterveyshäiriön hoidossa sairaanhoitajan näkökulmasta ja onko olemassa lääkkeettömiä hoitovaihtoehtoja raskaana olevien naisten mielenterveyden häiriöille. Aineisto analysoitiin kvalitatiivisella analyysimetodilla.

Katsauksen tulokset korostavat mielenterveyshäiriön oireiden seurantaa raskauden aikana. Luottamuksellisen hoitosuhteen luominen potilaan kanssa, tiedonanto sekä tuki ovat osa sairaanhoitajan ammatillista osaamista raskausajan mielenterveyshäiriön hoidossa. Potilaan hoitoon sitoutumiseen kannustaminen kuuluu myöskin sairaanhoitajan tehtäviin.

Katsauksessa todettiin vahvan tutkimusnäytön puuttuvan koskien lääkkeettömiä hoitovaihtoehtoja raskausajan mielenterveyshäiriöihin. Kuitenkin lupaavia tutkimustuloksia ilmeni transkraniaalisesta magneettistimulaatiosta, tai chista, joogasta, tietokoneen välityksellä suoritetusta kognitiivisesta käyttäytymisterapiasta ja mindfulnesista. Tutkimustuloksia voidaan hyödyntää psykiatrisilla osastoilla sekä äitiyshuollossa, tuloksia voivat hyödyntää myös monet muut terveydenhuollon ammattiryhmät omassa työssään. Lisäksi kansainväliset sairaanhoitajaopiskelijat ja sairaanhoitajat Suomessa voivat hyödyntää tätä kirjallisuuskatsausta.

Asiasanat: raskaus, mielenterveyshäiriö, mielenterveys, masennus, syömishäiriöt, skitsofrenia, ahdistuneisuushäiriöt, hoitotyö, hoito

TABLE OF CONTENTS

1 INTRODUCTION

Nowadays women with mental disorders are met more and more in prenatal care, and therefore maternity clinics play a vital role in the detection of mental illnesses (Ämmälä 2015). Having a mental disorder or falling to mental illness during pregnancy might emerge ashaming feelings in the mother (Mäkelä, Pajulo, Sourander 2010).

Previously in prenatal care, attention to the mental status of a pregnant woman and possible diagnoses of a mental disorders was mainly paid on the time of postpartum period. Lately it has been seen to reach also the prenatal period, as understanding that mental health issues due to gestation need to be considered no later than the pregnancy shows its first signs. (Buist 2014.)

In this thesis, the aim is to address factors that need to be taken into account as a nurse in management of a pregnant woman having a mental disorder. The purpose of the thesis is to improve nursing care of a mental disorder in pregnant women. The purpose is formed to enhance professional expertise of nurses. In addition, another purpose of the thesis is to improve the knowledge of nurses and nursing students. The undertaken methodology is a systematic literature review and the analyzing is performed with qualitative analyzing method.

Mental disorders during pregnancy have been studied, however, to the authors' knowledge a systematic literature review of the topic from nursing point of view is needed. The amount of earlier studies regarding this topic is low. Therefore, the topic of this thesis is limited to concern only the management of a prenatal mental disorder of a woman. Effects on foetus are not considered.

The findings can be utilized for instance in psychiatric wards and in maternity clinics and applied by multiple health care professional groups in their field. In addition, English-speaking nursing students and nurses may utilize this literature review. Findings of the literature review emphasize the role of nursing care as a part of management of mental disorders during pregnancy and they point a path and opportunities for future studies.

2 THEORETICAL BACKGROUND

Theoretical background of this thesis consists of two main parts: pregnancy and mental disorders. Normal course of pregnancy, changes during pregnancy and pregnancy as a developmental crisis are covered up. Mental disorders in this theory are introduced by definition, symptoms and treatment methods. The role of a nurse is discussed in the end of both parts.

2.1 Pregnancy

Pregnancy is defined as a status during which a woman carries her unborn fetus in the utero beginning from fertilization to childbirth (U.S. National Library of Medicine 2017). To be able to recognize pathophysiology in pregnancy it is needed to understand the normal course of pregnancy including physical, mental and social changes occurring during pregnancy (Botha & Ryttyläinen-Korhonen 2016, 12).

A normal pregnancy takes 40 weeks in which the body of a woman changes (Tiitinen 2016). These 40 weeks have been divided further into three trimesters. The early pregnancy, first of three trimesters, lasts 12 weeks. By this time the early organs of a fetus develop (Haug, Sand, Sjaastad & Toverud 2012, 496). During the first trimester, also hormonal changes occur. For instance, the level of estrogen and progesterone increases strongly resulting as physical changes in the body of a pregnant woman. (Sariola & Tikkanen 2011, 311.)

The second trimester includes weeks from 12 to 16. During these weeks, the development of organs and organ systems' of the foetus complete. The fetus grows and by the end of the second trimester the characters are humanly. In the third trimester, the fetus grows rapidly and the organs are already ready to function in the beginning of the trimester. (Haug et al. 2012, 496.)

2.1.1 Changes during pregnancy

The time of pregnancy consists of multiple changes in biochemistry and physiology of a woman. These changes are aiming to adapt and prepare the body for the pregnancy: to nourish and preserve the fetus. (Sariola & Tikkanen 2011, 309-310.) A pregnant woman gains weight normally from eight to fifteen kilograms. This weight gain is a consequence of

the weight of uterus, placenta, fetus and amniotic fluid. (Tiitinen 2016.) During pregnancy the mother's breasts will grow and mammary glands are prepared to produce of breast milk (Sariola & Tikkanen 2011, 309-310). The fluid volume of the body increases and plasma volume rises, causing the weight gain (Tiitinen 2016).

Increased plasma volume and production of red blood cells do not correspond to each other. As a result, the amount of hemoglobin decreases normally during 20.-30. week of pregnancy. This phenomenon is also called haemodilution. In addition, the blood pressure of a pregnant woman slightly decreases and the pulse rate rises. (Sariola & Tikkanen 2011, 309.) Blood flow increases in the certain parts of the body: uterus, vagina and vulva (Tiitinen 2016).

In the third trimester, vena cava is pressed by a large uterus resulting in decreased blood flow in the veins. The mother has symptoms such as weakness and feeling of fainting. In addition, the heart rate of the fetus decreases. In the third trimester lying on one's back is not recommended due to the pressed vena cava. (Sariola & Tikkanen 2011, 309.)

Multiple changes in endocrinology of a pregnant woman occur. The placenta and other hormone glands secrete hormones which have several effects. In the beginning of a pregnancy human chorionic gonadotropin (hCG) maintains corpus luteums' progesterone secretion. Progesterone is a hormone which maintains pregnancy and prevents muscles of the placenta from constriction. Progesterone is also secreted by the placenta and it is responsible for this after the 11. or 12. week of gestation. Other important steroid hormones of a pregnancy are estrogens: estrone and estradiol. Estradiol is responsible for constriction of the placenta. Estrogens cause also several metabolic effects, for instance growth of mammary glands and changes in the circulatory system. (Sariola & Tikkanen 2011, 311.)

During pregnancy, some parts of the body will darken such as the areolas and the perineum. Melasmas might appear on the face of a pregnant woman. (Tiitinen 2016.) They are dark and fairly large spots usually on the cheek or forehead and do not require treatment but may cause cosmetic harm to the patient. Melasmas tend to appear during pregnancy and fade after the childbirth. (Hannuksela-Svahn 2016.) Furthermore, it is common for stretch marks to be appeared while being pregnant. This formation results from sudden weight gain typical to pregnancy and certain hereditary character of connective tissue. (Tiitinen 2016.)

Nausea, fatigue and digestive symptoms which include constipation and acid dyspepsia, are inconvenient symptoms which a pregnant woman might experience (Tiitinen 2016). Nausea is estimated to be caused due to secretion of above mentioned hCG-hormone. Dyspepsia is often occurred since the muscle tonus of the sphincter in the esophagus decreases and the position of the esophagus changes in the course of pregnancy. Constipation occurs due to decreased activity of muscles in the intestines and growth of the womb. However, foods rich in fibre tend to ease constipation. (Sariola & Tikkanen 2011, 313.) Hemorrhoids and varicose veins might worsen and show symptoms, as well as urinary frequency increases due to growth of the womb. Incontinence is common during the third trimester of pregnancy. Body swelling might result pregnant woman to feel heavy and cause numbness of fingers. These symptoms tend to disappear after childbirth. (Tiitinen, 2016.)

The body of a pregnant woman is not alone the only aspect changing as the psychological changes are a major part of a pregnancy as well. It is a part of a normal pregnancy for a mother to experience fear, discordant feelings, anxiety and mood swings. (Tiitinen 2016.) However, in normal pregnancy these symptoms are mild and temporary differing from psychiatric disease. It is natural to worry about the health of the unborn child and the course of on-coming childbirth. Sometimes antenatal classes and visiting the hospital before-hand might help to manage these feelings. (Sariola & Tikkanen 2011, 313-314.)

2.1.2 Pregnancy as a developmental crisis

During pregnancy, a woman undergoes through multi-faceted changes mentally, concerning for instance identity. In fact, pregnancy and adapting the role of a parent are important transitions in a woman’s life. (Mäkelä et al. 2010.)

A developmental crisis differs from traumatic crisis. Traumatic crisis is a shocking and traumatizing event for instance car crash or loved one’s sudden death occurring suddenly and unexpectedly. It is not possible anyhow to prepare oneself for it. Developmental crises are part of life. They are periods of transition occurring gradually in which a person is usually prepared to beforehand. For instance, teen age, becoming independent and delivering the first child are developmental crises of a person’s life. (Elämän erilaiset kriisit 2010.) Changing of a person’s identity is a connecting factor of all developmental crises

(Mäkelä et al. 2010). During the developmental crisis of pregnancy, a woman adapts herself for the future motherhood (Tiitinen 2016).

Successful psychological development process during this developmental crisis is one of the key factors for well-being of a woman (Tiitinen 2016). In order for a woman to successfully develop during the pregnancy into a mother there are certain milestones she has to achieve. Moreover, in a developmental crisis, the focus of a woman is in herself – she is choosing a direction and content for the new stage of life. In course of transitions a person is mentally more vulnerable. Whereas the course of pregnancy can be divided into three trimesters, the psychological development includes three phases as well. The aforementioned developmental milestones of pregnancy consist of absorption, differentiation and detachment. (Mäkelä et al. 2010).

The phase of absorption in the first trimester consists of different milestones and developmental tasks. Experiencing the fetus as a part of one's body but at the same time turning the focus into the own inner occur. The main focus of this phase is on the physical changes and the need for taking care of one's own health is increased. Pondering, absence of mind, forgetfulness, sensibility and mood swings are part of this phase. In addition, concerns towards the health of the fetus may occur. (Mäkelä et al. 2010.)

Sensing the feeling of a moving fetus begins the second phase – differentiation. The mother experiences the fetus as an individual. The main focus of the woman turns from herself to the fetus. The woman is struggling with her identity as a woman and as a mother. She is also reflecting her own early experiences of life and working on her relationship with her own mother. Depending on the mother's own early experiences of the concept of caring and parenting, undergoing these thoughts might be scary and cause anxiety. Especially negative and harmful experiences in the early childhood might cause her workload when defining the concepts of parenthood and caring towards the unborn child. (Mäkelä et al. 2010.)

The third phase of the developmental crisis is detachment. In this phase, the perception of the fetus becomes more accurate. The main focus is on the reality of the coming child. The woman is preparing herself for childbirth. Worries and fears concerning the childbirth and the unborn child are met. Anxiety, restlessness and agitation may occur. The woman is struggling with combining her own needs and the needs of the child. Along the

psychological changes goes hormonal and metabolic changes which on the other hand might affect how women experience these psychological and social changes. (Mäkelä et al. 2010.)

2.1.3 The role of a nurse in prenatal care

Nursing a woman is a part of a registered nurse's competence expertize. Woman's nursing care is divided into two categories: obstetrics and gynecology. Prenatal care is part of obstetrics. (Botha & Ryttyläinen-Korhonen 2016, 11.)

It is assured in nursing school that a registered nurse will have an adequate knowledge base of anatomy and physiology of a healthy and unhealthy body and behavioral manners. Also, understanding the connection between health condition and physical and social circumstance, in which a patient is living, is part of nursing expertize. Moreover, a nurse has to understand ethics and character of a registered nurse's professionality in order to independently implement quality nursing care of a woman. (Botha & Ryttyläinen-Korhonen 2016, 12.)

Promoting and maintaining of health, treating and preventing diseases and alleviating distress is part of nursing care. A vital part of nursing is encountering a client and developing a trusty care relationship. In addition, a nurse has to be capable of planning, implementing and evaluating the care in collaboration with a patient and her family. (Botha & Ryttyläinen-Korhonen 2016, 12.)

In prenatal care the role of a nurse is to understand the normal course of a pregnancy, childbirth and puerperium. Supporting the families in growth into parenthood and caring of a newborn is part of a prenatal care. (Botha & Ryttyläinen-Korhonen 2016, 13.) In prenatal care, the course of the pregnancy is followed frequently in order to detect abnormalities and risks of pregnancy in early phase. These risks may occur for example as increased blood pressure of a mother or decreased growth of the fetus. In addition, it is necessary to know the course of earlier pregnancies since for instance history of difficulties in pregnancy require more frequent follow-up. A nurse is playing a pivotal role in detecting risk factors of pregnancy. (Sariola & Tikkanen 2011, 308.)

Because the prenatal care reaches nearly all pregnant women, it poses a significant opportunity in detection of mental illnesses. There are some mental disorders that occur more often during pregnancy than other times, and early detection is essential since untreated mental disorders often have far-reaching consequences. Mental disorders prenatally are estimated to be underdiagnosed but highly common. (Ämmälä 2015.)

2.2 Mental disorders

Definition of “mental disorders” includes aspect of deviances in one’s thoughts and behavior, possibly resulting in the person suffering and having disturbances in functioning. The aforementioned may follow from meltdowns during different adaptation processes. (Cochrane Library 2017.)

2.2.1 Depression

Depression is a serious psychiatric disease, in which a person is having a long period of mental melancholy, loss of satisfaction and decreased ability to function (Lääketieteen termit 2017).

There is a wide range of possible symptoms a patient may typify: change in appetite or one’s weight, repetitive thoughts or acts related to self-destruction, loss of self-respect, loss of satisfaction, emotions and feelings indicating guiltiness while having no reason to be guilty (Isometsä 2016). In addition, changes in sleep, difficulties in performing daily activities may occur, and maintaining social connections might feel overwhelming (Leinonen 2008, 64). Characteristically there is also some kind of anxiety disorder beside the depression; approximately 50% of the patients having depression have an anxiety disorder. In order to have depression diagnosis the patient must have at least four symptoms out of ten (symptoms required are based on ICD-10). Health care professionals may use questionnaires as a tool when there is suspicion of depression (Beck’s depression scale, GDS15 or 30, Edinburgh Postnatal Depression Scale, EPDS; for women who have recently given birth). After the patient is diagnosed, there are several treatment options the patient might benefit from (Depressio: Käypä hoito –suositus 2016.)

It needs to be taken under the consideration to think how severe the patient’s illness is. A patient having mild depression usually means he or she can continue at work. (Isometsä,

2016.) In mild depression a patient is still able to manage one's daily activities (Leinonen 2008, 64). In moderate depression patients may need sick-leave from work since they are not able to perform their everyday life duties (Isometsä, 2016). Usually moderate depression has a significant effect on work and other social interaction (Leinonen 2008, 64). Severe depression may be an indication for admittance to psychiatric ward, if the mental state requires it (Isometsä, 2016). However, it is possible also to receive treatment for severe depression in psychiatric outpatient care (Leinonen 2008, 64). In psychotic depression patient is having hallucinations or other psychotic symptoms beside the actual depression symptoms and treatment in psychiatric ward is necessary (Isometsä 2016).

The treatment is divided into three different phases. The first one is the acute phase in which the patient is already being diagnosed. The aim of this phase is to have a symptomless patient. As soon as this is achieved, the treatment is continued, aiming to prevent any relapses and symptoms returning. The third phase aims to keep the recurrence of depression from occurring. (Depressio: Käypä hoito –suositus, 2016.)

Psychotherapy, pharmacological treatment, electroconvulsive therapy (ECT) and light treatment are examples of the treatment options of depression (Depressio: Käypä hoito – suositus 2016). Antidepressants are a widely used treatment method although side effects occur especially when using tricyclic antidepressants. Antipsychotics, tricyclic antidepressants and SSRIs (selective serotonin reuptake inhibitors) are the most common drugs used in treatment of depression. (Leinonen 2008, 67.) Moreover, the studies have shown that by combining pharmacological treatment and psychotherapy the most effective results have been achieved (Depressio: Käypä hoito –suositus, 2016).

In cognitive therapy, the main point is the therapist and the patient together searching for behavioral models that may cause or maintain the depression while strengthening the patient's self-reflection and alternative actions. Interpersonal therapy is concentrating on factors and relationship maintaining the illness. Electroconvulsive therapy is seen to be effective especially in the treatment of severe depression, approximately 90% of patients benefit from ECT and in psychotic depression ECT is still the most effective treatment method. Often patients who do not seem to benefit from pharmacological treatment might profit from electroconvulsive therapy. (Leinonen 2008, 67-68.)

2.2.2 Anxiety disorders

Anxiety disorders include a range of disorders and the cause of the anxiety vary. What different anxiety disorders have in common is that the anxiety is strong, long-lasting and often limits the patient's social activity and the ability to survive from everyday life. (Koponen & Lepola 2016.)

Mostly the symptoms of different anxiety disorders mirror one and another. It can be said that fear, restlessness, difficulties to fall asleep and concentrate are the most common symptoms. Additionally, somatic symptoms are typical; fainting, shortness of breath, excessive sweating, nausea or palpitation are examples of somatic symptoms that may occur during the anxiety seizure. (Koponen & Lepola 2016.) Moreover, chest pain and stomach dysfunctions may also occur (Lepola, Koponen & Leinonen 2008, 94). On the other hand, the anxiety is not always appearing as seizures, it can be also tied to certain situations or circumstances. At any rate, it is not unusual either that the anxiety occurs continuously. (Koponen & Lepola 2016.)

Somatic symptoms occur especially in panic disorder, which is one type of anxiety disorder. Panic disorder occurs as panic attacks not bound to specific situations or circumstances, but fear of public places is often in the picture when talking about panic disorder. During the attack, the patient may fear death or losing the control, and somatic symptoms are present in every attack. (Koponen & Lepola, 2016.) Treatment usually consists of pharmacological treatment, often SSRIs (selective serotonin reuptake inhibitors), and psychotherapy. Since the effect of the drug occurs no sooner than after few weeks, benzodiazepines can be used at the beginning for alleviating the anxiety symptoms. (Lepola et al. 2008, 90-91.)

One sort of anxiety disorder is fear towards social situations (Koponen & Lepola 2016). The disorder can be divided into two categories: the anxiety may occur in few specific situations or it appears in every social environment (Lepola et al. 2008, 81). The symptoms of anxiety appear in situations, where one should perform, meet new or strange people or play any kind of role in a group. Since the above mentioned social positions cause anxiety, it may lead eventually to avoidance of these kind of situations and circumstances (Lepola et al. 2008, 81). SSRI –medication and cognitive psychotherapy are commonly used for treatment, sometimes also beta blockers to some specific difficult situation (Koponen & Lepola 2016).

General anxiety disorder (GAD) is not connected to any certain situation or circumstances and it does not appear in form of seizures. The patient has ostentatious and continuous worry and anxiety related to everyday, ordinary things in life and towards the future. General anxiety disorder often occurs beside some other psychiatric illness and often the prognosis is poor (Lepola et al. 2008, 92; 94-95). Since it is limiting the patient's ability to act in everyday life, it requires treatment (Koponen & Lepola 2016). Most common drugs used to treat GAD are SSRIs, which are discovered to be effective and safe in treating anxiety. A patient having general anxiety disorder might utilize benzodiazepines as well, for a short period. Behavioral and cognitive therapies have given promising results in treatment of GAD. (Lepola et al. 2008, 90.)

Important in all different anxiety disorders' evaluation is to discuss with the patient about the factors that may cause or maintain the anxiety. Helping the patient to specify his or her emotions is a vital part of the treatment as well. (Koponen & Lepola 2016.)

2.2.3 Shcizophrenia

Schizophrenia is a multidimensional psychiatric disease which can be defined as difficult fragmentation of personality and lowered sense of reality which may occur as the person not being capable of differentiating what is real and what his or her hallucinations caused by the disease. The disease can be divided into three main categories; catatonic, paranoid and hebephrenic schizophrenia. (Isohanni & Joukamaa 2008, 43; 46-48.) The course of the illness is individual (Skitsofrenia: Käypä hoito –suositus 2015). However, the prognosis can be brighter if early diagnosis and adequate treatment are met (Isohanni & Joukamaa 2008, 48).

Symptoms of schizophrenia are divided into positive and negative symptoms. Positive symptoms are psychotic symptoms, including hallucinations, especially auditive hallucinations. Irrational and disjointedness behavior and speech may appear. Delusion of something which is not true is a typical positive symptom, often delusions seem to be very strange to outsiders. Negative symptoms occur as flattened emotions and feelings, the patient's withdrawal and inability to feel satisfaction. In addition to negative and positive symptoms, the patient may also have decreased ability in memory, cognitive dysfunctions and problems in attentiveness beside anxiety and thoughts related to suicidality. (Skitsofrenia: Käypä hoito –suositus 2015.)

For each patient, treatment of schizophrenia is tailored individually. Since the patients often have some somatic diseases beside the actual mental illness, the importance of somatic treatment is highlighted. In a long-term psychiatric care supporting the patient actively in order to maintain motivation, and prevention of new episodes of schizophrenia or psychosis will be emphasized. This requires effective and adequate services available to the patient in case of a sudden need. Medication takes also a great position in the treatment, it is recommended to at least try a neuroleptic medication to every patient. Pharmacological treatment is aiming to alleviate psychotic symptoms, reduce possibility of relapses and offer an opportunity to implement other treatment methods. Antipsychotic medication often causes side effects and therefore the daily portion should be adjusted to as small as possible but still having sufficient effect. (Isohanni & Joukamaa 2008, 49-50.)

Furthermore, neuroleptics include many options with wide range of side effects, to schizophrenia are used for example clozapine, olanzapine, quetiapine, haloperidol, apiprazole and fluphenazine (Schulz, North & Shields 2007). After one's first psychosis, treatment with medication is continued usually for a few years. It is highly recommended to combine to the pharmacological treatment with individual psychotherapy including psychoeducation, which seems to be effective for schizophrenic patients. Other suitable options are for instance group psychotherapy and art therapy. Invoking to care at psychiatric ward is often justifiable in order to ensure the diagnosis. However, the significance of psychiatric hospital care in the treatment of schizophrenia has decreased. (Isohanni & Joukamaa 2008, 50-51; 52.)

2.2.4 Eating disorders

Eating disorders are general mental disorders, ordinarily appearing among young women. These disorders are associated with dysfunctions in physical, social or mental performance and deviant eating behavior. (Syömishäiriöt: Käypä hoito –suositus 2014.) Patients having an eating disorder aim to hide the illness. That brings its own challenge to the treatment, which is aiming to normalize the condition of malnutrition and eating behavior and eating habits. (Koponen & Lepola 2008, 161.)

Even if eating disorders' prevalence has become higher, more and more patients are receiving treatment. The main eating disorders are anorexia nervosa and bulimia, even though both of them may exist in atypical forms as they do not fulfill the complete definition

of either above mentioned eating disorders. (Koponen & Lepola 2008, 154.) Binge eating disorder (BED) is the most common atypical eating disorder (Syömishäiriöt: Käypä hoito – suositus 2014). Additionally, beside anorexia nervosa or bulimia, major part of the patients has some other mental disorder, for instance anxiety disorder or depression (Koponen & Lepola 2008, 160).

At its worst, anorexia nervosa is a life-threatening medical condition. Its symptoms include intentional excessive weight loss and dieting is often compulsive. Anorexia is manifested by malnutrition, fast weight loss, lanugo hair growth, decreased pulse and blood pressure, bone loss leading to risk of fractures and disturbances in menstruation. Patients may intentionally vomit, abuse laxatives and diuretics in order to slim down and have excessive amount of exercise and on the other hand, eat surreptitiously. Normal puberty development may stop. A person suffering from anorexia nervosa have biased body image and are aiming repeatedly to lose more weight. (Koponen & Lepola 2008, 157-158.)

Often anorexia takes a place before bulimia, and latter mentioned is characterized by a strong fear towards fat and weight gaining. Patients gorge large amounts of foods, often high in carbohydrates. Following that, patients may use diuretics, laxatives or vomit in order to compensate gorging. Having excessive exercise is common as well. To bulimia patients eating and devouring causes anxiety, shame and feelings of guilt. Damages in digestive organs may occur, as well as problems in menstruation. Possible overweight in bulimia patients may result as elevated blood pressure, heart diseases and diabetes. (Koponen & Lepola 2008, 158-159.)

Anorexia nervosa is mainly treated in outpatient care. A target weight will be set and education about the effects of malnutrition on physical and mental function is provided. This often requires also limiting the exercise. Patient resists the weight gaining as she or he fears losing the control. Cognitive psychotherapy, interpersonal therapy and family involvement to the treatment has shown promising results. Pharmacological treatment has not actual place in the treatment of anorexia, but in the comorbidity; treating possible depression and anxiety is needed. (Koponen & Lepola 2008, 161-162.)

Patients suffering from bulimia are often more motivated to receive the treatment, even though they find the disorder very shameful and it is tried to hide. Normally also bulimia is treated in outpatient care. The patient is advised and encouraged to relinquish from

attempts of losing weight, even if patient were overweight. Patients require cognitive psychotherapy, psychoeducation of eating habits attached to it. Pharmacological treatment has more efficacy in treatment of bulimia, and antidepressants are applicable. However, often patients having bulimia have some other psychiatric illnesses requiring more attention and being more difficult than bulimia itself. (Koponen & Lepola 2008, 162-163.)

2.2.5 The role of a nurse in psychiatric care

The care relationship between the patient and the nurse starts when the patient is accepted to the ward and his or her nurse is appointed. At the beginning there has to be enough time for both parties to get to know each other. It is possible that patients are disposed to the ward for involuntary treatment, therefore patients are not always coming in with agreement and voluntarily. Moreover, this poses a challenge to building the care relationship and underlines the importance of the nurse gaining trust of the patient. At the beginning of the care relationship reasoning the care, ensuring the patient will be heard and taking into account the patient's own thoughts and ideas are aiming to clarify the situation to both sides and create the base for goals of the co-operation. (Kuhanen, Oittinen, Kanerva, Seuri & Schubert 2010, 167-168.)

Psychiatric nursing care is often implemented by a multi-professional team, where each group member (physician, psychology, social worker, nurses, and the patient's family) bring their own expertise in order to achieve goals related to the care set. Moreover, each patient has a so called personal nurse (primary nursing). Nurses and the patient need have to have shared opinion of the treatment and what it includes. Personal nurse is responsible for the patient's daily nursing care to be implemented. He attends to the meetings of the multi-professional team but may also have discussions or meetings together with the patient. (Kuhanen et al. 2010, 148-149; 158)

The personal nurse in the ward supports the patient in daily activities and encourage the patient to take responsibility of his or her own life. The nurse has to have the courage to actually listen and hear what the patient may want to say in order to help the patient to parse his or her thoughts. Showing care and helping the patient to find something pleasant or interesting to do are also a part of nursing care in the psychiatric field. The nurse and the patient may together plan and create a weekly program the patient can follow during the

period in ward. Furthermore, in outpatient care, the psychiatric nursing care of one patient is arranged differently between the nurses. (Kuhanen et al. 2010, 206-208; 150.)

Rehabilitation is a part of psychiatric care, aiming to improve the overall quality of life and the client in process is seen as the expert of his or her own life and illness. In psychiatric care, a nurse's role in the rehabilitation process is diverse; he or she is in a way allowing the whole process to succeed, playing a role of a kind of partner. The nurse has professional know-how and information while being able to open possibilities to the patient and supporting his or her own decisions. The nurse's role is vital especially at the beginning of the rehabilitation process since the client usually needs more help getting started. Later the role changes a bit; the nurse supports the client on the right time, keeps the hope up, but also understands to let go when the client believes to be able to survive on their own. (Kuhanen et al. 2010, 100-101).

Psychiatric nursing care requires the nurse's understanding of different kinds of approaching methods in order to be able to respond to the different kind of needs and requirements of patients and their families. Since the well-being of the patient and his or her family can not be separated, the family is often included in the treatment. Therefore, the nurse has to keep in mind what meaning the family has to the patient; does the patient have family, are they in contact, what is the patient's own opinion of including the family in the treatment. (Kuhanen et al. 2010, 90; 94-95.)

Together the patient, family and the nurse are aiming to find out solutions and what to do in difficult situations in order to improve the whole family's well-being and health including the patient. The nurse has to keep in mind that the patient has to be fully involved in the treatment, the patient being a passive treatment receiver is not in the patient's best interest. (Depressio: Käypä hoito –suositus, 2016.) Moreover, increasing the patient's own ability to control his or her mental disorder, prevent relapses and improve the patient's quality of life can be seen as the farthest aims in psychoeducation (Kuhanen et al. 2010, 92).

Psychoeducation as a method can be seen as shared expertise between the patient and the nurse. The starting point of the psychoeducation is the nurse and the patient together discovering the patient's personal and intimate experiences and thoughts. The nurse's expertise comes after that, as he or she brings the latest related findings of medicine and nursing field aside the patient's experience. Therefore, as the patient brings up his or her

own personal experiences, the information received from the nurse's side is easier to assimilate. (Kuhanen et al. 2010, 90-91; 93.)

Furthermore, when it comes to psychoeducation, it is not worthwhile to concentrate on the question why the patient fell ill in the first place, but on the current situation or problems and the future. Also, any of the purposes is not the nurse to unilaterally educate about the illness. It is more discussion and exchanging perceptions and searching explanations. However, the patient should receive information about following things: possible medication, the signs of relapses and recovering, patient's rights, treatment options, factors causing relapses and factors maintaining health, and information regarding specifically his or her illness. The nurse needs to also keep the hope to recover present. (Kuhanen et al. 2010, 91-93.)

Typically, the nurse has to use his or her own personality as a tool in psychiatric nursing care. Therefore, to be capable to support and care for the patient, the nurse has to carefully consider his or her own personal feelings. Helpful in this process and self-examination the nurse may find the team's co-workers and professional guidance. When working in the psychiatric field, nurses have to remember that it is important to develop their own reflection skills, which means practicing analyzing one's feelings. After that the nurse is able to better understand the patient's emotions. In the end, the nurse has to understand that he or she can not express their own feelings as openly as the patient. (Kuhanen et al. 2010, 171.)

3 AIM, PURPOSE AND RESEARCH QUESTIONS

The aim of this thesis is to find out what are the factors needed to be taken into account in the management of a mental disorder during pregnancy from the nursing point of view. The purpose of the thesis is to improve nursing of a pregnant woman with mental disorder by improving knowledge of health care professionals. Furthermore, non-pharmacological treatment options will also be discussed as a part of management of mental illnesses.

The research questions in this systematic literature review are as follows:

1. As a nurse, what factors need to be taken under the consideration in the management of a mental disorder of a pregnant woman?
2. Are there non-pharmacological treatment options for prenatal mental disorders?

4 METHODOLOGY

Methodology, which could also be called a study of a process, describes as its simplest how the knowledge and understanding of the topic is achieved. Methods are actions which the researcher undertakes in order to find data on the research problem (Burns & Grove 2009, as cited in Kankkunen & Vehviläinen Julkunen 2013, 17 & 53). It includes practical introduction of data collection and analysis. (Kankkunen & Vehviläinen-Julkunen 2013, 17 & 53.)

To answer the abovementioned questions a systematic literature review is conducted. The aim of a systematic literature review is to gather together comprehensive information based on previous studies. It focuses on relevant and reliable information since there is a lot of data available. A systematic literature review is systematical, profoundly defined and reparative. To be able to search previous studies which answer to the set research questions, it is necessary to have properly defined inclusion and exclusion criteria. (Johansson 2007, 3-7.)

A systematic literature review has a significant role in the health care system especially in the base of decision-making and evidence-based nursing (Hovi et al. 2011, as cited in Kankkunen & Vehviläinen-Julkunen 2013, 97-98). A systematic literature review consists of planning, setting the research questions, searching original studies', data collection and quality evaluation, analysis of the data and reporting of the findings (see Kääriäinen & Lahtinen 2006, as cited in Kankkunen & Vehviläinen-Julkunen 2013, 97-98).

4.1 Data collection and analysis

Data collection in this process was conducted firstly by forming research questions. Keywords were formed with a PICO-format which is introduced below. Secondly, research was implemented in following databases: CHINAL (EBSCO), Medic, Cochrane Library, Joanna Briggs Institute EBD Database (Ovid), PubMed and Terveysportti (lääkärin- ja sairaanhoitajan tietokannat). The authors searched results for the research questions individually by forming different research strategies in the databases. Data was included by title and abstract according to the inclusion and exclusion criteria. Both of the authors read the selected full texts and came into the conclusion of including the data in the analyzing

process. Finally, the included data was analyzed with a qualitative analyzing method (Figure 1).

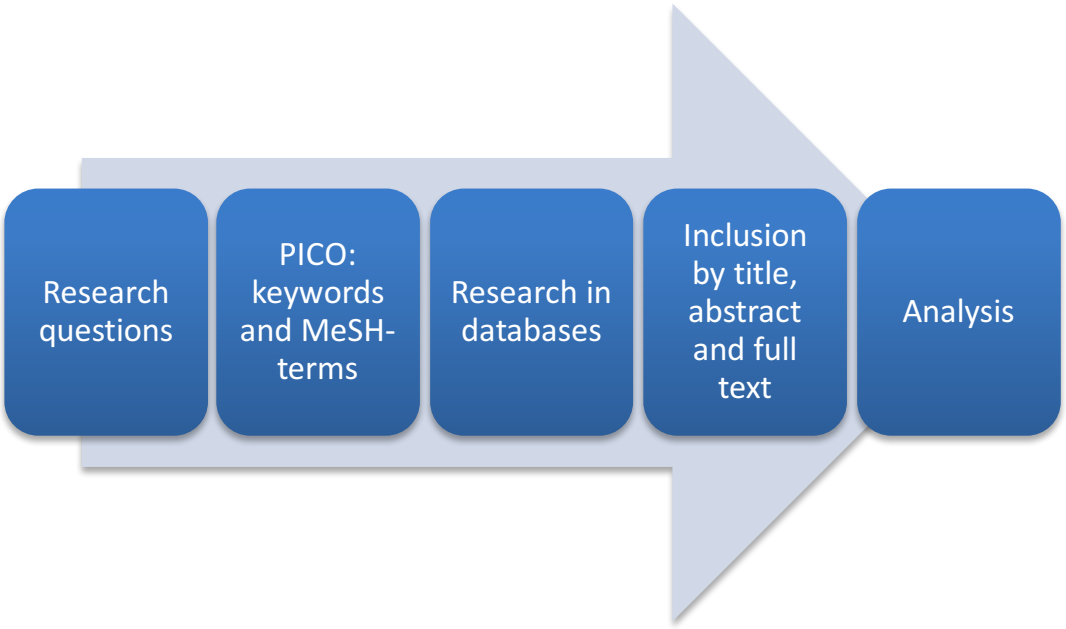


Figure 1. Data collection process.

4.1.1 PICO-format and research strategy

In this thesis a certain format, which is applied to form, clarify and define keywords for search, is used. By following this format, the research questions are converted into research strategy. This format is called a PICO-format. The background of this format lies on evidence-based medicine and patient-centred mindset. (Isojärvi 2011.)

Every letter in PICO stands for a word which guide the researchers to form the research questions. These are: problem of interest/population, intervention under investigation, the comparison of interest and the outcomes considered most important in assessing results. By following this format, it is practical to set the research questions and form the keywords for research. (Axelin & Pudas-Tähkä 2007, 47.)

In the thesis in question, population (P) under study is fertile-aged women who live in Western countries. This is justified since this literature review is aiming to find factors that are applicable in Western countries. The study is focusing on women with a mental disorders during pregnancy. Intervention under investigation (I) is interventions to manage the mental disorder of a pregnant woman (Table 1).

It is not required to use every letter from PICO in the search. For instance, outcomes of the studies might vary and the amount be plentiful. Only the letters “P” and “I” are used in this research process, since they offer a reasonable amount of results. The keywords of population and interventions were used since they provided enough information of the research problem sought. (Isojärvi 2011.) Therefore, the section presenting “O” is not included to this literature review’s research process. For abovementioned reasons letter “C” is neither included (Table 1).

Table 1. Research questions and keywords formed with the PICO-format. This table is based on Isojärvi (2011).

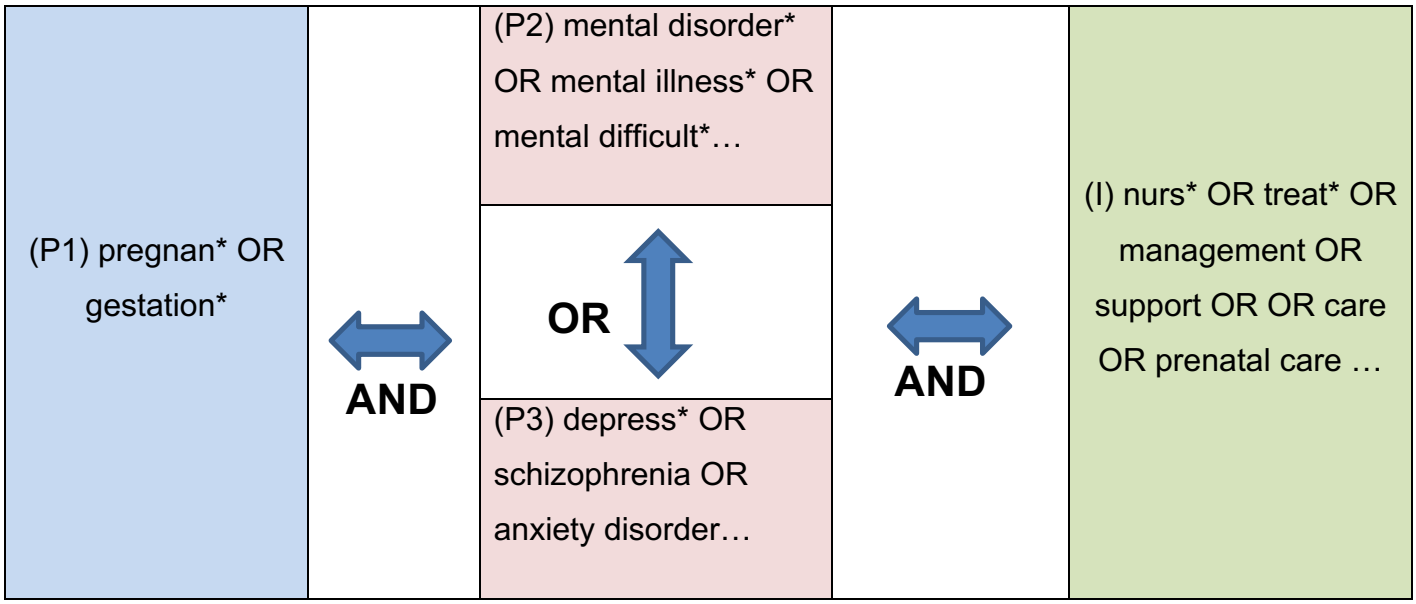
1. As a nurse, what factors need to be taken under the consideration in the management of a mental disorder of a pregnant woman? 2. Are there different treatment options for prenatal mental disorders?				
PICO	P	I	C	O
	Fertile-aged pregnant women with a mental disorder	Management of a mental disorder		
Keywords and MeSH-terms	(P1) pregnant, pregnancy, pregnancies, gestation, gestations, mother, motherhood (P2) mental disorder, mental disorders, mental illness, mental illnesses, mental difficulty, mental difficulties (P3) depression, schizophrenia, anxiety disorders, eating disorders	(I) nursing intervention, care, nursing care, treatment, management, support, nurse’s role, prenatal care, antenatal care		

In the search, the PICO-format was used as a tool to form relevant keywords and following MeSH-terms in the search. Each and every keyword was checked from monitored thesauruses, MeSH (Medical Subject Headings), FinMesh and YSA (Yleinen suomalainen asiasanasto), in order to include medical synonyms of the research terms into the study. Although, some of the databases such as PubMed, Ovid and EBSCO checked the terms used in the search from MeSh-thesaurus and included the synonyms in the search automatically. Some of the research terms were cut with a *- or $-marks, depending on the database, to include for example plural and inflected forms (Table 1). (Tähtinen 2007, 18-22 & 35.)

The terms in the first column (P) were organized to cover the population under study which was defined to be fertile-aged pregnant women with a mental disorder (Table 1 and Table 2). In the databases, the first term “pregnant” was cut with *-mark, as mentioned above, to cover the rest of the terms wanted to be included in the search: pregnancy, pregnancies and pregnant. The MeSH-terms were linked with “or” to include synonyms together: “pregnan*” or “gestation*”. These terms are named as “P1” in this thesis (Table 1 and Table 2). The second factor affecting the population is mental disorders, named as “P2” (Table 1 and Table 2). The synonyms of “mental disorder” were checked from MeSH-thesaurus and written down (Table 1). These mental disorders were organized into subcategories illness by illness (P3), as depression, schizophrenia, eating disorders and anxiety disorder. These illnesses were separated with an “or” in the research strategy (Table 2).

The second column consists of nursing interventions (I) aiming to find possible interventions and considerable factors to nursing a pregnant woman with a mental disorder (Table 1). These terms were separated from each other with “or” in the research strategy (Table 2).

Table 2. Research strategy: (P1 AND P2) OR (P1 AND P3) AND (I).



The literature review was conducted by searching data from following databases: CHINAL (EBSCO), Medic database which is a Finnish Health Science referral database (Kotimainen terveystieteiden viitetietokanta, produced by Terveystieteiden keskuskirjasto Terkko), Cochrane Library, Joanna Briggs Institute EBD Database (Ovid) and PubMed database (Tähtinen 2007, 29-32). In this thesis interviewing professionals, organizations, specialists or any other third-party statements was not used as an information collection method.

Every search provided was based on the research strategy introduced above (Table 2). However, different kinds of searching methods occurred between different databases. In PubMed, it is possible to add several lines to the advanced search builder and choosing “OR”, “AND” or “NOT” between the used key words. The search builder is different in other databases used, it may allow to input only a limited number of lines for research words. On the other hand, in Medic–database it is possible to input several keywords to one line by putting a space between them, as if there was an “OR” between the keywords (Appendix 1). Other differences between the used databases are that in some of them the user may choose whether the he or she wants the search engine to include to the search the keywords’ MeSH –terms or not. (Tähtinen 2007, 15-24.)

By limiting the results of the research, the studies answering the research questions were met more effectively. It is possible to limit the results by year of publication, language, sex

or age of population under study and source type (Tähtinen 2007, 25). This thesis included studies made in 2007-2017 and only the studies published in English or Finnish were included. The age and sex of population under study were fertile-aged women in Western countries. Furthermore, the studies had to be available as free full text. The limitation was implemented by following these criteria (Appendix 1).

Every database used is different. In each of them there are not similar limitation options; for instance, in PubMed the user can not in advance limit the countries the search results are regarding (Sindhu & Dickinson 1997; Khan et al. 2003 as cited in Stolt & Rautasalo 2007, 59). Some databases offer limitation options that are not determined in this thesis' inclusion and exclusion criteria due to their obviousness. An example of this is that in PubMed, the found results are limited by the word "humans". If possible, the search results were also limited by "free full text" in order to ensure the data being available to the authors (Appendix 1).

4.1.2 Inclusion and exclusion criteria

Inclusion and exclusion criteria were set in consensus of the authors. Publication years being between the years 2007-2017 ensures the latest information and data. Searching data only in English and in Finnish is due to the authors' limited language skills, although some important data written in any other language will be excluded. One validation question is related to the data being original, which from the authors' point of view decreases the probability of mistakes and misunderstood as the authors of this thesis analyze the original data. The authors of this thesis are aiming to find data being relevant in the light of the research questions. Western countries were chosen in the terms of limitation by location, since the authors of this thesis intended to bring information being practical to apply in the nursing care in Western countries. "Free full text" was reasonable to add to the inclusion criteria, due to lack of resources (Table 3).

Table 3. Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Publication 2007-2017	Publication before 2007
Outcomes of a pregnant women under study	Outcomes of only a fetus under study
Language English or Finnish	Language other than English or Finnish
Original studies	Reviews, overviews, articles
Relevant information in the terms of research questions	Infections during pregnancy under study, alcohol abusing, drug abusing or other addiction such as tobacco use or any other irrelevant information in the terms of research questions of a pregnant woman under study
Western countries	Low-income/Middle income countries
Free full text available	

4.1.3 Screening of data

The data found had to be screened first by title. After reviewing the titles the studies were reviewed by abstract and evaluated by relevancy with the research questions and inclusion criteria. If the abstract gave relevant information to the research questions, the full text was reviewed and analyzed by both of the authors. (Khan et al. 2003, as cited in Stolt & Rautasalo 2007, 59.)

A total amount of seven studies were included in the analyzing process in consensus of the two authors. At first, in the process of systematically reading the found articles and studies, the authors had gathered quantitatively plenty of results chosen by abstract, fitting to

criteria. As authors, together as a team read and discussed thoroughly the articles found by the other team partner, new thoughts, different aspects and reasonable observations and conclusions emerged. This in turn led to even deeper understanding of the farthest meaning of the research questions, aims and purposes of the thesis in process. Consequently, part of the articles and studies found were eliminated leading to a group of search results answering properly to the research questions (by their abstracts). After careful consideration, part of the found studies was excluded due to objective or abstract contents answering neither to our research questions, objective aiming to find out neonatal outcomes or to other outcomes related to fetus or its current or later development, objectives aiming to find out prevalence or rates (Table 4).

Table 4. Data found after limitation, by title, abstract and full text. If there was more than one search completed in the database, the results were counted together.

Database	Data found after limitation	Data included by title	Data included by abstract	Data included by full text
CINAHL (EBSCO)	233	73	4	3
Medic	49	4	0	0
Cochrane Library	27	4	1	0
JBI Complete	29	4	0	0
PubMed	773	38	20	4
Terveysportti (Lääkärin tietokannat)	47	12	0	0
Terveysportti (Sairaanhoitajan tietokannat)	10	0	0	0
Total	1158	142	25	7

The topic of this thesis is highly associated with postpartum maternal mental health outcomes. For instance, depression during pregnancy is strongly connected with postpartum depression (Shivakumar, Brandon, Snell, Satiago-Munoz, Johnson, Trivedi & Freeman 2011). Therefore, the authors decided that it is reasonable to include studies which may include also outcomes and study results regarding the postpartum period as well, as studies specifically regarding solely prenatal and pregnancy period were challenging to find. Additionally, the same pattern emerged in another aspect; the authors accepted also studies regarding both maternal outcomes and neonatal outcomes. All included studies included in this review are fully analyzed by both authors but only the relevant parts are reviewed in this thesis in the light of the research questions. Following that, both of the authors individually red and analyzed fully all the included seven research results (Appendix 2).

4.1.4 Analyzing process

As the articles were chosen for the review, both of the authors thoroughly went through the original studies. All of them were read several times and the sentences, words and sections of the articles in the light of the research questions were marked. This particularized the authors' perceptions of the issues that were interesting from the aspect of this thesis and its purpose and aim. The marked phases were chosen in the mutual understanding between both authors. After that the studies were read a few more times and deeply thought through again. (Tuomi & Sarajärvi 2009, 109-110.) That in turn brought to both authors a clear overall perception of the relevant content of the studies.

In the second phase of analyzing, the sentences were simplified, categorized and organized thematically. The analyzing process is based on interpretations and interferences which results as a more conceptualized understanding of the research problem. Sentences having the same meaning formed categories. Connections between categories were identified and formed as far as the theme raised (Figure 2). (Hämäläinen 1987, Dey 1993 & Cavanagh 1997, as cited in Tuomi & Sarajärvi 2009, 110-112.) In the third phase the themes were analyzed with a data-based analyzing method. In findings interpretations, categorizations and their contents will be described (Tuomi & Sarajärvi 2009, 110-112).

As the studies' main points and findings in the light of the research questions of this review were internalized by both authors, they were listed. First, the finding was presented as they appear in the study. Following that, the findings were presented in a more perceivable form, aiming to show the finding in question plainly while still holding on the main issue (Figure 2). Category represents the sub-theme concluded from the main finding. Furthermore, main themes are found based on the issues in category. Finally, the findings of the studies included in this literature review were consistently brought to three main themes, which adequately respond to the research questions' themes while being in consensus with the aim and purpose of this literature review (Appendix 3). In the following the categories are analyzed in the light of the main themes.

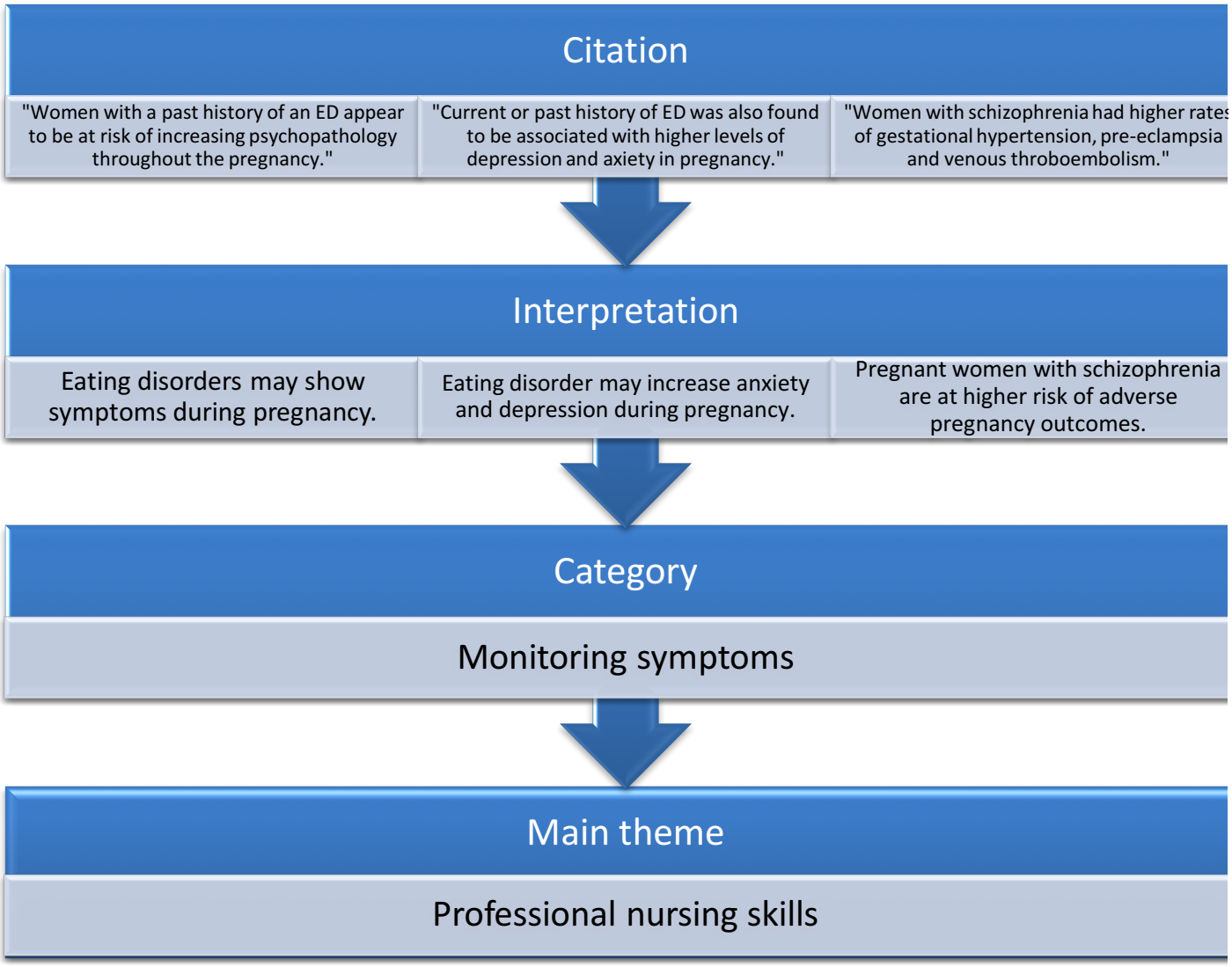


Figure 2. An example of analyzing process.

5 RESULTS

Three main themes were identified from this literature review. These are professional nursing skills, patient's commitment to treatment and non-pharmacological treatment options. The contents of the themes are presented in the boxes below (Figure 3).

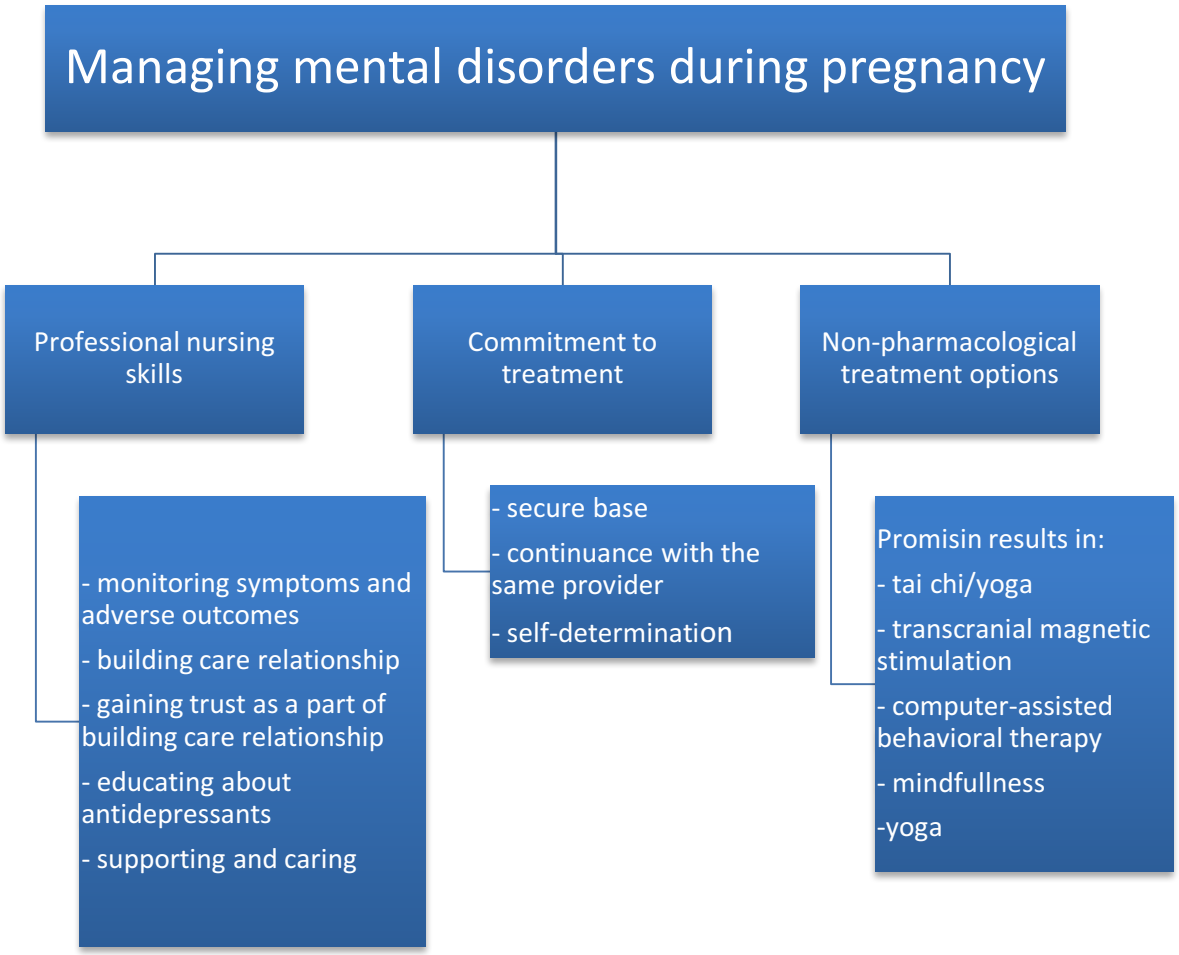


Figure 3. Results of the literature review.

5.1 Professional nursing skills

A key component in nursing a pregnant woman having a mental disorder is monitoring symptoms. For example, current or past eating disorder might show symptoms during pregnancy. Alternative symptoms, anxiety and depression, might increase during pregnancy in women with current or past eating disorder. In addition, gestational adverse

outcomes - gestational hypertension, pre-eclampsia and venous thromboembolism – might occur during pregnancy in women with schizophrenia (Figure 4).

Education about risks of antidepressants and other medications used for mental disorders is part of nursing care of a pregnant woman having a mental disorder. Especially providing adequate evidence-based information about risks for the foetus is necessary (Figure 4).

Building a care relationship with the patient is a key component which has an impact on many aspects. Genuine interest and giving time patiently are associated being supportive factors in building care relationship. Consistency, flexibility, reliability and confidentiality have been found useful qualities. Once the relationship is trustworthy the ability to rely on the support of health care providers occur. Sensitivity, openness and non-labelling attitude have been noticed to be practical when dealing with sensitive information (Figure 4).

Professional skills such as ability to listen, being understanding and having specific knowledge are important aspects. In addition, ability to provide a safe and open atmosphere are necessary professional skills. Offering social support and caring during the period of pregnancy while having a mental disorder are required skills. These appear to be important in other nursing fields as well (Figure 4).

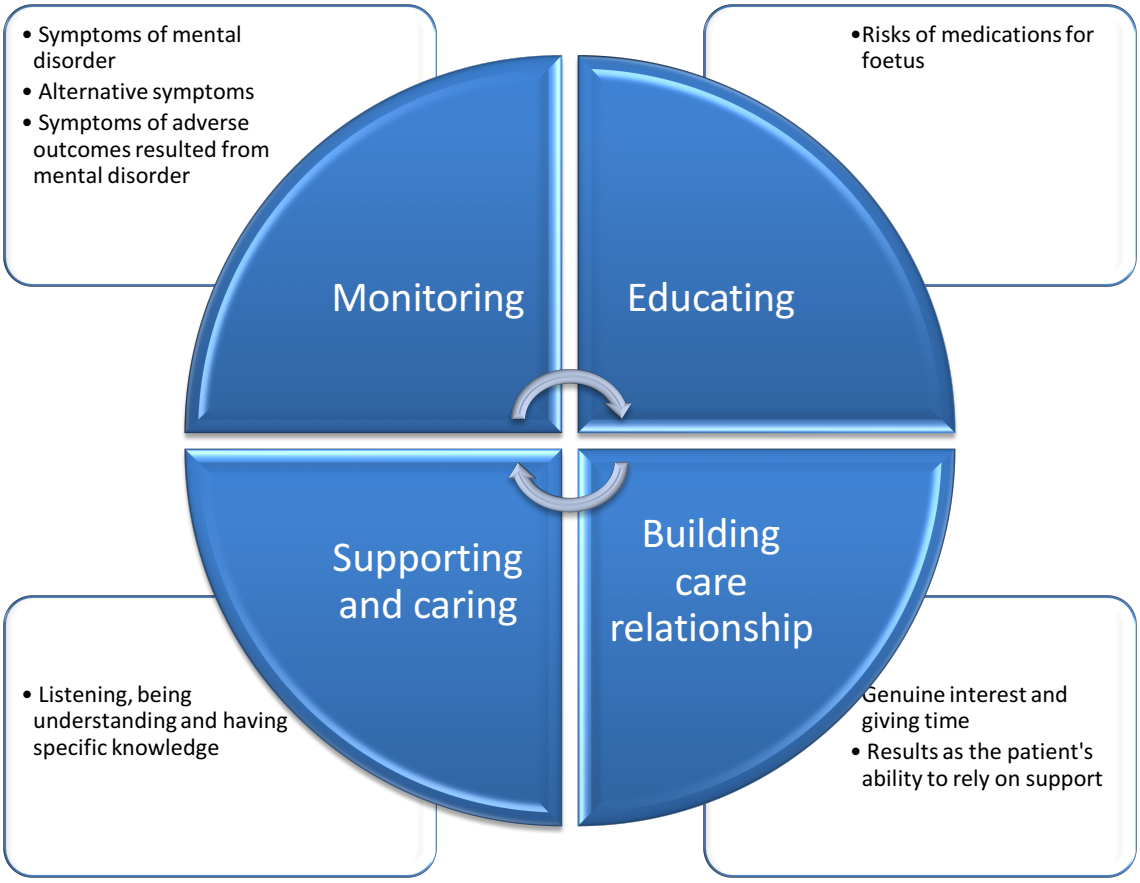


Figure 4. Professional nursing skills in management of mental disorders during pregnancy.

5.2 Commitment to treatment

According to the study, three main points concerning commitment to the treatment evoked: secure base, continuance with the same provider and involving the patient to decision making of the treatment (Figure 5).

Safe atmosphere, also called as “secure base”, has been resulting not only part of building care relationship but also committing to the treatment. When the client is having a feeling of secure in the care situation, it is more likely the patient to continue with the treatment. In case the patient is feeling unsafe, the likelihood of continuance of the treatment is lower (Figure 5).

In addition, primary nursing is an important factor affecting the continuance. It has been reported that women are reluctant to repeat their personal stories again and again, especially concerning vulnerable experiences. In order to increase the probability to the

commitment it has to be noted that the same provider continues working with the patient (Figure 5).

The feeling of being in control of one's own care has increased the level of committing to the treatment. Involving the patient in the decision-making in all processes concerning one's care has evoked trust and increased the level of commitment to the treatment. Respecting self-determination as a part of management and treatment process is required (Figure 5).

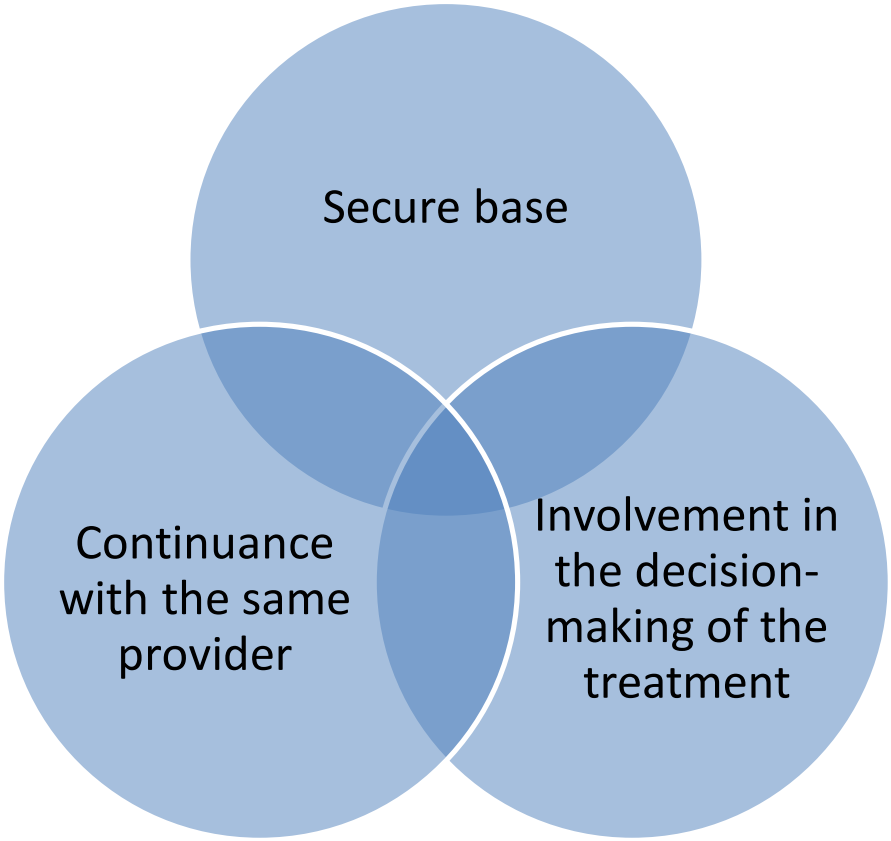


Figure 5. Factors affecting the continuance of treatment.

5.3 Non-pharmacological treatment options for mental disorders during pregnancy

According to the study, under the main theme of "non-pharmacological treatment options for mental disorders during pregnancy" are several categories being closely associated to each other (Figure 6).

Tai chi and yoga were determined to reduce the depression and anxiety leading to the conclusion that they would pose as a desirable treatment option for depression prenatally. Mindfulness and transcranial magnetic stimulation were also found to reduce depression

symptoms in pregnant women, the latter mentioned and computer-assisted cognitive behavioral therapy studied particularly in the treatment of major depressive disorder.

Wholly, these interventions may offer valid treatment options in the future, as together forming a theme of non-pharmacological treatment options for mental disorders during pregnancy.

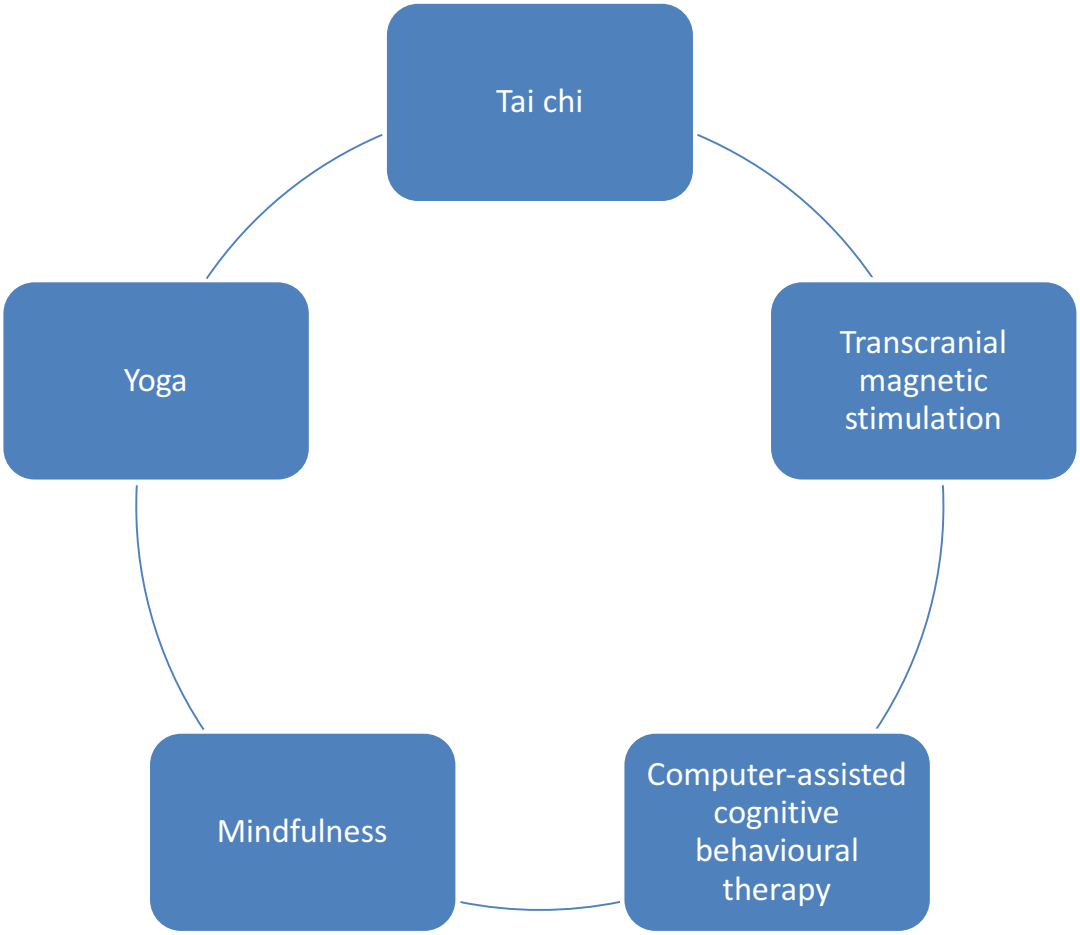


Figure 6. Possible non-pharmacological interventions.

6 DISCUSSION

6.1 Findings

The findings of this study indicate the need for monitoring closely the possible adverse outcomes and change in symptoms of mental disorders in order to detect the need for intervention, such as pharmacological or non-pharmacological (Easter et al. 2014; Vigod et al. 2014). Required nursing skills in management of perinatal mental disorders are understanding that the course of a disorder might change during pregnancy and monitoring the symptoms of the mental disorder and adverse outcomes associated with mental disorders.

Educating about non-medical options for treating mental disorders in order to avoid exposing to fetus to medication is needed. The safety of antipsychotic medications has been studied but there is always a chance that the medication could cause harm to the unborn child. Discussing the dilemma of risks of an untreated mental disorder and the risks of pharmacological exposure for the fetus is necessary to be evaluated individually by a physician. (Miller et al. 2008.) Based on the study, a nurse's role is to provide adequate and evidence-based knowledge concerning different treatment options. Discussing about adverse outcomes of an untreated mental disorder during pregnancy is required as well.

Every nursing care begins with building a care relationship. It is a process which has an impact on for instance committing to the treatment (Myors et al. 2013). Building care relationship is important in every nursing field but the findings indicate the importance of a confidential care relationship especially in pregnant women with mental disorders.

Support and care are part of management of mental disorders. However, these aspects are always individual. Skills such as listening and being genuinely interested in the patient are factors associated with the feeling of support and care. (Myors et al. 2013.) Based on the findings it can be said that being aware of the situation and context is part of good management of mental disorders in pregnancy. Implementing nursing based on each and every individual need and adapting to them will increase the probability of feeling supported and cared.

Continuance of a treatment is an integral part of management of mental disorder during pregnancy. Without committing the patient, management can not be achieved. Based on the study, creating safe and open atmosphere in which the patient feels non-labelled and open to bring up his or her experiences results as committing to treatment. Additionally, continuing with the same provider, which can be defined as primary nursing, increases the probability of continuing the treatment.

Primary nursing is a well studied model of care. The same results as in our literature review has been evoked in studies of primary nursing and its effects on continuance of the treatment. Primary nursing is a key component in continuance of the treatment and providing comprehensive nursing care (Gray & Smedley 1998).

Pharmacological treatment is usually a first-line treatment in medication-responsive depression in moderate to severe depression during pregnancy. Out of antidepressants selective serotonin reuptake inhibitors (fluoxetine, sertraline, citalopram, escitalopram) and serotonin/norepinephrine reuptake inhibitor (venlafaxine) have the most studied safety data. For antenatal depression, interpersonal therapy has also been studied and it has been suggested that combining therapy and medications would be most effective. (Lusskin & Turco 2008.)

However, pregnant women might be reluctant to commit to the pharmacological treatment in fear of medication exposure to the fetus (Dennis & Dowswell 2013). To this dilemma, non-pharmacological treatment methods are aiming to answer. In this case, a nurse’s role is to provide knowledge of latest studies of non-pharmacological treatment methods and their effectiveness on mental disorders during pregnancy.

Based on the findings, a valid recommendation of non-pharmacological treatment methods can not be offered. However, promising treatment methods for depression during pregnancy are transcranial magnetic stimulation, computer-assisted cognitive behavioral therapy, mindfulness and yoga. Nevertheless, the sampling is too low in these studies for generalization and randomized control trials needed to increase the validation of the studies.

6.2 Ethical considerations

Considering the ethical aspects has been passing along throughout the whole process. It has been considered whether the authors are genuinely interested in the topic and for example the research questions have been formed along the way based on the genuine interest. Dedication to the nursing field and the desire to develop the field have been important aspects during the process. (Kankkunen & Vehviläinen-Julkunen 2013, 211-212.)

The authors of the thesis have acted in terms of honesty throughout the process and considered every little detail concerning for instance referring. Plagiarism has been avoided with all the possible actions. The findings are presented truthfully and nothing is trumped up. Harm or danger is not done in terms of the thesis process. Respect for human dignity and people with mental disorders are met in every action. Furthermore, respect for other health care professionals such as physicians or phycologists is considered and no harm caused. (Kankkunen & Vehviläinen-Julkunen 2013, 211-212.)

6.3 Reliability and validation

The reliability of this thesis is highly considered. There are several aspects the two authors of the thesis deliberated and reflected. The amount of the data answering the research questions are rather inadequate at this point to make valid nursing recommendations to nursing management or non-pharmacological management of perinatal mental disorders. Postpartum mental disorders, especially depression, seemed to be a more studied aspect. The amount of native studies concerning perinatal mental disorders from this nursing point of view was low. A few studies overviewed perinatal mental health nursing but could not be included in this review due to method of study for instance overview. Only one randomized control trial in terms of the inclusion criteria was found.

The data research for the review is thoroughly performed after several attempts in different databases. Successful attempts were written down and documented. After that, the searching strategy became more determinate and results were found. The knowledge related a thesis and its making process was lying on the education given at school, personal knowledge and the research process learned along the way. The professionality of a librarian as a researcher was not used which decreases the reliability of the thesis.

It is unknown, how comprehensively the authors managed to find the data regarding the topic. Studies requiring payment were excluded which decreases the validity of the thesis. Also, unpublished studies were not included. These actions would have been optimal in terms of finding all the possible studies answering the research questions (McAuley et al. 2000; Gerber et al. 2007, as cited in Axelin & Pudas-Tähkä 2007, 51).

Studies were searched only in English and Finnish. Translating studies made in other languages and fitting the inclusion criteria would have been optimal. However, this action did not meet the resources of the study. Language brings its own considerable aspect to this literature review. Neither of the authors of this thesis have English as their native language. Therefore, the understanding and translation of the found articles and studies can have errors. Minor errors can occur in the selection of the articles based on the headline, in abstract selection or later in the review reading and analyzing. However, two authors increase the validity, and both of the authors have studied English at school for years and have adequate knowledge regarding the language. Factors that increase the validity of this thesis are first of all the throughout meticulousness in each phase and the rigorous way the authors have comprehensively presented each step and action taken.

Quality of the data included in this literature review is also considered. The authors decided to use only original studies to avoid possible errors. In addition to this, the authors did not have any certain criteria for the study objects' gestational weeks, but all studies concerning any stage of pregnancy were accounted. That led to the different phases of pregnancy under investigation in different studies.

The authors of this thesis understand the term of publication bias which refers to a phenomenon where completed studies might not be published due to their negative or unwanted results (Mc Auley et al. 2000; Gerber et al. 2007, as cited in Axelin & Pudas-Tähkä 2007, 51). This phenomenon can have an effect on the results of the literature review. Moreover, in one study one of the researchers was working in the field of the service the study was conducted (Myors et al. 2013). That may affect the outcome of the study since the researcher may not have wanted to publish negative experiences from the service.

In some studies, the sample sizes were significantly low, resulting in the findings not being generalizable. For instance, in the study of transcranial magnetic stimulation the participant

number was 10 (Deborah et al. 2011). On the other hand, other studies included a large number of participants, possibly leading to more accurate results and also more suitable to apply to a larger population. As an example, a retrospective population-based cohort study studying maternal outcomes of schizophrenia in pregnant women included approximately 432 000 participants (Vigod et al. 2014).

7 CONCLUSION

This thesis was carried out with a timetable (Table 7). The enrollment to the thesis process was executed already in December 2016. Plan of this thesis was made during summer 2017, planning seminar in following September. As soon as the theoretical background was completed, the search of the studies could begin. Screening the data and the analyzing process took place during October. Findings of the review were determined and discussions considered, and the first version returning day was set for 2nd of November.

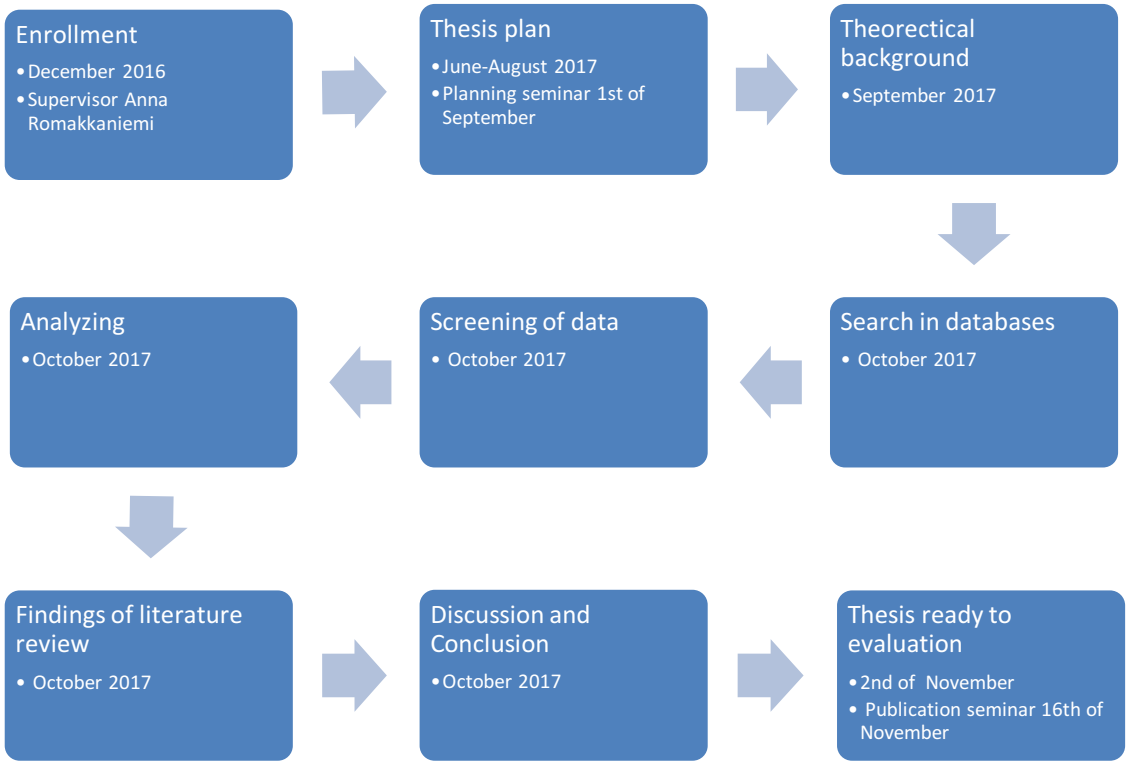


Figure 7. Thesis process.

In this thesis, chosen mental disorders, normal course of pregnancy and nurses' role in these are presented and discussed. The following literature review addressed three main themes; professional nursing skills, non-pharmacological treatment options and patient's commitment to the treatment. Each of these themes has categories they are based on.

Professional nursing skills in the field of managing mental disorders include monitoring symptoms, educating, building care relationship and supporting and caring. These professional nursing skills include listening, non-labelling attitude and professional knowledge. Also, nursing interventions such as providing safe atmosphere, primary nursing

and involving the patient to the decision-making affect the commitment of the treatment. These are factors that needs to be taken into account as a nurse in management of prenatal mental disorders.

Non-pharmacological treatment options which may be utilized in the management of mental disorders in pregnancy were found. However, the data included to the literature review contains different sample sizing affecting the reliability of the results. However, there are studied non-pharmacological interventions, such as mindfulness, yoga, tai chi, transcranial magnetic stimulation and computer-assisted cognitive behavioral therapy. This systematic review corresponds to the research questions.

7.1 Summary and future recommendations

This thesis has presented comprehensively the chosen mental disorders and the nurses' role in the field of psychiatric care. Furthermore, in knowledge base also the course of pregnancy is discussed. The completed literature review and analyzing process is presented rigorously step by step, while aiming to improve nursing of pregnant women having a mental disorder. The authors of the thesis believe this literature review to be a useful and reliable source of information to English-speaking nursing students and nurses. In line with the aim, the authors are confident that this literature review can be beneficial also for other nursing students, registered nurses in Finland, other health care professional groups and to anyone interested in, but most of all for the authors, as they are willing to develop their professional knowledge.

From the authors' point of view, evaluation of whether the aim of this thesis is achieved would require further studies and addressing a single systematic literature review's affect is next to infeasible. However, the authors believe they are brining along something new to the nursing field with this literature review. The aim of finding out factors that are needed to be taken into account as a nurse in the management of a pregnant woman having a mental disorder in order to support the mental well-being of a mother stands with the research questions 1 and 2, can be seen achieved from the authors' point of view. As earlier mentioned, how comprehensively all the studies with this topic were found by the authors, is unknown. Following that, it can be established the aim being partly achieved. However, the aim has been completed and achieved in the authors' and this review's scale.

Aforementioned aspects of reliability considered and discussed by the authors refer to the suggestion that the authors of this thesis highly recommend future research regarding this topic. More studies regarding the nursing management of a mental disorder during pregnancy are needed due to the health of mothers and infants. Studies executed in Finland would pose an interesting comparison to the present studies due to the generally high percent of depression, prevalence in Finland being approximately 5% among adults (Depressio: Käypä hoito –suositus 2016).

Especially randomized control trials of alternative treatment methods concerning not alone depression but other mental disorders during pregnancy are needed. Mental disorders during pregnancy seemed not to be studied in Finland. Conducting a study which discovers attitudes of health care providers concerning prenatal mental disorders is needed. In addition, studies of actual implementation of nursing interventions' effectiveness on mental status of a pregnant woman is recommended.

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APPENDICES

Appendix 1. Keywords and limitations.

Database used	Keywords used	Limitations
CINAHL (EBSCO)	Table 2.	Search words in all fields, 2007-2017, free full text, English.
	Table 2 but P1=in pregnancy OR during pregnancy OR prenatal.	Search words in all fields. 2007-2017, free full text, English. Geography: Europe, USA, Australia & New Zeeland, Canada. Age group: all adult.
Medic	pregnan* AND mental illness* AND care raska* pregnan* äitiys* gestation* AND masennus raska* pregnan* äiti* gestation* AND anorex* depress* schizophreni* AND nurs* treatment* hoito*	All publications, published between 2007-2017, full texts, key words' synonyms included.
Cochrane Library	Pregnancy AND mental disorder AND nursing	Pregnancy searched in title, keywords and abstract, other keywords from all fields. 2007-2017.
JBI Complete (Joanna Briggs Institute EBD Database Ovid)	pregnancy OR gestation AND mental disorder OR mental illness OR mental difficulty AND treatment OR support	2007-2017, keywords searched in title. Subject area nodes: Midwifery or Mental health.

PubMed	gestationti.ab. AND prenatal careti.ab. AND mental illness	Published during the last 10 years, free full text, humans.
	gestation*ti.ab. OR pregnan*ti.ab. AND eating disorder AND care	Published during the last 10 years, free full text, humans.
	pregnan*ti.ab. OR gestation*ti.ab. AND nursing care AND mental illness	Published during the last 10 years, free full text, humans.
	pregnan*ti.ab. AND prenatal care AND depress*	Published during the last 10 years, free full text, humans.
	pregnan* OR gestation* AND psychiatric nursing AND mental disorder	Published during the last 10 years, free full text, humans.
	pregnan* OR gestation* AND anxiety disorder AND treatment*	Published during the last 10 years, free full text, humans.
	gestation* OR pregnan* AND schizophren* AND care	Published during the last 10 years, free full text, humans.
Terveysportti (Lääkärin tietokannat)	raskaus ja mielenterveys	
Terveysportti (Sairaanhoitajan tietokannat)	raskaus ja mielenterveys	

Appendix 2. Data information. Based on Stolt & Rautasalo (2007).

Authors, location and year of publication	Title	Object	Data, data collection	Results
Deborah, K, Epperson, N. Paré, E. Gonzalez, J. Parry, S. Thase, M. Cristancho, P. Sammel, M. O'Reardon, J. United States, 2011.	An open label pilot study of transcranial magnetic stimulation for pregnant women with major depressive disorder.	To study effectiveness of transcranial magnetic stimulation (TMS) as an alternative for antidepressants on major depressive disorder in pregnant women.	N=10, 18-39 years old, 14-34 gestational weeks, MDD diagnosed, moderate symptoms of depression Open label study	Significant improvement scores of HDF 17 (p=0.005), CGI-S (p=0.0(and BDI (p=0.005) pos TMS.
Kim, D. Hantsoo, L. Thase, M. Sammel, M. Epperson, N. United States, 2014.	Computer-Assisted Cognitive Behavioral Therapy for Pregnant Women with Major Depressive Disorder.	To study the effectiveness of reducing symptoms of major depressive disorder with computer-assisted cognitive behavioral therapy (CCBT) during pregnancy.	N=10 pregnant women with MDD Pilot study	Randomized control trial is needed. After treatment of e sessions of CCBT 80% responded to treatment and 60% showed remission.

K. Myors, V. Schmied, M. Johnson & M. Cleary Australia, 2013.	'My special time': Australian women's experiences of accessing a specialist perinatal and infant mental health service.	To explore in-depth experiences and needs of women discharged from perinatal and mental health services.	N=11 women discharged from PIMH. Qualitative study	Building care relationship, importance of care and supp and need of s determination emerged.
A. Easter, F. Solmi, A. Bye, E. Taborelli, F. Corfield, U. Schmidt, J. Treasure & N. Micali United Kingdom, 2014.	Antenatal and Postnatal Psychopathology Among Women with Current and Past Eating Disorders: Longitudinal Patterns.	To investigate psychopathology of current and past eating disorders during antenatal and postnatal period.	N=31 current ED N=29 post ED N=57 healthy control Prospective longitudinal study	The psychopathol of eating disorders decreased throughout antenatal and postnatal peri by women wit current eating disorder. Rela symptoms, ea concerns, wei concerns and anxiety remai higher. Wome with history of eating disorde are at risk of increasing psychopathol of eating disorders

				throughout antenatal and postnatal peri
T. Field, M. Diego, J. Delgado, L. Medina United States, 2013.	Tai chi/yoga reduces prenatal depression, anxiety and sleep disturbances	To assess the effect of tai chi/yoga to prenatal depression, anxiety and sleep disturbances	Randomized controlled trial N=92 Group of pregnant women with depression attending to tai chi/yoga classes n=46 Group of pregnant women with depression not attending class (control group) n=46	At the end of t pilot study the group practici tai chi/yoga lo scores on depression, anxiety and sl disturbance measurement scales.
SN Vigod, PA Kurdyak, CL Dennis, A Gruneir, A Newman, MV Seeman, PA Rochon, GM Anderson, S Grigoriadis, JG Ray	Maternal and newborn outcomes among women with schizophrenia: a retrospective population-	To determine maternal and infant health outcomes among women suffering schizophrenia.	A retrospective population-based cohort study N=433 749 Group of pregnant	Neonates and mothers had health outcom preterm birth, small, and on other hand lar birth weight fo gestational ag were the

Canada, 2014.	based cohort study		women having schizophrenia n=1391 Group of pregnant women having no mental illness n= 432 358	neonatal outcomes, an maternal outcomes included gestational DI gestational hypertension, venous thromboembo and pre-eclampsia.
C.L. Battle, L.A. Uebelacker, S.R. Magee, K.A. Sutton, I.W. Miller United States, 2015.	Potential for prenatal yoga to serve as an intervention to treat depression during pregnancy	To develop a prenatal yoga intervention for pregnant women having depression in order to decrease the depression.	N=34	Participants showed decreases in depression symptoms. Ti spent on practicing yog was directly proportional t the levels of depression, th lower the depression le was.

Appendix 3. Analyzing process.

Relevant finding	Interpretation	Category	Main theme
Pregnant women's current or past eating disorder (ED) show symptoms during pregnancy.	Eating disorder's symptoms during pregnancy.	Monitoring symptoms and adverse outcomes	Professional nursing skills
In the third trimester of pregnancy current or past eating disorder had a decrease in its symptoms.	Potential changes in eating disorder's symptoms during gestation.		
During pregnancy, higher amount of anxiety and depression is related with current or past eating disorder.	Eating disorder's effect on anxiety and depression levels in pregnancy.		
Pregnant women with schizophrenia are more likely to have gestational hypertension, pre-eclampsia and	Pregnant women with schizophrenia are at higher risk of unfavorable		

venous thromboembolism.	pregnancy outcomes.		
Clinician's interest and time they gave resulted as a relying upon provider's support.	Giving time and being interested on patient gains trust.	Gaining trust as a part of building care relationship	Professional nursing skills
Developing trust was based on consistency, flexibility, reliability and confidentiality.	Professional skills help in gaining trust.		
Professional skills such as ability to listen, being understanding, non-judgmental and having specific knowledge resulted as good care relationship.	Contributing professional skills are listening, understanding, non-judgmental attitude and offering professional knowledge.	Building care relationship	
Women feeling comfortable and secure with non-judgmental professionals with flexible timing, frequency and length of	Professional skills and flexibility results as care compliance.		

appointment are more likely to return for follow-up.			
Health care professionals need professional skills and ability to provide safe atmosphere.	Professional skills and building safe atmosphere are needed.		Professional nursing skills
Women reported relationship with their clinician being a key component to care.	Developing a care relationship with a patient is important.		
Education about relative safety of antidepressants during pregnancy is needed.	Education about risks and benefits of antidepressants during pregnancy.	Educating about antidepressants	
The importance of relational care and support is highlighted.	Women with perinatal mental disorders need the feeling of care and support from their provider.	Caring and supporting	

Feeling of safety resulted as continuance of care.	Building atmosphere in which patient feels safe results as commitment to treatment.	Continuance of treatment	Commitment to treatment
Women would not have continued their treatment if they had had to repeat their personal stories.	Women are more likely to commit to the treatment with the same provider.		
Women reported a need of self-determination in all therapeutic processes.	Self-determination of women needs to be taken under account.	Self-determination	
Receiving treatment voluntarily made women feel they were in control of their own care.	Voluntary treatment results as feeling of self-control.		
Practicing tai chi/yoga prenatally lowered the participants' scores in control tests measuring	Tai chi/yoga reduces depression and anxiety during the pregnancy.	Tai chi/yoga may be effective in treating prenatal depression	Alternative interventions for depression

the levels of anxiety and depression.			during pregnancy
70% of patients with major depressive disorder responded to transcranial magnetic stimulation treatment.	Transcranial magnetic stimulation reduced symptoms of major depressive disorder.	Transcranial magnetic stimulation is promising treatment alternative for major depressive disorder.	
Pilot study of computer-assisted cognitive behavioral therapy on a major depressive disorder resulted as 80% of participants responding and remission of 60% after eight sessions.	Treatment reduced symptoms of a major depressive disorder.	Computer-assisted behavioral therapy was promising in the treatment of a major depressive disorder.	
Practicing mindfulness correlates with lower rates of	Mindfulness reduces depression symptoms.	Mindfulness practicing during the prenatal period may be effective treatment for	

depression during pregnancy.		depression during pregnancy	
Study participants reported decreasing levels of depression symptoms. Amount of time consumed yoga practicing has a notable connection with lower depression level.	Prenatal yoga reduces depression symptoms.	Yoga during the prenatal period may be effective treatment method for depression during pregnancy.	