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**MINDFULNESS-BASED INTERVENTIONS AS A  
TREATMENT FOR DEPRESSION**

**A literature review**

**Bachelor's Thesis**

**CENTRIA UNIVERSITY OF APPLIED SCIENCES  
DEGREE PROGRAMME IN NURSING**

**October 2015**

**ABSTRACT**

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<b>Degree programme</b> Degree Programme in Nursing		
<b>Name of thesis</b> Mindfulness-based interventions as a treatment for depression		
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<p>The purpose of this study was to explain the usefulness of mindfulness-based interventions in the care of depression. This study answered the questions about the effects of mindfulness-based interventions when treating depression and about the key factors of mindfulness-based interventions. The aim of this thesis was to produce information for nurses about mindfulness-based interventions as a treatment option when working with patients diagnosed with depression. Previous studies suggest that mindfulness-based interventions are effective when treating recurrent depression.</p> <p>The study was performed as a literature review with content analysis. Data was acquired from different databases such as Science Direct, Sage Publications and Cinahl.</p> <p>According to the results of this study, mindfulness-based interventions had effect on both recurrent and current depression. There was found to be reduction in depressive symptoms in recurrent depression and MBIs prevented relapse for those suffering from recurrent depression. With those who had current depression, MBIs had effects on depressive symptoms. MBIs also showed to have effects on depressive symptoms 6 and 12 months after the intervention.</p> <p>The study showed that the key factors of mindfulness-based interventions were awareness, ability to describe inner experiences, acceptance, positive emotions, cognitive processes and rumination. The results of this study will help nurses working with depressed patients by giving them more tools to treat depression.</p>		
<b>Key words</b> Depression, mindfulness, mindfulness-based cognitive therapy, mindfulness-based interventions, patient-orientated care		

## **ABBREVIATIONS**

BDI	Beck Depression Index
CBT	Cognitive behavioral therapy
MBCT	Mindfulness based cognitive therapy
MBSR	Mindfulness based stress reduction
MBI	Mindfulness based intervention
WHO	World Health Organization

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## 1 INTRODUCTION

Depression is a common illness, affecting an estimated 350 million people worldwide. In Finland depression is a significant public health issue, and it affects approximately every fifth person at some point during his or her life. Depression has a high recurrence rate. After recovering from depression, a person has a 50% chance of being diagnosed with depression again. After the third episode of depression, the chance of recurrent depression rises to 90%. Different types of depressions are the main reason for early retirement in Finland, so there are significant economic impacts on society. For the individual, it causes great suffering and it impacts several areas of a person's life. For some, the depression is a temporary and painful phase during their life, but for some, it is so deep that they eventually commit suicide. In Finland, about 2/3 of all suicides are related to depression and there are about 600-700 suicides committed on a yearly basis.

In the last few years, there has been a growing interest in mindfulness-based interventions, especially when treating depression. Studies show that mindfulness-based interventions are effective when treating patients with physical and mental disorders and when reducing stress levels in healthy individuals. The focus in mindfulness-based interventions is to teach the patients how to develop their ability to recognize and disengage from maladaptive forms of negative automatic and repetitive thinking. The purpose of this study is to explain the usefulness of mindfulness-based interventions in the care of depression. The aim of this thesis is to produce information for nurses about mindfulness-based interventions as a treatment option for depression when working with patients diagnosed with depression.

Interest in this topic arose from personal experience of mindfulness meditation, and its effects when it comes to understanding how the mind works. As a future nurse, I became curious whether these interventions could be used as a tool for helping patients with mental health problems and especially depression.

## **2 THEORETICAL BACKGROUND**

Theoretical background defines the concepts of this thesis. These include the definition of depression, mindfulness, mindfulness-based interventions and patient-orientated care.

### **2.1 Depression**

Depression is the most common mental health problem in Finland. In 2011, 5-6% of the adult population in Finland suffered from depression. Depression is also one of the most common reasons for early retirement. Depression is more common in women. Depression usually also predisposes to other physical diseases, and those suffering from depression have a higher risk of developing for example coronary artery disease. The most serious consequence of depression is suicide. (THL 2014.) Depression is a major economic issue for the government, but it also causes great suffering for the individual himself and his family members. (Stenberg, Saiho, Pihlaja, Service, Holi & Joffe 2013, 9.)

Depression can be divided into three categories depending on its severity; these are mild, moderate and severe depression. There is also a distinction made between those having manic episodes and those who do not. In unipolar depression, the symptoms are a depressed mood, loss of interest and enjoyment, reduced energy, which leads to diminished activity for at least two weeks. Also anxiety symptoms, disturbed sleep and appetite, feelings of guilt or low self-worth, poor concentration and medically unexplained symptoms, are all symptoms of unipolar depression. An individual suffering from mild depression usually has some difficulties with working and engaging in social activities, but functioning does not cease completely. During a severe depression an individual will be able to continue with work, domestic and social activities to a very limited extent. Bipolar mood disorder is characterized by both manic and depressive episodes, which are separated by periods of normal mood. During the manic episodes, an individual has an elevated or irritable mood, over-activity, pressure of speech, inflated self-esteem and decreased need for sleep. (Myllärniemi 2009, 17 – 19.)

Treatment options for moderate to severe depression include basic psychological support combined with antidepressant medication or psychotherapy. For mild depression it is recommended to use psychosocial treatments instead of medication, which should be avoided. According to the World Health Organization's guidelines, antidepressants should not be used to treat mild depression. (WHO 2012.) According to the Finnish Current Care –guidelines, when starting to plan the care for the patient, it is important to evaluate whether the depression is mild, moderate or severe, and whether it is the first depressive episode or whether there has been episodes of depression before. If it is a case of acute depression, the mainline care options are anti-depressive medication and psychotherapy. These are also the care recommendations for mild and moderate depression. The more severe the depression is, the more important it is to combine pharmacotherapy and psychotherapy. In addition to these specific care methods, it is also important to understand the life situation of the individual and offer psychosocial support. (Käypähoito 2013.)

## **2.2 Mindfulness**

The practices of mindfulness have its roots in Buddhist tradition extending back over 2.500 years, even though mindfulness itself is not a religious act. There has been a growing interest in applying mindfulness into Western medical treatments in recent years, due to the evidence-based research of its benefits of treating patients suffering from for example depression, anxiety and chronic pain. (Sipe & Eisendrath 2012, 63.) Mindfulness itself is not a singular phenomenon, but it can be divided into four levels of consciousness. These levels are consciousness of the material world, consciousness about oneself, consciousness of other people and consciousness of reality. (Sangharakshita 1994, 59.) Mindfulness can be described as an awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to things as they are. Being mindful in our everyday life, in our actions and our thoughts is something that can be trained as any other skill. (Williams 2010.) Hanson (2009, 19-87) emphasizes the plasticity of our brains, called neuroplasticity. Everything that we do, experience or think is registered in our brain and shapes the brain structure and functioning. This way the structure of the brain transforms throughout the practice. (Hanson 2009, 22, 227.)



The Current Care Guidelines for depression describe mindfulness as focusing attention on the present moment without judging the things happening right now and without trying to change them. According to the Current Care Guidelines, mindfulness is about accepting openness and curiosity towards one's own experiences. The recommendation also suggests that by practicing mindfulness a person creates a base ground, develops self-reflection and strengthens the ability to control feelings. This is achieved by learning to accept one's own feelings and by exposing to these. (Käypähoito 2008.)

Mindfulness-based interventions target processes such as avoidance of negative emotions and engaging in maladaptive thinking and rumination, which in general are the maintaining factors of depression. (Pots, Meulenbeek, Veehof, Klungers & Bohlmeijer 2014.) One of the key factors of mindfulness is meditation, which can be defined as an exercise in which you bring your focus to your breathing, your body, a certain voice or thoughts. During meditation the mind usually starts to wander and the purpose is to notice this and bring your focus back to the chosen subject. Body scan, sitting meditation and yoga are used during mindfulness sessions. All these exercises help person to be aware of the present moment. Mindfulness however is much more than the formal exercises, and meditation alone does not increase awareness. According to Williams et. al. (2007) there are eight important elements to being mindful. These are letting go of judgment, patience, beginner's mind, confidence about yourself and your feelings, letting go of trying, acceptance, letting go and concentration. Our minds have a tendency to judge and compare things constantly. With the help of mindfulness training, the tendency to judge yourself and your feelings will diminish and there will be more acceptance towards yourself and your feelings, which in turn will reduce suffering. At the same time confidence about yourself and your feelings will increase. When there is no more need to judge one's own actions or feelings, one does not have to try and fight unpleasant feelings and it will increase well-being. Most of the time person's mind is full of action and he works on autopilot. We do not need to think about what we are doing because we do things automatically. A beginner's mind helps us to see every situation as it is, without assumptions or evaluations. This will again help us to concentrate better on the task we are doing or the person we are listening to. (Williams et. al. 2007.)

In addition to these eight elements, our minds can be divided into doing mode and being mode. Doing mode is goal-orientated and it is usually triggered by the fact that things are not as we would wish them to be. Doing mode is characterized by dissatisfaction, because our mind is constantly comparing how things are now to how they should be. Thoughts are also seen as the truth. A patient might come to the psychiatric nurse and wish to be different, when this wish to be different is the very cause of suffering for the patient. The change cannot begin until the patient accepts things as they are. During the being mode thoughts or feelings are not evaluated to be good or bad, they are simply seen as events of the mind. During the being mode, the individual is able to tolerate unpleasant feelings better and does not have to avoid them. With the help of mindfulness exercises one can become more aware of these modes and whether one is on autopilot or not. (Ahoniemi 2014.)

### **2.3 Mindfulness-based interventions**

Mindfulness-based interventions are a group of interventions where mindfulness is the main component. Different interventions include mindfulness-based stress reduction, mindfulness-based cognitive therapy and acceptance and commitment therapy. One of the most commonly used mindfulness based interventions is Mindfulness-based cognitive therapy (MBCT) developed by John Kabat-Zin. The aim of this method is to increase the capacity to attend in a non-judgmental way, focusing on moment-by-moment patterns of thought and bodily sensations and feelings. (Godfrin & Heeringen 2010, 739.) Mindfulness-based cognitive therapy is an 8-week program, which is usually conducted in groups, and is based on cognitive behavior therapy. MBCT was originally designed for patients with recurrent major depression in order to teach them how to be more aware and to relate differently to their thoughts, feelings and bodily sensations. The aim of the original program is to teach skills that allow individuals to disengage from habitual, automatic dysfunctional cognitive routines and that way reduce the risk of relapse and recurrences of major depression. (Chiesa & Serretti 2010, 442.) MBCT also teaches how to observe thoughts and feelings by intentionally returning attention to a neutral object, such as breathing or body sensation in the present moment. The difference between CBT and MBCT is that instead of changing the content of thoughts, it aims

to increase meta-cognitive awareness and to modify processes, which maintain the unhelpful ruminative state of mind. (Kenny & Williams 2007.)

Other forms of mindfulness-based interventions for patients suffering from depression are mindfulness-based stress reduction, acceptance-based behavioral therapy (ACT), dialectic behavior therapy and exposure-based cognitive therapy. In mindfulness-based stress reduction, the focus is on mindfulness training, non-judging, patience, beginner's mind, trust, acceptance and letting go. Acceptance-based behavioral therapy on the other hand emphasizes the present moment awareness, encouraging acceptance, learning and practicing adaptive skills and engaging actions. The aim of this intervention is to enhance and maintain adaptive behavior. The dialectical behavior therapy aims to improve dysfunctional areas in depressed patients. The aim of exposure-based cognitive therapy is to promote a healthy lifestyle. The main component is mindfulness meditation, which aims to increase attention control, distress control and to reduce avoidance and rumination. The three phases of exposure-based cognitive therapy are stress management, activation and exposure, consolidation and positive growth. (Klainin-Yobas, Cho & Creedy 2011, 115.)

#### **2.4 Patient-orientated care**

Patient-orientated care has a long tradition in Finnish health care, but active discussion about a patient's rights did not start until a couple of decades ago. There were weaknesses in the patient's rights, which had to be corrected. Patient-orientated care is a wide concept and it can be considered from different points of views. The definition of patient-orientated care depends on the patient and for this reason it is important to define who the patient is. The main point in the patient-orientated care model is to meet every patient as an individual. It is also important to see the patient as a member of a family or some other community and also as a member of society. As an individual, the person is the expert of his own life, with emotions, willpower and the will to make decisions concerning his own life. (Kiikkala 2000, 112-119.)

When it comes to patient-orientated care, one important point is interaction between patient and nurse. When the interaction is working, it will ensure good communication, partnership and mutual decision-making between patient and nurse, and as a result health promotion will take place. The communication works in two directions and it means both listening and understanding. The patient should listen and have respect for the nurse or healthcare professional, and vice versa. It is important that the patient feels that he is being heard and understood, and that the health care professional shows a true interest in him. (Duggan, Geller, Cooper & Beach 2006, 272.) According to studies, patient-orientated care is highly related to good results in health care. The Picker Institute / Commonwealth Fund conducted a research which shows that patients define patient-orientated care as a 1) respect for patient's preferences, values, and expressed needs; 2) information, education, and communication; 3) coordination and integration of care and services; 4) emotional support; 5) physical comfort; 6) involvement of family and other close ones; 7) continuity and transition from hospital to home and 8) access to care and services. (Rathert, Wyrwich & Boren 2013, 352.)

The American Institute of Medicine has created a recommendation, which gives guidelines on how to concentrate on patient-orientated care and avoid the disease-centered thinking in nursing care. The recommendation has five different parts, and these are the patient's and family member's role in decision making, multidisciplinary care team, emotional and physical support for the patient and his family members, health care professionals understanding about the patient's position and health status and the health care professional's aim to work so that the patient will receive the best possible care. (Davidson, Powers, Kamyar, Hedayat, Tieszen 2007.) There are also similar kinds of guidelines in Finland. For example the nurse's ethical guidelines state that every patient receiving care has the right to participate to the decision-making of his care, the health care professional should respect the self-determination right of the patient and treat all patients with justice. (Etene 2012.)

When it comes to mental health care patient-orientated care is very important. In Finland, many of the services provided for mental health patients are shattered in different places. One example of patient-orientated care in Finland is from the city of Turku, where a project aims to provide all the services the patient needs in one place.

This will benefit both the patient and health care professionals working with the patient. The aim is that the patient would have the possibility to meet a psychiatric nurse, social worker and doctor at the same time and that the patient would have the possibility to participate in his own care and the decision-making process. This will increase the patient's understanding about his care and the feeling that he is being seen and heard. It will also be more economical because often the expensive specialized care can be avoided completely, when the patient receives care before problems escalate. (Turun kaupunki 2014.)

### **3 RECENT STUDIES ON THE SUBJECT**

During recent years there has been a growing interest in mindfulness-based interventions among people suffering from ill mental health and several studies have been conducted on the topic. Especially depression has been a matter of interest. One study published in the *International Journal of Nursing Studies* by Klainin-Yobas, Cho and Creedy (2011, 110) aimed to examine the efficacy of the mindfulness-based interventions on depressive symptoms in people with mental health problems. The results showed that the mindfulness-based interventions were superior to standard care in reducing depressive symptoms and preventing relapse. Godfrin and van Heeringen (2010, 738) had similar results in their study, which investigated the effects of mindfulness-based cognitive therapy on the relapse in depression and mood states and patient's quality of life. The study was made in the form of a randomized controlled trial, in which 106 recovered depressed patients with the history of at least 3 depressive episodes continued with their treatment with treatment as usual or with treatment as usual plus mindfulness-based cognitive therapy. The results showed that the patients in the group that received treatment as usual plus MBCT had significantly reduced risk of relapse and recurrence of depression compared to the group that received treatment as usual. The MBCT plus treatment as usual group also had significant reduction in short- and longer-term depressive mood and they experienced better quality of life. (Godfrin & van Heeringen 2011, 738.)

A study conducted at Oxford University in the UK investigated the effectiveness of mindfulness-based cognitive therapy in patients who are suffering from chronic recurrent depression. In this study, the participants were divided into two groups. The first group received treatment as usual and the other group received mindfulness-based cognitive therapy in addition to treatment as usual. Participant's depressive symptoms and diagnostic status were assessed before and after the treatment phase. Results showed that self-reported symptoms of depression decreased from severe to mild in the group, which received MBCT plus treatment as usual. Also the number of patients who met full criteria for depression decreased significantly more in the group receiving MBCT plus treatment as usual. (Barnhofer, Crane, Hargus, Amarasinghe, Winder & Williams 2009, 367.)

#### **4 RESEARCH QUESTION**

The purpose of this study is to explain the usefulness of mindfulness-based interventions in the care of depression. Research questions are as follows:

1. What are the effects of mindfulness-based interventions when treating depression?
2. What are key factors of mindfulness-based interventions in reducing depressive symptoms?

The aim of this thesis is to produce information for nurses working with depressed patients about mindfulness-based interventions as a treatment option. The intent is also that this thesis could be helpful when introducing different care options for depression for students studying nursing in the future.

## **5 RESEARCH METHODOLOGY**

The meaning of a literature review is to conduct a study in order to understand the phenomenon, which is being studied and ultimately towards the total body of knowledge. Through literature review the researcher gathers information what has already been known about the subject. The main purpose of a literature review is to show why the current research is needed. It also discusses the relevant issues and concepts, which are in the research or related to the research question, objectives and hypotheses. There are four reasons, why literature reviews are most commonly conducted. The reasons are to prepare for an essay or assignment, to increase understanding of a topic or issue, to inform a research project or to conduct a systematic review. (Parahoo 2006, 121 – 146.)

This thesis will be done in the form of a literature review. The aim of a literature review is to search, appraise and summarize available evidence for the practice. Parahoo (2006, 97) describes a literature review as “a rigorous search, selection, appraisal, synthesis and summary of findings of primary research and its aim is to answer a specific question”. The process of literature review should be transparent and replicable. It is said that literature review is a research on research and secondary research, because it uses findings of previous researches. In order to conduct a literature review, the researchers has to first choose a topic and formulate a question, objectives or hypothesis in order to start the literature review. After this the next step is to select databases and set inclusion and exclusion criteria for selection of studies and other evidence. Next, the researchers start to search through the literature and extract relevant, valid and reliable information from articles with the use of checklist questions. After going through the literature, it is time to analyze and synthesize the findings of the selected studies and draw conclusions from the findings. (Parahoo 2006, 134-135.)

### **5.1 Inclusion and exclusion criteria**

With the addition of inclusion and exclusion criteria, this study will enhance the probability of obtaining genuine and reliable results.



TABLE 1. Inclusion and exclusion criteria

<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
Studies related to depression and mindfulness based interventions.	Studies that were not related to depression and mindfulness based interventions.
Articles and studies from 2008 to present.	Articles and studies carried out before 2008.
Articles in full text, abstract and with keywords.	Articles without full text, abstract and not with keywords.
English, Finnish and Swedish languages.	Other languages due to interpretation problems.
Evidence-based research articles.	Articles not related to nursing and not scientific.

## 5.2 Data collection

For this study, a qualitative research method was used. Scientific journals were used during the data collection process. Keywords used for this study were depression, mental health, mindfulness, mindfulness-based interventions and mindfulness-based cognitive therapy. The words were used in combination in order to retrieve relevant articles. The combination words included: mental health + mindfulness, depression + mindfulness, depression + mindfulness-based interventions. Scientific databases used for this study included Science Direct, CINAHL, SAGE Pub and Google Scholars.

All information was gathered systematically and by avoiding repetitions and wrong interpretations. Altogether twenty articles were abstracted from reliable databases. The languages used for obtaining material for this study included English, Finnish and Swedish. Articles published from the year 2008 to 2015 were used in the analysis process. The articles used for this study focused on the effects of mindfulness-based interventions when treating current depression or when preventing a relapse with the patients who already have suffered from at least three

major depressions during their life. A table including the articles reviewed for this thesis can be found in appendix 1.

TABLE 2. Data search results from databases.

SEARCH WORDS	SCIENCE DIRECT	SAGE PUB	CINAHL
Mental health + mindfulness	195	940	167
Depression + mindfulness	185	999	273
Depression + mindfulness based interventions	3188	123	21

### 5.3 Data analysis

Content analysis was used to examine the results of the literature review. Content analysis is a scientific method, which aims to make conclusions about verbal, symbolic or communicative data. The goal is to analyze documents systematically and objectively. Content analysis can be conducted either by analyzing or by categorizing the data. When analyzing the content, the purpose is to describe the documents verbally and when categorizing the content, the content will be described qualitatively. (Hiltunen 2010.) The benefits of content analysis are its sensitivity towards the context and the symbolic forms of the data. The purpose of content analysis is to produce a verbal and distinct description about the phenomenon. Content analysis also aims to organize the data in a clear and compact form. Content analysis aims to produce information value, and the dispersed data is presented in a clear and uniform way. During the data analysis, the data is first broken into pieces and then rebuilt in a new and logic entirety by using common themes found in the data. (Tuomi & Sarajärvi 2004.) The content analysis can be either inductive or deductive. The inductive content analysis progresses with the condition of the data.

The deductive content analysis produces a body of analysis, to which appropriate data is included. Whether the content analysis is inductive or deductive, depends on the purpose of the research. (Kyngäs, Elo, Pölkki, Kääriäinen & Kanste 2011.)

The articles analyzed for this thesis were first read through and after this, the specific parts answering directly to the research questions were cut from the material and collected into a table. The table was then arranged into three main categories and further into smaller subcategories. Because no Finnish articles were found concerning MBIs and depression, the articles analyzed for this thesis are from international journals.

## 6 ETHICAL CONSIDERATIONS

Research is a humane and value-based action, which aims to find the truth within a certain branch of science by using scientifically approved methods. Especially in those sciences researching human actions and using humans as a source of information, it is critical to remember the importance of ethical solutions. Researchers and the scientific community are responsible for the ethical obligations of a research to the society, to themselves and to the other scientific communities. The research ethics deals with the questions of how to make ethically sustainable and reliable research. (Hirsjärvi, Remes & Sajavaara 2009, 23.)

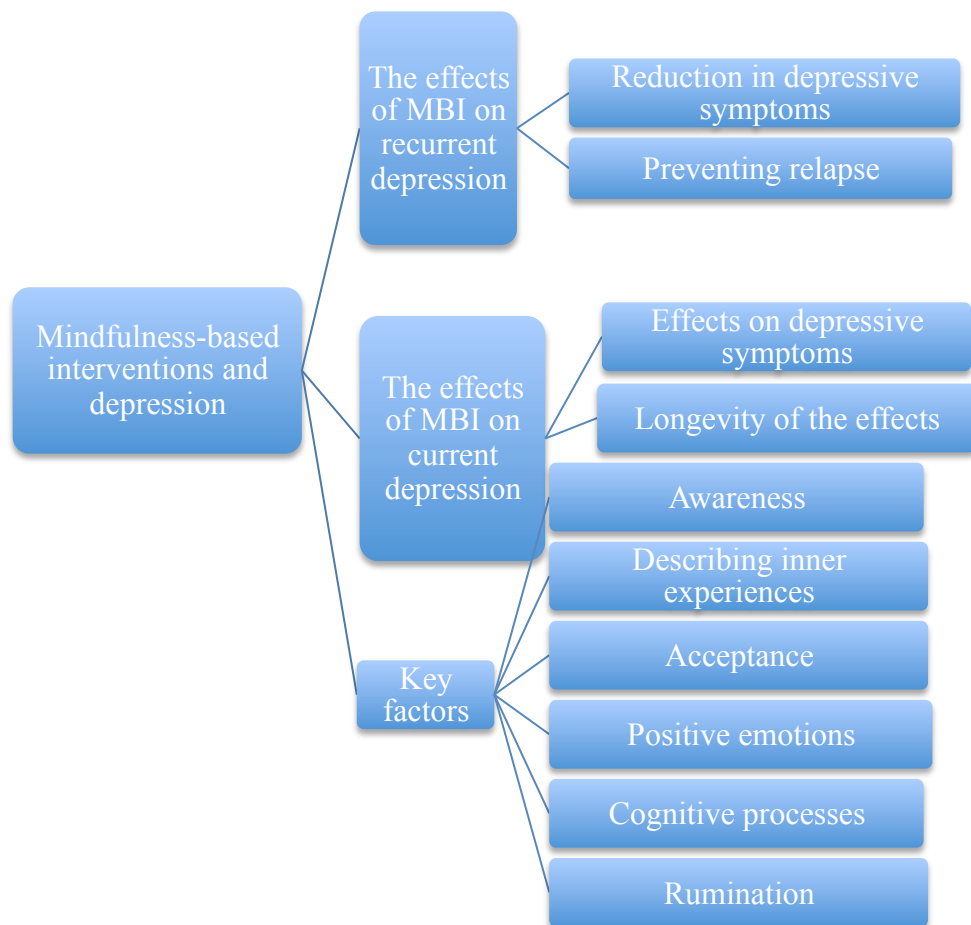
It is important that the researcher follows good scientific practice in his own work. Violations of good ethical practice are for example underrating of other researcher's work, insufficient referring to previous studies, misleading reporting of other researches and using the same studies several times as if they were new studies. There is also a scientific fraud, which means that the researcher is presenting twisted, fictitious or illicitly cited observations as his own. (Tuomi & Sarajärvi 2009, 133.) The aim of this thesis is to view the researches and their results in an objective manner without undermining or highlighting any individual research. The goal of this thesis is also to use primary sources as much as possible. The literature used in this thesis will be of high standard and scientific and the rule is that the literature should not be more than ten years old. The exceptions are classical studies and important primary sources, which have been used in newer researches.

In the literature, the reliability of the research methods is usually discussed through validity and reliability. Validity means that the research is measuring what it should be and reliability means that the research can be reproduced and the results remain consistent. These concepts are better understood when talking about quantitative research, but it is important to measure the validity and reliability of every research. In a qualitative research the reliability can be assured when the researcher carefully explains the research process for the reader. (Tuomi & Sarajärvi 2009, 136.)

## 7 FINDINGS

When analyzing the data, three major themes were found that answered the research questions. The main themes were the effects of MBI on recurrent depression, the effects of MBI on current depression and the key factors of mindfulness-based interventions. The researches about current depression included both mild and severe depression. Table 1 and graph 1 describe the major themes of the study. The content analysis process is pictured in appendix 2.

**GRAPH 1.**



## **7.1 Effects of MBI on recurrent depression**

Individuals who have a history of recurrent depression have a higher risk of relapse or recurrence of depression. At the moment, it is recommended that antidepressant treatment should be continued for at least 2 years to prevent a relapse. There is, however, growing interest towards alternative treatment methods, such as mindfulness-based interventions in preventing relapse. Mindfulness-based interventions were first designed to prevent relapse in recurrent depression and for example MBCT has shown to reduce this risk.

### **7.1.1 Reduction in depressive symptoms**

Risk factors for recurrence of depression include the number of previous depressive episodes and residual symptomatology. It has been suggested that these factors can enhance the likelihood that learned maladaptive patterns of depressogenic thinking reactivate. Several studies showed that during the depressive episode, there are associations between low mood, hopelessness, worthlessness, and these associations strengthen over repeated episodes of negative mood. When the individual is in remission, these learned patterns remain latent, but they are easily reactivated when there is a change in the mood. According to research, residual symptoms may play an important role in the risk for relapse. The training of mindfulness meditation helps the individual to concentrate on the present moment with acceptance and non-judgment instead of rumination and elaboration, and this in turn offers benefits to those patients who have a higher risk for recurrent depression. Several studies showed that those patients, who have higher numbers of previous depressive episodes, will benefit most from trait mindfulness. (Radford et. al. 2014, 1 – 7.)

According to a study by Dimidjian et. al. (2014) the MBCT has been shown to be useful with those patients suffering from recurrent depression. A web-based approach to MBCT was developed to reach more patients and to be available for a greater amount of people. A Mindful Mood Balance (MMB) program was compared with usual depression care with patients suffering from recurrent depression. It was found that participants in a MMB program reported significantly greater reduction in

depression symptom severity compared to those who received usual depression care. (Dimidjian et. al. 2014, 86 – 88.)

### **7.1.2 Preventing relapse**

Even though there is evidence that MBIs reduce depressive symptoms with patients who have recurrent depression significantly better than usual care, the evidence suggests that there is no such advantage in preventing relapse. When compared with active control treatment and cognitive psycho education, MBCT showed no significant advantage with patients who had had three or more depressive episodes. (Williams et. al. 2013, 7.) When MBCT was compared with maintenance antidepressant treatment in individuals at risk for depressive relapse or recurrence, it was found that MBCT was not a superior treatment method. (Kuyken et. al. 2015.) Both studies came to the conclusion, that MBCT did prevent relapse, but there was not significant difference when compared with other treatment methods. However, when Williams et. al. (2014) researched the effectiveness of MBIs on relapse prevention with those patients who suffer from recurrent depression, they found that MBCT provided significant protection against relapse for those participants who had a history of childhood trauma. (Williams et. al. 2013, 7 - 8.) Kuyken et. al. (2015) came to the same conclusion in their research. Further research would need to be conducted to understand the phenomena.

## **7.2 The effects of MBI on current depression**

Because the MBIs have been shown to be successful when treating patients who suffer from recurrent depression, the interest of MBIs effectiveness for current depression has risen. During the recent years, several researches have been conducted to study the effectiveness of MBIs on current depression.

### **7.2.1 Effects on depressive symptoms**

MBCT showed to significantly decrease depression symptoms with currently depressed patients when compared to a control group, who received either no care at all, usual depression care or psycho-education. It also seems that patients, who have

more depression at baseline, will benefit the most from the MBIs. Hamilton Rating Scale for Depression (HAMD), anxiety and stress scale (DASS) for depression, Beck Depression Inventory (BDI) and Patient Health Questionnaire-9 for depression were used to measure the severity of depressive symptoms before and after intervention. Current depression diagnosis was confirmed by using DSM-IV. (Strauss et. al. 2014, Asl & Barahmand 2014, Johnson et. al. 2015, Pots et. al., 2014, Krusche et. al. 2013, Kenny & Williams 2007, Fourer et. al. 2013, Chiesa et. al. 2012, Vollestad et. al. 2012.)

When MBCT was compared with CBT, there was not a significant difference between these two treatment methods. A study by Manicavasgar et. al. (2011) suggests that both MBCT and CBT are equally effective for treating current depression. In both treatment groups, depression levels significantly decreased at course completion when BDI scores were used to measure depression level before and after the intervention. (Manicavasgar et. al. 2011.)

### **7.2.2 Longevity of the effects**

When MBI plus treatment as usual was compared with treatment as usual, and the depression level was evaluated right after the intervention, 6 months and 12 months after intervention, it was found that the effect was sustained at follow-up points. Würtzen et. al. (2012) noted that six months after intervention there was a significant difference between the MBI group and control group in their depression levels. The same difference was still found 12 months after the intervention. (Würtzen et. al. 2012.) Johnson et. al. (2015) came to similar conclusion when they studied the effectiveness of mindfulness-based resilience training with depressed health care professionals. They came to the conclusion that the reduction of depressive symptoms persisted up to 2 months after the intervention. (Johnson et. al. 2015.)



### **7.3 The key factors of mindfulness-based interventions**

There were found to be six different key factors of mindfulness-based interventions, and those are explained in more detail below.

#### **7.3.1 Awareness**

Curtiss and Klemanski (2014) studied how acting with awareness mediates with depressive symptoms and they came to the conclusion that higher levels of awareness correlated with lower levels of depressive symptoms. Especially when predicting symptoms of depression, awareness plays an important role with patients suffering from recurrent depression. (Curtis & Klemanski 2007.) Worsfold (2013) studied the embodied reflection in mindfulness-based cognitive therapy with patients who had had three or more depressive periods or who were currently depressed. According to her results, body awareness techniques learned during mindfulness-based cognitive therapy are helpful for those patients who have a history of depression. (Worsfold 2013.) Also van der Velden et. al. (2014) found in their study that increased awareness predicted symptom improvement for depressed patients. According to their study, awareness refers to the ability to observe thoughts and emotions as temporary and automatic events of the mind, and not see them as a facts or true descriptions of reality. (van der Velden et. al. 2014).

#### **7.3.2 Describing inner experience**

One of the key factors of mindfulness-based therapies when working with depressed patients is the ability to describe inner experiences. In their study Barnhofer, Duggan and Griffith (2011) came to the conclusion that depression levels were lower with those patients who had higher levels of mindfulness. When they further concentrated on the mindfulness, they found that it was the exact ability to describe inner experiences, which helped with and prevented the depressive symptoms. Their study was done by using the Five Factor Mindfulness Questionnaire (FFMQ), which measures the person's ability to observe internal and external experience, to describe internal experience, to act with awareness, to be non-judgmental and to be non-reactive to inner experience. (Barnhofer et. al. 2011.)

### **7.3.3 Acceptance**

Studies aiming to understand the relationship between dispositional mindfulness and depressive symptoms through different types of affect regulations suggest, that self-acceptance has a strong direct effect on depressive symptoms. The more the patient is able to accept himself and his emotions, the more the severity of depressive symptoms seems to reduce. (van der Velden et al. 2014, Barnhofer et. al. 2011 & Jimenez et. al. 2010.)

### **7.3.4 Positive emotions**

Positive emotions are shown to be one of the key factors of mindfulness-based interventions. Van der Velden et. al. (2014) found that patients receiving MBCT reported increased experience of positive emotions compared to the control group. Also Jimenez et. al. (2010) came to the conclusion, that there is an association between positive emotions and depressive symptoms among those patients who received MBI as treatment.

### **7.3.5 Cognitive processes**

Cognitive processes, such as memory specificity, attention, thinking, perception and learning, affect those people who have participated in MBIs. Studies show that with those depressed patients who have received MBI, a reduction in maladaptive cognitive processes was noticed. (Jimenez et. al. 2010.) Van der Velden et. al. (2014) noticed that memory specificity was increased among those patients who received MBCT compared to a control group who received the usual depression care. Previous studies have shown that memory specificity is associated with major depression and depressive symptoms. (Van der Velden et. al. 2014.)

### **7.3.6 Rumination**

Rumination is attention, which is compulsively focused on the symptoms of distress, and on its possible causes and consequences. Rumination focuses on bad feelings and experiences from the past, and is associated with depression. According to Dimidjian et. al. (2014), MBIs decrease the level of rumination in depressed patients, and the reduced rumination further reduces depressive symptoms. (Dimidjian et. al. 2014.) Worsfold (2013) states in her study that with the help of mindful walking, thinking is engaged and there is less room for negative or unpleasant thoughts. (Worsfold 2013.) This also suggests that a decreased level of rumination will reduce depressive symptoms. Van der Velden et. al. (2014) came to the conclusion that alteration in rumination was associated with reduction of depressive symptoms. (Van der Velden 2014.)

## 8 DISCUSSION

The purpose of this thesis was to explain the usefulness of mindfulness-based interventions in the care of depression. The thesis wanted to find an answer to questions about the effects of MBIs when treating depression and the key factors of MBIs in reducing depressive symptoms. The recent studies on the topic have shown that MBIs are effective when treating patients who are suffering from recurrent depression. The study by Barnhofer et. al. (2009) showed, that patients who received MBI reported significant decrease in their depression level compared to a control group who received usual depression care. (Barnhofer et. al. 2009.) According to the articles reviewed for this study, mindfulness-based interventions proved to be effective with this patient group, when the treatment was compared with usual depression care, which consisted of medication and psycho-education.

Also Klainin-Yobas, Cho and Creedy (2011) came to the conclusion that people suffering from depression benefited from mindfulness-based interventions. According to their results, MBIs were superior compared to standard depression care in reducing depressive symptoms and preventing relapse. (Klainin-Yobas, Cho & Creedy 2011.) These results support the results of this thesis. Godfrin and van Heeringen (2010) came to the conclusion that a group receiving MBCT plus usual depression treatment had a significant reduction in short and longer-term depressive mood and that this group experienced better quality of life. (Goodfrin & van Heeringen 2010.) Their study results also support the findings of this thesis.

As mindfulness-based interventions have shown to be effective for preventing relapse, researches have been conducted to find out whether mindfulness-based interventions could also be used with patients suffering from current depression. According to the results of this study, mindfulness-based interventions can also be used with those patients who have been diagnosed with current depression or who have depressive symptomatology. The study findings revealed that when mindfulness-based interventions were used together with usual treatment, the BDI scores and depressive symptomatology decreased. However, one study that compared MBCT with CBT did not show any difference between these two methods.

It has to be noted, that the researches analyzed for this study were conducted abroad, and cannot therefore be straight applied for Finnish population. There should be more studies about whether depressed patients in Finland correspond to these interventions and whether mindfulness-based interventions are effective when treating Finnish patients.

The articles reviewed for this study indicated that those patients who participated in mindfulness-based intervention showed decrease in their rumination levels, increase in their body awareness, increase in psychological flexibility and increase in overall awareness levels. Patients were also able to regulate their mood and emotions better, they had higher levels of self-acceptance and they were able to better describe their inner experiences. Williams et. al. (2007) suggest in their book that the key factors of mindfulness-based interventions are acceptance, awareness and the ability to see thoughts as temporary and automatic events of the mind, and not see them as a facts or true descriptions of reality. Also an ability to stay non-judgmental towards thoughts and yourself is one of the key factors of mindfulness. (Williams et. al. 2007.) This study also showed these to be the key factors.

The results of this study suggest that mindfulness-based interventions can be one alternative when treating depressed patients. Depending on the severity of the depression, it can be used solely or together with treatment as usual. Articles reviewed for this study suggest however, that psycho-education is an important part of mindfulness-based interventions. Mindfulness-based interventions require commitment to the method and mindfulness exercises should be practiced daily. The eight-week program of MBCT contains group meetings once a week but patients should commit themselves for doing the exercises daily on their own. One of the challenges with mindfulness-based interventions is how to keep patients motivated to continue the program. This is where the importance of psycho-education comes in. Nurses should be able to recognize those patients who would most likely benefit from these interventions and also motivate them to continue with the program and exercises. As the change in depressive symptoms does not happen immediately, a nurse has to be able to encourage the patient to continue.

In mindfulness-based interventions the patient is in the focus of the care. The patient is seen as an expert of his own life, and the focus is on the individual and his motivation and responsibility towards the care. The patient is the one who has willpower and will to make decisions concerning his own life. Also the interaction between nurse and patient is important in mindfulness-based interventions. When the interaction works well, there is good communication between nurse and patient. This means that both are listening and understanding each other, and the patient feels that he is being heard. These are also important factors in patient-orientated care, where the patient is in the focus of the care. The main focus of mindfulness-based interventions is on the patient's own experience, and the aim is to be able to accept feelings, emotions and life events as they are.

For nurses working with depressed patients, it is important to know about the different methods of helping this patient group. Mindfulness based interventions are very cost effective, because for example MBCT and MBSR are usually given in group form. The studies also suggest that the effects are sustained 6 to 12 months after the intervention. This is an important fact especially with depression, because of its high recurrence rate. Because adverse effects of this method have not been studied enough, it is important that there are careful implementation plans and that experienced therapists are used. Because MBIs are still relatively unknown in Finland, finding a qualified therapist might be a problem. The evidence of MBIs efficacy in reducing depressive symptoms is however important and it adds knowledge to nursing science. Further studies should be made in Finland to investigate the usefulness of mindfulness-based interventions on Finnish population. Future nursing studies could also concentrate on the long-term effects of the interventions. It would also be important to explore effective strategies to motivate patients to sustain regular mindfulness practice and integrate it into daily routines.

## 9 CONCLUSION

This thesis aimed to explore the effects of mindfulness-based interventions when treating depression and to understand the key factors in reducing depressive symptoms. Depression causes a lot of costs for the society; according to studies, depressed patients have a higher risk for physical problems. Depression is also the number one cause for early retirement in Finland; according to statistics, 30% of the population on early retirement has been diagnosed with major depression. As depression is a growing mental health problem in our society, it is important to find new ways of treating the problem and preventing relapses.

Mindfulness-based interventions have proved to be effective when treating depression and preventing relapses. The studies analyzed for this thesis showed that mindfulness-based interventions are effective to prevent relapse when used together with usual depression care or alone. The recent research has concentrated on treating current depression with mindfulness-based interventions and the results are promising. According to articles analyzed for this study, mindfulness-based interventions can be used also with those patients who are currently depressed.

There is also now more knowledge about the key factors of mindfulness-based interventions. This study shows that mindfulness-based interventions work by increasing body awareness and awareness about thoughts and emotions. Mindfulness also helps in seeing thought as temporary and automatic events of mind, not the true description of reality. Acceptance and psychological flexibility also increases helping the person to accept for example all emotions rising within and not fighting against them.

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## APPENDIX

	AUTHORS, YEAR, TOPIC & JOURNAL	STUDY PURPOSE	METHOD OF STUDY	STUDY FINDINGS
1	Asl, N. & Barahmand, U. 2014. Effectiveness of Mindfulness-Based Cognitive Therapy for Co-Morbid Depression in Drug-Dependent Males. Archives of Psychiatric Nursing.	- To examine the effect of MBCT in decreasing depression symptoms in dully diagnosed males.	- Experimental research	The results showed that MBCT contributed to significant decrease in depression symptoms.
2	Barnhofer, T., Duggan, D. & Griffith, J. 2011. Dispositional Mindfulness moderates the relation between neuroticism and depressive symptoms. Personality and Individual Differences.	- To investigate whether the ability to be mindful can protect against the negative effects of neuroticism which often leads to depression.	- Survey	- The relation between neuroticism and current symptoms of depression became weaker with higher levels of dispositional mindfulness.
3	Chiesa, A., Mandelli, L. & Serreti, A. 2012. Mindfulness-Based Cognitive Therapy Versus Psycho-Education for Patients with Major Depression Who Did Not Achieve Remission Following Antidepressant Treatment: A Preliminary Analysis. Psychiatry Research.	- To compare mindfulness-based cognitive therapy with a psycho-educational control group, which was designed to be equivalent to the MBCT program but excluding the “active ingredient” of MBCT for the treatment of patients with major depression.	- Randomized controlled trial	- The severity of major depression assessed with Hamilton Rating Scale for Depression and with General Well-Being Index, improved significantly higher extent in the MBCT group than in psycho-educational control group.
4	Curtiss, J. & Klemanski, D. 2014. Teasing apart low mindfulness: Differentiating	- To investigate the relationship between mindfulness and psychological inflexibility with	- Hierarchical multiple regression analysis	- Higher levels of mindfulness correlates highly with fewer symptoms of

	deficits in mindfulness and in psychological flexibility in predicting symptoms of generalized anxiety disorder and depression. Journal of Affective Disorders.	persons suffering from generalized anxiety disorder and depression.		mood and depression.
5	Dimidjian, S., Beck, A., Felder, J., Boggs, J., Gallop, R. & Segal, Z. 2014. Web-based Mindfulness-based Cognitive Therapy for reducing residual depressive symptoms: An open trial and quasi-experimental comparison to propensity score matched controls. . Behaviour Research and Therapy.	- To examine the clinical benefit of Mindful Mood Balance (MMB) with patients suffering from recurrent depression.	- A quasi-experimental comparison, non-randomized trial	- MMB was associated with significant reduction in residual depression symptoms severity compared to quasi-experimental propensity matched controls.
6	Fourer, M., Besley, K., Burton, G., Yu, N. & Crisp, J. 2013. Enhancing the resilience of nurses and midwives: Pilot of a mindfulness-based program for increased health, sense of coherence and decreased depression, anxiety and stress. Contemporary Nurse.	- To pilot the effectiveness of an adapted mindfulness-based stress reduction intervention on the psychological wellbeing of nurses and midwives.	- Randomized controlled trial	- There was a statistically significant difference in scores for DASS (measures the negative emotional states of depression, anxiety and stress).  - A better general health, more positive orientation to life, lower stress levels.
7	Jimenez, S., Niles, B. & Park, C. 2009. A mindfulness model of affect regulation and depressive	- To test the proposed model for understanding the relationship between dispositional mindfulness and	- Cross-sectional study	- Higher levels of dispositional mindfulness were associated with higher levels of positive emotions,

	<p>symptoms: Positive emotions, mood regulation expectancies and self-acceptance as regulatory mechanisms. Personality and Individual Differences.</p>	<p>depressive symptoms through emotion regulation, mood regulation and self-regulation.</p>		<p>mood regulation expectancies and self-acceptance, and these all related inversely to depressive symptoms.</p>
8	<p>Johnson, J., Emmons, H., Rivard, R., Griffin, K. &amp; Dusek, J. 2015. Resilience Training: A Pilot Study of A Mindfulness-Based Program with Depressed Healthcare Professionals. Explore.</p>	<p>- To investigate the potential effect of Mindfulness-based Resilience Training on symptom relief for current or recurrent depression.</p>	<p>- Wait-list comparison pilot study</p>	<p>- Mindfulness-based resilience training group exhibited 63-70% reduction in depression.</p> <p>- Most improvements persisted up to two months after completion of the program.</p>
9	<p>Kenny, M. &amp; Williams, M. 2007. Treatment-resistant depressed patients show a good response to Mindfulness-based Cognitive Therapy. Behavior Research and Therapy.</p>	<p>- To examine the hypotheses that patients with suicidal ideation as a part of their symptoms of depression might respond less well to MBCT.</p>	<p>- Randomized controlled trial</p>	<p>- MBCT is an acceptable treatment for patients who have had only partial response to antidepressant medication and/or standard individual CBT.</p> <p>- For many patients it significantly reduced levels of depression, even in those who have suicidal depression.</p>
10	<p>Krusche, A., Cyhlarova, E. &amp; Williams, M. 2013. Mindfulness online: an evaluation of the feasibility of a web-based mindfulness course for stress,</p>	<p>- To investigate the feasibility and effectiveness of an online mindfulness course for perceived stress, anxiety and depression.</p>	<p>- Follow-up investigation</p>	<p>- Perceived depression significantly decreased at course completion and further decreased at 1 month follow-up.</p>



	anxiety and depression. BMJ Open.			
11	Kuyken. Lancet			
12	Manicavasgar, V., Parker, G. & Perich, T. 2010. Mindfulness-based cognitive therapy vs. cognitive behavior therapy as a treatment for non-melancholic depression. Journal of Affective Disorders.	- To examine the comparative effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) and Cognitive Behavior Therapy (CBT) as a treatment for non-melancholic depression.	- Comparative study	- No significant differences in depression were found between the two treatment condition.
13	Pots, W., Meulenbeek, P., Veehof, M., Klungers, J. & Bohlmeijer, E. 2014. The Efficacy of Mindfulness-Based Cognitive Therapy as a Public Mental Health Intervention for Adults with Mild to Moderate Depressive Symptomatology: A Randomized Controlled Trial. Plos One.	- To evaluate the community-based MBCT intervention for adults with mild to moderate depressive symptomatology.	- Pragmatic randomized controlled trial	- A significant reduction in depression and improvements in mindfulness and emotional- and psychological mental health were found, compared to the waiting list.
14	Radford, S., Eames, C., Brennan, K., Lambert, G., Crane, C., Williams, M., Duggan, D. & Barnhofer, T. 2014. Trait Mindfulness as a Limiting Factor for Residual Depressive Symptoms: An Explorative Study Using Quantile Regression. Plos One.	- To investigate the relation between trait mindfulness and residual depressive symptoms in individuals with a history of recurrent depression.	- An explorative study	- Relatively higher levels of mindfulness were associated with relatively lower levels of residual depressive symptoms.
15	Strauss, C., Cavanagh, K., Oliver, A. &	- To test the effectiveness of Mindfulness-Based	- A meta-analysis of randomized	- Effects of MBIs on primary symptom severity

	Pettman, D. 2014. Mindfulness-Based Interventions for People Diagnosed with a Current Episode of an Anxiety or Depressive Disorder: A Meta-analysis of Randomized Controlled Trials. Plos One.	Interventions for patients who were diagnosed with a current episode of depressive disorder.	controlled trials	was found for people with a current depressive disorder.  - It is recommended that MBIs might be considered as an intervention for this population.
16	Van der Velden, A., Kuyken, W., Wattar, U., Crane, C., Pallesen, K., Dahlgaard, J., Fjorback, L. & Piet, J. 2015. A Systematic Review of Mechanisms of Change in Mindfulness-Based Cognitive Therapy in the Treatment of Recurrent Major Depressive Disorder. Clinical Psychology Review.	- To investigate and understand the mechanisms of change in MBCT for recurrent major depression disorder.	- Systematic literature search	- Changes in mindfulness, rumination, worry, self-compassion, decentering or meta-awareness was associated with, predicted or mediated the MBCT on treatment outcome.
17	Vollestad, J., Nielsen, M. & Nielsen, G. 2012. Mindfulness- and acceptance-based interventions for anxiety disorders: A systematic review and meta-analysis	- To review and synthesize extant research on MABIs for patients with diagnoses of anxiety disorders and mood disorders.	- A systematic review and meta-analysis	- MABIs are associated with reductions in symptoms of anxiety and comorbid depressive symptoms.
18	Williams, M., Crane, C., Barnhofer, T., Brennan, K., Duggan, D., Fennell, M., Hackmann, A., Krusche, A., Muse, K., von Rohr, R. & Shah, D. 2013. Mindfulness-Based Cognitive Therapy for Preventing Relapse in Recurrent	- To compare mindfulness-based cognitive therapy with cognitive psychological education and treatment as usual in preventing relapse to major depressive disorder.	- Randomized dismantling trial	- MBCT provided significant protection against relapse for participants with increased vulnerability due to history of childhood trauma, but showed no significant protection against

	Depression: A Randomized Dismantling Trial. Journal of Consulting and Clinical Psychology.			relapse advantage in comparison to an active control treatment and usual care over the whole group of patients with recurrent depression.
19	Worsfold, K. 2013. Embodied Reflection in Mindfulness-Based Cognitive Therapy for Depression. The Humanistic Psychologist.	- To explore an initial operationalization of embodied reflection in mindfulness-based cognitive therapy for depression.	- An exploratory qualitative study	- Embodied reflection in mindfulness-based cognitive therapy will enhance clinical practice and treatment outcomes for people suffering from depression.
20	Würtzen, H., Dalton, S., Elsass, P., Sumbundu, A., Stending-Jensen, M., Karlsen, R., Andersen, K., Flyger, H., Pedersen, A. & Johansen, C. 2012. Mindfulness significantly reduces self-reported levels of anxiety and depression: Results of a randomized controlled trial among 336 Danish women treated for stage I-III breast cancer. European Journal of Cancer.	- To test Mindfulness-Based Interventions on depression among women with breast cancer.	- Population-based randomized controlled trial	- Reduced levels of depression were identified and the effects were both statistically significant and clinically meaningful.