

Cause of Seasonal affective disorder and nurses role to alleviate depressive symptoms :

A scoping review

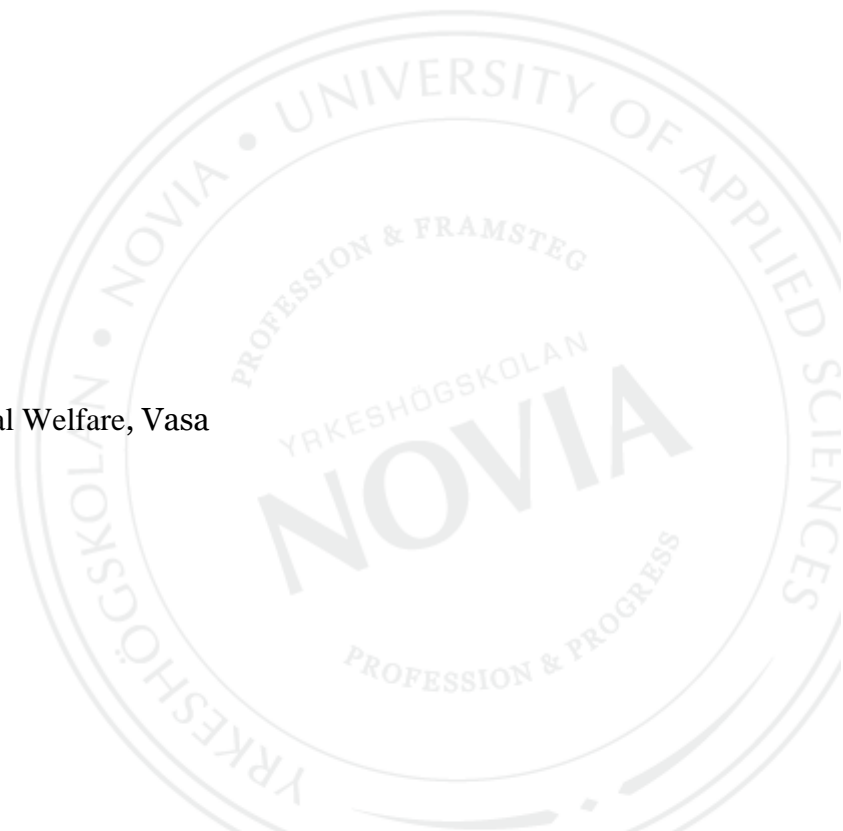
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Degree Thesis in Health Care and Social Welfare, Vasa

The Degree Programme of Nursing

Vasa / 2017



BACHELOR'S THESIS

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Degree Programme: Nursing

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Title: Cause of seasonal affective disorder and nurse role to alleviate depressive symptoms:
A scoping review

Date:22.11.2017

Number of pages :51

Appendices:2

Abstract:

Seasonal changes have always been influencing factor in different illness among the people from ancient time. Considerable attention has been drawn to the seasonal affective disorder since its discovery in 1984 by Rosenthal and her companion. Residing in Nordic country, Researcher have wondered the relationship between low mood and long winter, which motivated us to do study about this area further. The main objective of this study is to point out the epidemiological factor that cause the seasonal affective disorder and nurses contribution in mitigating the depressive symptoms of seasonal affective disorder. Diathesis stress model of psychology and Comfort theory of nursing have been utilized as our theoretical framework. A rather recent methodology called scoping review has been chosen as our methodology. Various search engines were used, such as, PubMed, Scholar Google, google search engine, Ebsco and Finna. The chosen materials included qualitative as well as quantitative articles from journals, grey literature, webpage from authentic organization. Two reviewers were engaged to search and screen studies independently, using formulated selection criteria, for inclusion in our study. The study will attract the attention of nurses towards the winter depression and nurse's intervention strategy.

Language: English Keywords: SAD, Winter depression, Depressive symptoms, Nurse role, Alleviation of depression.

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1 Introduction

The high prevalence rate of seasonal affective disorder among the people living in higher latitude alarmed concerns about the mental health of individual. Most of human being are not affected by the short days and long nights of fall and winter. However, initial queries among the people living in different geographical location revealed that, they feel sad, unhappy and they often experience mood swing and low energy during the wintertime, which raise our question.

Everyone experiences sadness and unhappiness at some point in their lives. Seasonal affective disorder (SAD) is identified as clinical depression that is intense and periodic, which occurs and reoccurs in certain time of the year specifically in wintertime. This so called “winter depression” interferes person’s normal daily activities and its symptoms are longer than usual sadness or grief that individual fell occasionally (Canadian mental health association (CMHA), 2013). This pattern of onset and remission of episodes should occur during at least two successive years, without any non-seasonal episodes occurring during this period to be diagnosed as SAD.

An individual with SAD may experience mild depressive symptoms already from the beginning of autumn. However, these symptoms might become more pronounced later when winter comes. Then, they will start to fade away from the spring and may totally go away during summer. The symptoms of winter depression are similar as that of usual depression. People suffering from seasonal affective disorder experience emotional, physical and behavioural dysfunction. These symptoms may include loss of interest in previously enjoyed activities, major changes in appetite (carbohydrate craving), gaining weight, sleep problems (increased sleep duration), fatigue, a feeling of worthlessness or hopelessness, problems with concentration and decision making. (Meesters et al., 2016).

Seasonal affective disorder can be summer type which affect in summer, but it is not intense compare to winter depression. Seasonal affective disorder is diagnosed more often in women than in men however, man has more intense symptom. SAD occurs more frequently in younger adults than in older citizen and people with family history, living away from equator and pregnant women (National Institute of Mental Health(NIMH), 2016).

SAD is easily and effectively treated once diagnosed. The most common forms of treatment for SAD are light therapy, cognitive behavioural therapy and antidepressants along with

vitamin D supplements. If seasonal affective disorder is not diagnosed earlier, this can lead to complication like social withdraw, study and work-related problem, substance abuse and it can also establish other mental illness, such as anxiety, eating disorder, major depression, suicidal thoughts and behaviour changes.

Recently, there has emerged growing interest in Seasonal affective disorder in the field of medical and psychological. However, there is not much approach made from nursing point of view. Understanding epidemiology of seasonal affective disorder and supportive method for mitigation of depressive symptoms by nurse can improve the quality of life of patient. Nurses have the duty to promote health and care for patients. To be able to carry out duties efficiently and to assist individual suffering from winter depression, first the Nurse need to identify the root cause of this mental illness and to decode that information by utilizing acquired knowledge, to promote wellbeing of people who have other mental health problem.

2 Aim of study

The aim of this study is to find the epidemiological factors that influences on the prevalence of seasonal affective disorder and the nurse's role in managing the depressive symptom. Additionally, researcher want to gain more knowledge about this unknown area and find out the possible nursing interventions for the relief of depression occurring in the specific time of the year. This dissertation seeks to address the following questions:

What are the factors for high dominance of seasonal affective disorder?

What can be nurse role in mitigation of depressive symptoms in seasonal affective disorder?

3 Background

The background will give an overview of key studies that are directly relevant to the issue being investigated. This chapter focus on the definition and concepts which are used in our study. For the better understanding for reader, it will describe depression, seasonal affective disorder, prevalence, diagnosis criteria for seasonal affective disorder, treatment approach using medication, counselling, light therapy and vitamin D supplement.

3.1 Latitude, Photoperiod and Climate

In geography, the coordinates on the earth surface that specify the north and south pole is ranging from 0° at the Equator to 90° on pole (Encyclopaedia, 2017). The range from 0° to 30° is low latitude, 30°- 60° is middle latitude, and 60°- 90° is high latitude. Photoperiod is day length, also defined as “the period of daily illumination received by an organism” (Oxford Dictionaries, 2017) and photoperiod remains constant between years at any given geographic location. In north pole and south pole there is 24 hours of sun in summer, but in winter there is no sun or less sun. Light duration is strongly influenced in higher latitude due to low sun angle. For example, in polar region like Norway, temperature seems to be very low around 5 degrees in mean for less than 100 days and in most of northern lowland Fennoscandia snowfall free period are around 120 days with low temperature (Wielgolaski and Inouye, 2003).

3.2 Depression

Depression is a common mental disorder that is characterized by mood disorder causing sadness, loss of interest, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness and poor concentration (National Institute of Mental Health (NIMH), 2015). Depression is a common illness worldwide, with more than 300 million people affected. Depression is different from usual mood fluctuations and short-lived emotional responses that it challenges person’s everyday life. Especially when long-lasting, with moderate or severe intensity, depression may become a serious health condition as it can lead to self-harm or suicide (WHO, 2012). Depression often starts at a young age. It affects women more often than men, and unemployed people are also at higher risk.

3.3 Seasonal affective disorder and its symptoms

Seasonal affective disorder, also known as SAD is form of depression in which people experience depressive episodes during specific times of the year. Most people notice SAD symptoms starting from the fall and increasing during the winter months, however few people also have a summer type depression but it is not common (Meesters et al.,2016). The sign and symptoms of SAD is high and intense in winter but diminish during the spring. SAD is not reflected as a different mental disorder than depression however taken as specifier depression that has a recurrence pattern to the season. Seasonal affective disorder

(winter depression) is a term that describes the clinical subtype of mood disorder in depression that repeats at least for two consecutive winter (Jurvelin et al., 2014).

During this depressive period individual can experiences a typical and atypical symptom. Figure 1 below, shows detailed symptoms of SAD. Individual with SAD are emotionally weak and experiences emotional symptoms like sadness, anxiety, guilt, mood swings, helplessness and hopelessness (Eagles, 2004). Similarly, people suffering from seasonal affective disorder have trouble with physical mechanism where they have sleep disorder (long duration of sleep in winter depression), appetite (high carbohydrates consumption), weight gain and loss of sexual interest with their partners (Eagles, 2004). They also experience behavioural changes like social isolation, with the potential resulting loneliness, loss of concentration, being unmotivated to meet goals in school and work place, loss of interest in one's physical appearance, loss of interest in activities which were once of interest. If the condition gets severe, it can be associated with thoughts of suicide.

The symptoms of seasonal affective disorder typically tend to begin in the fall every year, lasting until spring. During the dark months in winter the symptoms are more intense and depending on geographical location it can occur different period of months with low photoperiod (Meesters et al., 2016). There are two type of SAD which is winter type and summer type; as winter SAD is more prevalent than the summer, so SAD terminology “*represents to winter depression*” (Meesters et al., 2016).

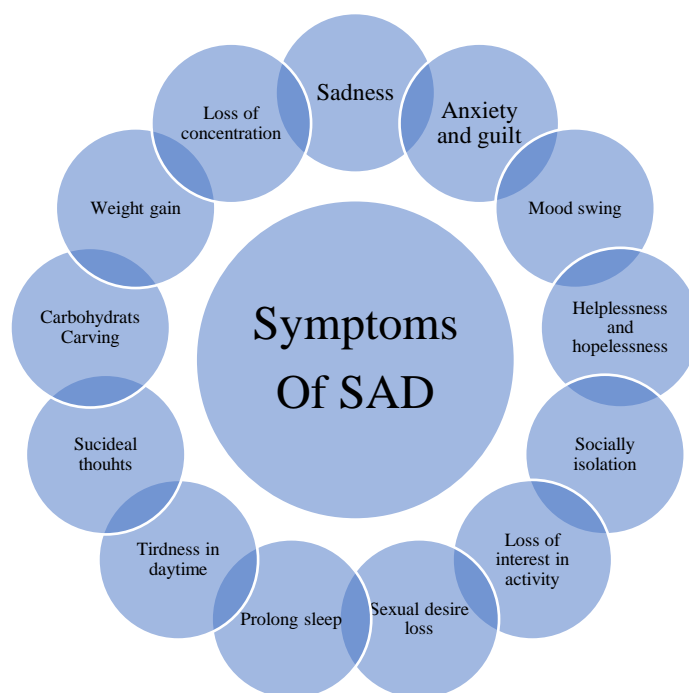


Figure 1: Symptoms of SAD inspired by (Eagles, 2004)

3.3.1 Prevalence of seasonal affective disorder

Prevalence is defined as statistical concept to represent the number of cases of diseases that are present at certain group of people that is selected at specific time (NIMH, 2017). Prevalence of winter depression has always been the subject of discussion and contradictory in previous research. According to the research done by BMC Psychiatry, the prevalence of seasonal affective disorder in Western Europe lies from 0% to 9.7%. In Finland, the prevalence of SAD is 7.1 %. Other European countries like Germany, England and the Netherlands have SAD prevalence around 12.7%, 4.4% and 3.3% respectively (Jurvelin et al., 2014).

The occurrence of the SAD is more in women compared to man, however men have more severe symptoms. Similarly, people living in equatorial region are at higher risk of developing the episode of SAD symptoms (Melrose, 2015). Genetic similarities in people who are close relative by blood and people who had history of depression can also be in higher risk of having SAD (Melrose, 2015). Beside from people who is suffering from major depression episode, there are some group of people who have less severe complication in winter (Meesters et al., 2016).

3.3.2 DSM–IV-TR Criteria and Screening tools for seasonal affective disorder.

According to American Family Physician, a complete evaluation using the Diagnostic and statistical manual of mental disorders DSM-IV-TR fourth edition is needed for diagnosis of seasonal affective disorder which are listed below.

Table 1: Criteria for seasonal affective disorder inspired by American Psychiatric Association cited in (Partonen and Lönnqvist, 1998).

DSM –IV-TR Criteria
American Family Physician classified the seasonal affective disorder under major depressive disorder which include the recurrent, as well as bipolar I or bipolar II.
There is a regular recurrence of major depressive episode at a time of year, which means there should be at least two major depressive episodes occurred in consecutive two years, in same period of year.

Full remission (depression disappears in the springs), a change from major depression to mania or hypomania, must also occur at a particular time of year however evanish in same time of springs.

Seasonal major depressive that occurred over the individual lifetime must considerably exceed the non-seasonal major depressive episode

The criteria of seasonal affective disorder are formulated in DMS-IV-TR by American psychiatric association. However, there are several other screening procedures that has been used for the assessment of SAD. Seasonal Pattern Assessment Questionnaire (SPQA) is often used as assessment tools in present days to determine the patterns of mood and behaviour variation in individual (Rosenthal et al., 1984 cited in Eagles, 2004). It collects demographic information as well as concerns (do inquiries) on different factors such as sleep, social activity, mood, weight, appetite and energy level ((Rosenthal et al., 1984 cited in Eagles, 2004). Other assessment method used for screening seasonal mood and behaviour changes are Depression Inventory (BDI) and Seasonal Health Questionnaire (SHQ) (Bestpractice.bmj.com, 2017).

3.3.3 Treatment Approaches for Seasonal Affective Disorder

Depending upon the severity of seasonal depression clinical treatment involve the general principles of care which include careful assessment, developing a therapeutic alliance, selecting evidence based treatment, monitoring outcomes and following up. (Lam, 2012). The widely used treatment method for seasonal affective disorder consists of antidepressant medication, light therapy, counselling and intake of vitamin D (Melrose, 2015).

3.3.4 Medication

Even though light therapy is first line of treatment in seasonal affective disorder, but some patients cannot get sufficient relief. So, the most common medication that is often prescribed are SSRIs series and melatonin antagonist. According to Praschak-Rieder (2003):

“The evidence of SAD is associated with dysfunction of serotonin in brain serotonin systems has guided the search for promising pharmacological treatments of SAD. The evidence obtained from multicenter placebo-controlled trials has led to the recommendation of the SSRIs sertraline and fluoxetine as first-line treatments of SAD”.

The melatonin antagonist like monoamine oxidase inhibitors, dopaminergic and noradrenergic agents and β -blockers have been often used in past in treatment of SAD (Praschak-Rieder & Willeit, 2003). Lousy Labban (2016) describes, “*vitamin D increase the monoamines such as serotonin which help to treat the depressive symptoms during the winter*”. There are also several herbs and supplement that have been used to treat the depressive symptoms. Some of these additional supplements commonly used are St. John's Wort, ginseng, chamomile, lavender, saffron, SAM-E, omega-3 fatty acid and 5-HTP (Medical News Today, 2016).

3.3.5 Psychotherapy (Counselling)

Evidence based psychotherapies for seasonal depression include various type of counselling. The most commonly used technique is cognitive behaviour therapy (CBT), but systematic problem-solving therapy and interpersonal psychotherapy are also often used as alternative counselling methods. All these therapy focuses on caring approach for the mental health of patient. Psychotherapy in seasonal affective disorder, patient focuses on improving the negative thoughts on changing season, weather condition and photoperiod (Rohan, 2004). This method teaches SAD patient to handle different environmental challenge, behavioural obstacle that they face during winter. It helps to treat a wide range of issues in a SAD patient like sleeping disorder, relationship problems and negative thought (Lam, 2012). Similarly, it teaches effective coping strategies for management of depressive symptoms in seasonal affective disorder. The study of Rohan (2004) shows that CBT helps in remission of seasonal affective disorder symptoms but its combination with light therapy was more effective.

3.3.6 Light therapy

According to Hönigsmann (2013) the therapeutic use of sunlight, also called as “heliotherapy”, had been used for skin diseases treatment by ancient Egyptian and Indian about 3500 years ago. There has been found various of controlled light therapy in different medical treatment like skin condition called psoriasis, pain management, wound healing, hair growth, Parkinson's diseases, Alzheimer, neuro-generation and seasonal affective disorder (Hönigsmann, 2013).

Light therapy came in use as a treatment of seasonal affective disorder, starting from the assumption that decreased level of light increase the secretion of melatonin. Light therapy is the first line of treatment use in seasonal affective disorder. Short wavelength light (blue)

has demonstrated potency that act as stimulus for acute melatonin suppression and circadian phase shifting (Lam et al., 2006). Currently, different model of light boxes can be found in market with different brand name. But the working mechanism of all light boxes are similar although the different materials used for manufacturing. The main objective of light boxes used in light therapy is to filter ultraviolet ray and pass the standard recommended intensity that is 10,000 lux similar to morning sunshine (Harvard Women's Health Watch, 2005).

According to Harvard Women's Health Watch (2005),

“During the light therapy, patient is subjected to light with intensity of 10,000 lux. The first session of light therapy should start with 15 minutes of eyes wide open and distance should be adjusted. Later in the session, time length should be increased to 30-45 minutes. If there is no sign of improvement in symptoms, after at least six weeks than other treatment options should be considered. Side effect of light therapy is minimal, however if patient feel mainly headache, fatigue, irritability, and eyestrain then session should be reduced”.

4 Theoretical Frameworks

Nursing theory is “a process and a product. As a process, theory has numerous activities and includes four interacting, sequential phases (analysing concepts, constructing relationships, testing relationships, and validating relationships) that are implemented in practice. As a product, theory provides a set of concepts and relationships that may be combined to describe, explain, predict, and prescribe phenomena of interest; this information is then used to guide nursing practice (Kenney, 2013).

4.1 The comfort theory

The comfort theory is a holistic theory which is based on the needs of patients and it was made by the nursing theorist Kolcaba. Kolcaba established the comfort theory in the process of searching for the relation between patient’s needs, comfort, nursing intervention and its outcome.

Kolcaba developed the comfort theory as mid-range level. Mid-range theories have following specific features. First, it is different from grand or broad theory in the sense it is not abstract, complicated and it contains detailed explanation of the practice, which makes it easier to understand. Second, it is possible to adapt the theory to the wide range of practice and it has fewer concepts than grand theory, so it is easier to use it. Third, Mid-range theory can guide in making questions to be asked. (Kolcaba, K.,2001) The comfort theory therefore, is proper theories to relate with our thesis topic SAD, in the sense that it is easy to apply in

research and it provides practice guidelines for the nurse to perform proper implementation to meet the patient's needs of comfort.

The comfort theory has four assumptions base which are: human beings express holistic responses to various stimuli, comfort is a holistic result which is an essential goal in nursing, needs of comfort is something that individual is actively seeking for to meet and institutional integrity is focusing on the value system which is directed to the patients. (Kolcaba, K., 2001)

4.1.1 Taxonomic structure of comfort

Kolcaba has made a map of comfort into two-dimensional grid.

Dimension one includes the types of comfort which are derived from three mid-range theorists. It includes relief, ease and transcendence. "Relief" was brought from the theorist Orlando (1961, cited in Kolcaba, 2003) and it is defined as the state when the needs of the patients are met by nurse intervention. "Ease" is derived from the work of Henderson (1966 cited in Kolcaba, 2003) and it is defined as status of calm. "Ease" is necessary feature to perform task efficiently. "Transcendence" is the concept brought from Paterson and Zderad (1975 cited in Kolcaba, 2003) and it means the person overcomes the problem and empower the performance of individual.

According to Kolcaba (2003), the second dimension shows four different contexts of comforts, which was derived from the literature review of nursing for holism and they are: physical, psychospiritual, environmental and social. Physical comfort means to keep having the sensation and homeostatic mechanism. Psycho spiritual is related to self, how one feels himself, which includes sexuality, self-esteem, and the person's spiritual belief. Environmental comfort is to adjust to external surroundings (such as lights, noise, color, temperature and so on) to enhance the comfort of the person.

According to Kolcaba (2003), Taxonomic structure (TS) is useful for nurses to measure comfort level of the patients and to evaluate the effectiveness of the care. Kolcaba mentioned that it is important to consider all four contexts when to use the comfort theory using TS because holistic point of view is important part in the comfort theory.

4.1.2 Conceptual framework for the comfort theory

The theory of comfort shows the positive relation between nursing interventions and increased comfort level. The theory of comfort contains three parts. The first part is comforting intervention, which shows increased comfort when the intervention is effective. (Kolcaba 2003) When an obstructive force (which can be translated to stressful stimuli from health care situation) exceeded, then there come the needs for comfort. Nursing interventions should then be made to bring this negative tension to the positive side. Nursing interventions includes satisfying basic human needs, therapeutic communication and holistic treatment. Nurse also should evaluate how affective the interventions was, by assessing patient's perception of comfort. The next step is when the level of comfort is increasing, a person will be more likely to perform health seeking behaviours (HSBs). (Kolcaba, 2003) After that, when an individual develops HSBs, by improving the quality of care, it gives positive affect on institutional level and let the institution to develop the best politics and practices. (Kolcaba,2003)

4.1.3 Main concepts of the comfort theory

The following main concepts, explained below, is from Alligood, M. R. (2014).

Health care needs: It is the needs of comfort that a person desire during the time of stressful situation, when a person cannot handle the situation with a support that he/she has already. Needs can be varying with different contexts.

Comfort interventions: It is how nurses engage in to improve the comfort of the person.

Health-seeking behaviours: Kolcaba mentioned that a person who has reached to the adequate level of comfort engages in health pursuit behaviours as consequences. Health-seeking behaviours include internal, external or peaceful death. Internal behaviour includes healing or improved immune system's, external behaviour includes self-control and self-care. For the peaceful death, Kolcaba defined it as when stress is solved and symptoms are well-cared and patient pass away with dignity.

4.2 Diathesis stress model of psychology

According to diathesis stress model, psychological illness occurs in individual because of stressful condition in the environment interacting with the biological and psychological characteristics of the individual. This theory was originally introduced to explain some of

the underlying causes of schizophrenia (Zubin & Spring, 1977). Diathesis stress model try to understand and explain etiological reason for psychological illness. This module illustrates that psychological disorder caused by environmental stress in relation with individual underlying vulnerability (diathesis), which is coming from genetics or biologic predisposing factors. According to the model, it explains that every individual has different threshold level of vulnerability for stress factor. It means that the individual can develop mental illness with less environmental stress if their threshold vulnerability is low and if the individual has a high threshold vulnerability level, then higher environmental stimuli is needed for predisposition to develop psychological disorder (Nemade and Dombeck, 2007). This stress model is suitable for different psychological disorders as it is triggered by different underlying diathesis and different stress factors. As to our context diathesis–stress model serves to explore how biological traits (*diatheses*) interact with environmental influences (*stressors*) to produce disorders such as seasonal affective disorder. Figure 2 shows the relationship between our framework diathesis stress model and our topic “prevalence of SAD”

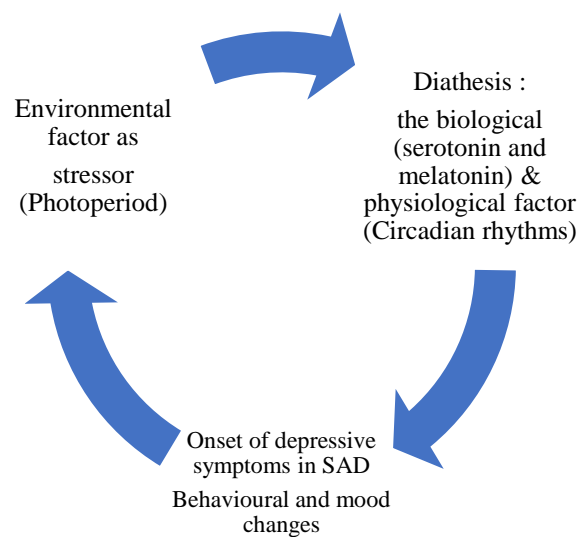


Figure 2: Diathesis stress model in relation to SAD

5 Research Methodology

Initial search in major database found no reviews concerning our research question: “what are the factors for high dominance of seasonal affective disorder? And “what can be nurse role in mitigation of depressive symptoms in winter depression?” Therefore, scoping review was chosen as our methodology. Scoping review was first methodologically flameworked

by Arksey and O'Malley in 2005. Scoping review allows researcher to understand and to map the literature in a systemic and transparent manner. (Avery et.al., 2017) According to our initial search, 'seasonal affective disorder' is not widely known and review has not been conducted extensively. The scoping methodology was appropriate as it helps in mapping by exploring different research areas for finding primary data and evidence for particular topic that provides basic data prior to start the new full systematic study (Arksey & O'Malley, 2005). In our study, different data and material from psychiatric, medical and neurobiological field were collected to map information and later it will be connected to the nursing point of view.

5.1 Scoping Review

According to Arksey and O'Malley (2005), scoping review is referred as "mapping" technique to gather and summarize key points and evidences in the research area. When systematic literature review focuses on rather specified question with already defined study design, scoping review investigate breadth of the research area regardless of the study designs. Also, systematic literature review looks for an answer from the studies which is rather strictly narrowed down in the sense of quality assessment process. Contrarily, Levac et.al. (2010) stated that scoping review is less likely to do the quality assessment to the included studies. Even though scoping study does not strictly assess the quality of the included studies, it is considered useful to study the emerging area in a broader view and it can also evaluate the value of doing a full systematic review. Scoping review, which is used in this study is consisting of five different stages. First, research question should be identified. Second, relevant studies are identified. Third, studies should be selected. Fourth, Data is charted, collated and summarised and result is then reported (Arksey & O'Malley, 2005).

5.1.1 Identify the relevant studies

As our two research questions are aiming to answer two different aspects, each individual search for each question independently and later checked each other's articles. For the first question "what are the factors for high dominance of seasonal affective disorder?", the search was conducted by using following databases: EBSCO (Academic elite), SCHOLAR GOOGLE, PUBMED and number of grey literature sites that were relevant to our topic Seasonal Affective Disorder from google search engine. The basic benchmark was limited to published articles from journal, newspapers information and blogs information created by

PhD graduates on Phylactic or Nursing faculty. The chosen material was from the publication date range (1997-2017). All collected information was written in English and with strong referencing to original authors. As scoping review was selected as our methodology, it gave the broad option to choose a literature using various key words such as Seasonal Affective Disorder/Winter depression/ Winter Blue, Light Therapy, Melatonin, Serotonin, Circadian Rhythm (internal body clock), Epidemiology of SAD, Prevalence of SAD, Latitude and seasonal effect.

For the second question, all search was made using Finna, a search engine of Vaasa Tritonia library which allows to search articles from various search engines at the same time. Selected data were published from year 2006 to 2017 for inclusion and relevance. Keyword used for search were added and evolved additionally during the search process. Following keywords were used for the selection of articles: depression, depressive symptoms, nurse, nurse role, nurse intervention, collaborative care, alleviation, decrease, reduction, qualitative, interview, relapse.

For every searched item, the result obtained will be observed and scanned for relevant study until saturation occurs. Data was checked from several result pages, until no new articles in regarding to our question showed up. The relevant items found was bookmarked and categorized by keywords into folders. Repeated item was removed. Detailed information about our search history is specified in attached as “Appendices I” at the end.

5.1.2 Study selection

Study selection or screening is a part of scoping review, first primary reviewer will remove the duplicated material and then scan the identified study for selection by relevant title and abstract, if available (Due to the absence of abstract in some grey materials). In coordination with second reviewer all relevant article was read for inclusion and exclusion criteria.

5.1.2.1 Inclusion criteria

Due to the scarce of available articles for both of questions, strict inclusion criteria were not applied. Inclusion criteria used for both questions are the following: Articles should be written in English in full text, free of charge to access. All relevant articles to our topic were chosen regardless of geographical location.

Different inclusion criterias for each question are following. For the first research question, additional inclusion criteria were added and they are: studies done within 20 years (1997-

2017), grey material with reference from different authentic webpages, both quantitative and qualitative articles were included. For the second research question, additional different inclusion was added and they are: evidence-based scientific qualitative studies, published between year 2006-2017.

5.1.2.2 Exclusion criteria

Exclusion criteria for both questions are: no-full text or duplicated articles, articles which need an additional payment and material published other than English.

Exclusion criteria for each question are following. For the first research question, grey material without references and author name were taken off. For the second question, Articles which dealt with the relationship between depression and other disease or environmental factor (such as postpartum depression) specifically were excluded. Moreover, quantitative articles were also excluded.

5.1.3 Data charting and analysing

Arksey and O'Malley (2005) mentioned that scoping review is not just the short summarization of the studies, therefore it is important to synthesis the findings from the materials. Data charting is taking extract from included studies. Data charting form is made by research team together and is filled separately by individual researchers and later can be compared to check if charting form can answer the questions of the study properly (Levac et.al., 2010). Arksey and O'Malley (2005) mentioned that analysis should include both numerical summary and thematic analysis. Leval et.al. (2005) clarified scoping review framework further done by Arksey and O'Malley, indicates that qualitative content analysis method can be used in analysing data in scoping review.

All selected articles are charted using following categories. The chart is attached as "Appendices II" at the end of our thesis.

- Author/Publication (journal name if articles were from journal)
- Title of selected material
- Year
- Aim
- Method (experiment, survey and type, case report, number of participants, gender, age)
- Result

For the first question, both qualitative and quantitative articles were chosen. To analysis articles with these two different methods, results were reviewed to see the similarities and differences.

For the second question, chosen articles were analysed using qualitative content analysis method. Content analysis is defined as labelling the data for search (Moule & Goodman, 2009, 349). Each data was explored and narrowed down by the process called “coding”. After the initial coding process, codes were organized by similarities and in regard of our research questions, into “themes” and “categories”. Chosen articles were reviewed thoroughly and repeatedly in the process of analysis.

6 Finding of the first research question

While the cause for seasonal affective disorder are not clearly known, it has been considered that there may be several primitive causes that lead to its predisposition and onset. One of the leading theory is phase shift hypothesis by Lewy, it explains that circadian phase delay or advance may trigger SAD depression (Roecklein and Rohan, 2005). There are different biologic mechanisms along with circadian phase delay or advance, underlying as causative reason for SAD (Kurlansik & Ibay, 2013). Retinal sensation to light, neurotransmitter dysfunction, different biological factor like gene, melatonin, serotonin secretion and psychological factors are contributing mechanisms related to seasonal affective disorder (Roecklein & Rohan, 2005; Kurlansik & Ibay, 2013). Figure 3 show the themes found in the analysis process of our first research question.

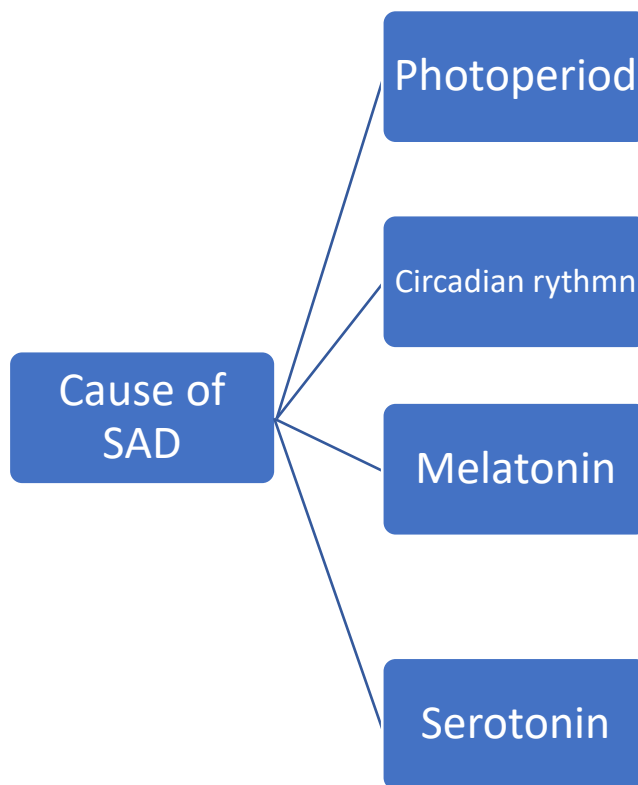


Figure 3: Abstraction process of categories for cause of seasonal affective disorder.

6.1.1 Photoperiod with SAD

Living in higher northern latitudes with less photoperiod in winter and having family history of depression in past are risk factors for getting SAD (Byrne & Brainard, 2003; Westrin & Lam, 2007 cited in Kurlansik & Ibay, 2013). The seasonal change is associated with change of photoperiod, which causes the change in human physiology and behaviour feature, high energy consumption and hibernation, which are the symptoms of winter depression. Kurata et.al. (2016) did a transnational cross-sectional study with Japanese individuals living in Japan and different geographical location where they have different length of daylight.

According to this transnational cross-sectional study:

“The GHQ28 score of participants living in higher latitude like UK and Nordic country differ significantly but individual living in Japan and Southeast Asia no seasonal differences in behaviours, as GHQ28 score were similar. Furthermore, it explains individual living in UK and Nordic lower mood and reduce activity was found in winter whereas better mood and increase activity was acknowledged in summer with increase in photoperiod duration. However, Japanese individuals living in Japan and South Asia had no differences of mood and behaviour through the year, may be seasonal variation in photoperiod was not high in this region. Japanese people living in UK and Nordic countries which is in higher latitude regions experiences

seasonal variation in depressive symptoms which is severe mood disorders in winter and less in summer that is linked to drastic seasonal environmental changes that is observed over a 12-month period” (Kurata et al., 2016).

The landmark study of Young et.al. (1997) explain that the mean temperature, photoperiod and mean daily hour of sunshine are interrelated environmental factors that may cause SAD. Environmental factor changes from year to year can edify the variation in onset risk during whole year and particular time (Young et. al., 1997). Photoperiod period was related as cause to onset seasonal affective disorder and it is nearly same every year depending on latitude. Among these three environmental variables hours of sunshine was only the predictor that was significant and potential risk factor that onset the seasonal affective disorder (Young et al., 1997). Similarly, Pacchierotti et.al. (2001) says

“with the fastest variation of light intensity, spectrum, and photoperiod at the beginning of autumn may onset the depressive symptoms in SAD patient”.

6.1.2 Circadian hythm

Circadian rhythm is a twenty-four-hour cycle which is also called daily light-dark cycle that is regulated by the cluster of genes and protein encode which is found in brain (Vitaterna et al.,2001). Circadian rhythm is one of the distinct features possessed by human body which regulate the human physiology activities like sleep-wake cycle (Vitaterna et.al., 2001). This also

“regulate the secretion of hormone melatonin that chemically lower body temperature, drowsiness (a feeling of being sleepy and lethargic) and cortisol that enable anti stress” (Vitaterna et.al., 2001).

Circadian cycles are determined by the presence of an internal cell-autonomous clock that are regulated (entrained) by environmental catalyst light and temperature significantly (Forni et.al., 2014).

According to National Human Genome Research Institute, the dysfunction of Circadian rhythm can arise when the body's internal clock is unable to synchronize with external environmental factor like temperature and natural light (Forni et al., 2014). The phase shift hypothesis state that the body sleep-wake cycle is phase delayed in seasonal affective disorder patient in accordance with the light and darkness (Lewy et.al., 1987, cited in Roeklein & Rohn, 2005 and Lewy et.al., 2007). A routine circadian rhythm disturbance is

found in seasonal affective disorder patient during the winter more precisely (Forni et.al., 2014).

The study of Lewy et al., (2007) suggests that due to delay in circadian rhythms, sleep-wake cycle is disturbed especially in winter when sunlight duration is minimum. The study further mentions that:

“low-dose melatonin in the afternoon/evening to cause phase advances, or in the morning to cause phase delay improve symptoms severity by misalignment of circadian rhythm corrected which indirectly point out dysfunction in circadian rhythm as one of the aspects influencing SAD onset. According to phase shift hypothesis to achieve phase advance is necessary in patient with SAD which can be restored by response to the bright light therapy in morning that helps in correct functioning of circadian rhythms as it plays a vital role in sleep-wake cycle” (Lewy et.al., 2007).

Also, Pacchierotti et.al. (2001) state that, SAD patients are reported with that an alternation of endogenous rhythms, specifically a dysfunction of the activity–rest rhythm, advance in phase shift by two hours in compare to healthy participants. Pacchierotti et.al, (2001) mentioned:

“*support circadian rhythm alterations hypothesis of a super sensitivity to light variation in SAD, which may onset of depressive symptoms in September–October*”.

6.1.3 Melatonin level

According to Lam and Levitan (2000) the shorter photoperiod is the cause for seasonal affective disorder which was the initial hypothesis came in investigation. As reported by Pacchierotti et.al. (2001) melatonin hormone secretion by pineal gland are inversely proportional to photoperiod which means the secretion of melatonin during daytime gets suppressed however during winter when the night duration is longer the melatonin secretion by pineal gland is peak.

According to Arendt J et.al. (2005), pineal gland secretes the hormone melatonin, which is essential for regulation of sleep cycle by maintaining the core body temperature during night.

“*During night, deepest sleep tendency is between 2-3am and core body temperature get lowest around 4-5 am*” (Arendt J et al 2005).

The melatonin role in SAD is complicated and the subject and it is still controversial.

“Under normal circumstances, the secretion of melatonin starts in the evening prior to bedtime, goes to peak level at night and decrease gradually as morning approaches, melatonin production depends on two factor circadian timing system and photoperiodic effect. The circadian rhythm and melatonin is interconnected and dependent to natural light as well as artificial light in seasonal affective disorder” (Macchi et.al., 2004).

For example, many researchers use light therapy in their trial to suppress high melatonin secretion that correct the circadian rhythm to implement a better sleep cycle in SAD.

The landmark research study done by The Archives of General Psychiatry explains that patient suffering from Seasonal affective disorder secretes hormone melatonin about 30 minutes more in dark and gloomy winter night in compare to summer (Wehr et.al., 2001). However, test was made on same number of healthy person and result obtain shows no significant difference in secretion of melatonin during winter and summer. So, melatonin is thought to play a role in setting circadian rhythm, also main cause for low mood in winter (Wehr et.al., 2001).

“patients with SAD generate a biological signal of change in season that is similar to that other mammals use to regulate seasonal changes in their behaviour” (Wehr et.al., 2001).

The literature by Miller (2005) says that, secretion is triggered by darkness and melatonin content found in highest level in blood during night because of light diminishing property over day. Furthermore,

“individuals with SAD synthesis melatonin for long duration in winter” (Miller, 2005).

Hypersomnia is most common symptoms of SAD patient that it makes people more lazy and tired as well as socially inactive. Patient with SAD goes early to bed and wake late in morning (Lewy AJ et al., 1998). But some patient with seasonal affective disorder had significant experiences of the frequent nightmares and symptoms of insomnia and they are called evening chronotypes (Sandman et.al., 2016).

According to Lewy AJ et.al. (1998), low-dose melatonin taken at night has been shown to be effective in improving mood in patients with SAD by altering the circadian rhythm for effective sleep wake cycle pattern.

“if the finding is replicated in in large scale and documented, this can give explanation about role of melatonin in phase shift and provide evidence to support phase shift hypothesis” (Lewy AJ et.al., 1998).

6.1.4 Serotonin level

The major neurotransmitter primarily responsible for causing mood related disorder are serotonin, dopamine and norepinephrine.

“serotonin is a neurotransmitter that acts as neuromodulator that is found in different part of human body like central nervous system, platelets and ninety percent of total in gastrointestinal tract” (Gupta et.al., 2013).

Serotonin has psychological function that is responsible for upholding calmness, happiness and mental wellbeing. The imbalance secretion of serotonin in nervous system can hinder the immune system, learning, temperature regulation, sexual desire as well as it can in alter psychological events that is happening in daily life for example mood, behaviour and emotion (Gupta et.al., 2013).

Miller (2005) states, low brain levels of serotonin might contribute to SAD symptoms like carbohydrate craving and hyperphagia. The study also suggests increased carbohydrate craving in SAD may be a coping mechanism to stimulates the release of serotonin in seasonal SAD patient (Miller, 2005).

According to the literature of Sansone & Sansone (2013),

“relationship between normal seasonal variations in the levels of serotonin and the amount of available sunshine. The secretion of serotonin triggered by different stimuli like sunlight, mechanical effort, mucosal or electrical stimulation in neuron. During the winter, days are shorter, and night are longer in which the sunlight that response as stimuli to produce serotonin are not in abundant amount”.

The research study carried out by University of Copenhagen researchers, using positron emission tomography (PET) brain scans shows that the level of serotonin transporter (SERT or 5-HTT) in winter is higher in SAD patient in compare to healthy participants.

Whiteman (2014) recites how lead researcher, Brenda Mc Mahon believes:

“We believe that we have found the dial the brain turns when it has to adjust serotonin to the changing seasons. The serotonin transporter (SERT) carries serotonin back into the nerve cells where it is not active, so the higher the SERT activity the lower the activity of serotonin. Sunlight keeps this setting naturally low, but when the nights grow longer during the autumn, the SERT levels increase, resulting in diminishing active serotonin levels. Many individuals are not really affected by SAD, and we have found that these people don't have this increase in SERT activity, so their active serotonin levels remain high throughout the winter”.

Because of this reason the production level of serotonin is lessen, making the serotonin neurotransmission rate fall which is known as ethology of winter depression.

7 Finding of the second research question

According to Lurie et.al.(2006) Seasonal affective disorder is defined as major depression which is re-occurred in the specific time of the year causing depressive symptoms. Unfortunately, there were no articles found which is exactly suitable for our second research question “what are the nurses’ roles to alleviate depressive symptoms caused by SAD?” because there were no articles directly dealing with nurse’s role and seasonal affective disorder. Therefore, researcher decided to focus on the “depressive symptoms” of SAD and how nurse can intervene for the reduction of it. Analysis of the chosen articles brought following themes: 1) Building therapeutic alliance, 2) Building therapeutic relationship, 3) Building competence as mental health nurse. Figure 4 shows themes and sub-categories drown from our second research question.

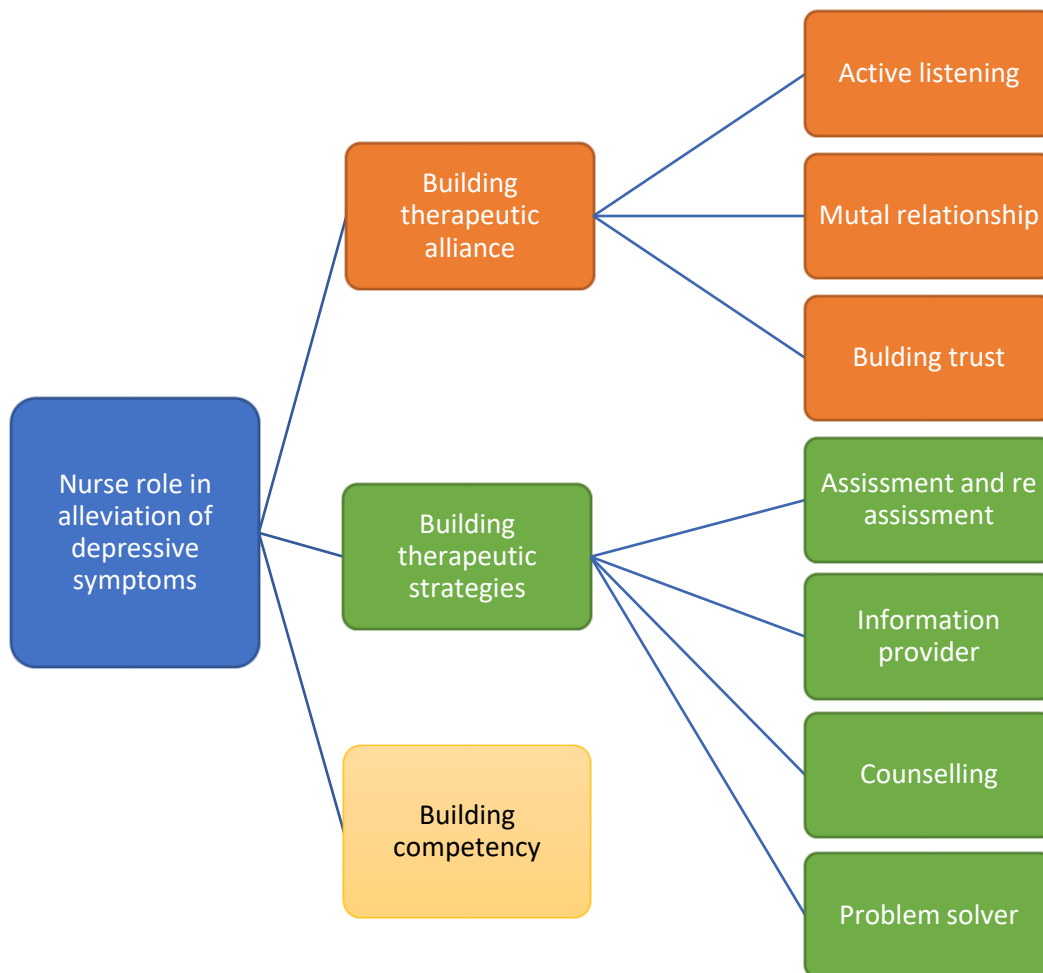


Figure 4: Abstraction process for categories and sub categories

7.1 Building therapeutic alliance

Both patients and nurses who were participating in the care process mentioned the importance of building therapeutic relationship between them. According to Parrish et.al.(2015, 236), developing therapeutic relationship is essential in the experience of care between nurse and patient. Sub categories were found under this themes and they are: Active listening, Building a trustful relationship and establishing mutual relationship.

7.1.1 Active listening

Both nurses and patients mentioned that listening is crucial to build the partnership in between. Parrish et.al.(2015, 236) defined active listening as “focusing on what patients say and ask appropriate questions in regards of what is said, to enhance the understanding of the patients”. It also mentioned that active listening should be priori to assessment and to make decision.

“I just listen to the client and they tell me what they need. I think this is so important to help us determine what the best treatment is...”(Nurse) (Parrish et.al., 2015, 236)

“Sometimes people just need to talk. So I close my computer and just let them talk. They just want someone to listen to them. So you get to all the clinical stuff later. The emotional stuff is just as important.” (Nurse) (Leibel& Powers, 2015, 455)

“I want them to feel completely heard, understood, and accepted....”(Nurse) (Parrish et al., 2015, 236)

Patients also mentioned that being listened gave them impression that someone is there and care about them and their symptoms seriously and patients found that supportive. (Gensichen et.al.,2010,117)

“She doesn’t talk about it but I might and she’ll reflect it back at me....So it sort of feels – it feels as those she’s walking beside me...”(Patient) (Bennett et.al., 2013,5)

“[. . .] simply feeling someone else is there: Not being completely alone and before things start to get worse, to be asked. ‘How are you at the moment and do you need anything? [. . .]’ (Patient) (Gensichen et.al.,2010,117)

7.1.2 Forming trust

Most of patients and nurses noted that building trust is the basis of helping relationship.(Simpson et.al.,2008,98) Patients feel more comfortable to talk about their depressive symptoms and feelings when trustful relationship has been built up, just like talking to friend. According to Leibel and Powers (2015, 456), Nurses can use variety of communication strategy to enhance the trust between nurse and patients, such as exchanging common human feelings, intentionally disclosing about own experiences, showing empathy to the patients.

“[. . .] And I think until you’d built up that rapport the first few were a bit staid and I think once they sort of opened up a bit more and talked a bit more about how they were feeling and coping(Nurse)” (Bennett et.al., 2013,5)

“[. . .] I have developed a trusting relationship with the health care assistant, and there are really moments, I reckon, when you confide a bit more in people [. . .]” (Gensichen et.al,2010,117)

“I don’t know what it’s usually like with health care assistants, but this one’s really discreet and you can trust her. When that’s the case then for me it’s, for me the title is not important” (Gensichen et.al,2010,117)

In few articles, mentioned the continuity of the helping environment and personnel is helpful in building trust between nurse and the patients. For examples, constant change of personnel who is in charge of intervention was hindering the development of the trust. (Leibel& Powers, 2015, 455) Also, Patient felt easier to develop trust with the nurse, the more regularly they meet or talk.

“It helped seeing them regularly because you got to know what their lives were about[. . .]” (Bennett et.al., 2013,5)

Moreover, nurse should also consider the method of the case management in regard of building trust. In one article of chosen, they used phone call as main consultant method. Although there is beneficial part of telephone consultant, such as convenient, still it insisted the importance of having initial “face-to-face” meeting before the real phone call session start, to enhance the development of trust (Simpson et.al.,2008,98). Few articles also mentioned that nurse should not be too mechanical and protocol focused, which makes patients to feel lack of empathy therefore hard to build trust relationship. (Bennett et.al., 2013,5)

“It’s nice to see who you are going to speak to on the phone, so that you can put a face to them.” .(Simpson et.al.,2008,98)

“It was nice being able to put a face to the voice, I felt comfortable knowing I’d met her.” .(Simpson et.al.,2008,98)

“Sit down. Right, I’ve got to read this bit out for you and then we’ll answer the questions.’ Which makes you feel that you don’t want to chat to them anyway. Because I felt that I was taking up their time. It was the way it came across”.
(Bennett et.al., 2013,5)

“[. . .] it all went so mechanically. The woman answers, finished, all over. That’s why I wasn’t so keen on it....” (Gensichen et.al,2010,117)

7.1.3 Establishing mutual relationship

Many nurses also reported that making patients participated in their own care and to set the goal together enhanced the therapeutic relationship because patients felt that their opinion is also “heard” in the planning. (Parrish et.al., 2015, 236)

“For example, they asked clients: “What medications have you heard about? Have you or anyone you know been treated for depression? And if so, how were they treated?” (Parrish et.al., 2015, 236)

7.2 Building therapeutic strategies

All the chosen study mentioned about the nurse’s psychotherapeutic role in the care of depression. Almost all study mentioned that depression is often treated in primary care by case managers (mainly either by a nurse practitioners or by a mental health specialty) in a collaborative care setting with the cooperation of other health care professionals. (Gask & Ludman., 2015, 231) Therefore, therapeutic strategies which will be discussed further in this chapter are mostly performed by the broader or advanced nursing professional personnel.

7.2.1 Assessment and reassessment

As nursing process starts from assessment of the patient’s status, case management of depression also starts with the assessment from the patients, which allows nurses to collect data to identify the problem and for further treatment planning. Nurses collect data by different skills, such as interviewing, using screening test or manual, observation, interpretation of the patient’s report. (Worret, 2007 ,1-2). Most articles mentioned that it is also necessary to reassess continuously in between or after the intervention to check and maintain the effectiveness of it. (Parrish et.al., 2015, 237) All the chosen studies also posted that it is important to approach more comprehensively in the assessment of depression, which is also called “holistic approach”. Holistic approach considers not only considering biopsychosocial factor but also culture, environment, sexual and so on (Parrish et.al., 2015, 235). According to few articles, which were exploring depression occurring in relation with other diseases, claimed that it is important to consider depression and underlying disease synergistically. (Leibel& Powers, 2015, 459)

“In terms of our assessment sheet, we ask questions that are related to mood swings, anxiety, and depression. I also consider their physiological needs and ask if there are thyroid disorders in the family. Untreated endocrine problems that could look like a primary depressive episode need to be diagnosed.” (Parrish et.al., 2015, 235)

“APRNs know social and family systems as well as the biology. We know that you don’t necessarily treat the patient and send them back into the environment that was making them crazy and expect that they’re going to behave normally. We look

at the whole person and all the systems and put it all together as best we can.” (Parrish et.al., 2015, 236)

“DCS nurse: So who do you consider your support system or your, the person that you feel is there for you if ... Patient: Probably my wife. [...] Patient: But anyway, but she does, she gets in the last few years she’s got very verbal abusive, well, you can’t do anything, you never could do anything.” (Gask & Ludman., 2015, 235)

“[...] I think depression does take a back seat if they have some kind of issue that’s more pressing—physical things like if they have a wound that opens up or their diabetes gets out of control” (Leibel & Powers, 2015, 456)

“I usually ask the patient to give a quantitative explanation about how they feel. I want to know how they’re doing in terms of their normal sense of self versus where they are today...” (Parrish et.al., 2015, 238)

“I do the checklist every session...” (Parrish et.al., 2015, 238)

Using assessment tool or screening test for the initial or later part of interventions to monitor the status and progression of the depression has been used in most of the articles. But few articles concerned that patients are not always answering honestly, especially when there is lack of therapeutic relationship. (Leibel & Powers, 2015, 454) Therefore, It also shows that earlier theme “therapeutic alliance” should be the prerequisite to get trustworthy screening test result. In some articles, mentioned that patient can use this for self-check up as kinds of motivation. (Simpson et.al., 2008, 101)

“The questions used for tracking depression might be a good starting point. But most people [when asked if they’re depressed] aren’t honest” (Leibel & Powers, 2015, 452)

“He [the case manager] would go through the questions. And I knew that I was getting better...” (Simpson et.al., 2008, 101)

“It was like a goal to try to bring it down.” (Simpson et.al., 2008, 101)

7.2.2 Information provider

All selected studies mentioned that nurse provide detailed information about disease and its prognosis in different kinds of form, such as verbal, written, audio-taped form. Providing information enhanced patient’s understanding of the mental health and its relation to the physical symptoms. (Bennett et.al., 2013, 6) Additional given information included explanation about disease, medication, behavior strategies guidance and examples of other

patients' experience. Some patients found reading about other's recovery story helpful in a sense that they are not the only one (Gensichen et.al.,2010,100).

"[Reading] people's personal experiences and how they had felt [...] so that made me feel better knowing that other people out there it didn't make me feel so isolated." (Simpson et.al.,2008,100)

"[...]It was well written. It wasn't like reading a text book." ." (Simpson et.al.,2008,100)

"I read them and used them." (Simpson et.al.,2008,100)

"they understand more their condition and how to manage it..." (Bennett et.al., 2013,3)

According to Simpson et.al.(2010,98) many patients were not aware of what is wrong with them, when they have symptoms like "tiredness" or "powerless". Their reaction to the diagnosis of the depression was either shock, worrying or hard to admit. When patients get through information, it enhances their understanding and acceptance toward the problem. (Gensichen et.al.,2010,116)

According to Simpson et.al.(2010,98), it indicated that due to the lack of knowledge and social stigma toward depression and antidepressant medication, some patients were reluctant to seek help for their depressive symptoms. Some also noted that they were worried about side effect of anti-depressant medication and were doubtful about its effectiveness when there still exists social environment which caused the depression. According to these context, it can be inferred the important role of nurse to give appropriate and detailed information and reassurance regarding mental health problems.

"I didn't even realize that I was depressed because I said to the doctor 'I'm just tired', and he said 'it's depression actually'". (Simpson et.al.,2010,98)

"I think there is a stigma to it isn't there? You know people think oh you're just shirking work or there is nothing wrong with you, just get on with it, that's life."(Simpson et.al.,2010,98)

"I had a bad reaction to the first tablets that I tried. It was bad and it put me off. They both encouraged me [GP and case manager] to try another one and that had no side-effects at all ... without the encouragement of them both I don't know if I would have dared risking another one."(Simpson et.al.,2010,101)

7.2.3 Counsellor

Many studies stated the counselling role of the nurse in dealing with depression. According to Bennett et.al.,(2013,5), nurse as counselor often use non-directive counselling technique considering each patient's needs, mainly done by active listening. Gask and Ludman(2015, 236) mentioned several techniques used by counselor role :

“picking up on emotional cues, focusing, empathic comments, providing hope, confirmation, supportive feedback, interpretation.”

Nurses as a counselor does not take full responsibility to guide the patients but to encourage.

“being focused on what the client is saying and asking questions related to what is being said in an attempt to gain understanding.” (Parrish et al., 2015, 236)

“She doesn't talk about it but I might and she'll reflect it back at me, a bit like a psycho-analyst might but without the depth.”[...]So it sort of feels – it feels as though she's walking beside me rather than”(Bennett et.al., 2013,5)

“Nurse : Have you ever lost anybody really close to you before, who? Patient: My grandmother, Nurse : What was it like when you lost her, how old were you? Patient : Oh, I was in my twenties. And actually. Nurse: What was it like? Patient : That I had granma die, well, it was like a part of me was ripped out.[...]” (Gask & Ludman,2015, 236)

7.2.4 Problem solver

Most articles also mentioned rather directive approach of the intervention. One study said it can be either facilitated or led by the nurse. (Bennett et.al.,2013,5) Various techniques were stated in different articles. Keywords found in regard of this direct approaches are guiding, teaching, suggesting, giving advice, educating, introducing, problem solving. One article mentioned about cognitive behavior therapy, which is often utilized in modern psychiatric nursing, which focuses both behavioral and thinking that causes mental problem and to change their distorted image to rebuild the positive behavior. (Shives,2008,188).

“She encouraged me to get off my backside and go out and try and make myself more involved in things [...]” (Simpson et.al.,2010,100)

“He [case manager] encouraged me to find something that I enjoyed doing and to put that into my day. He also encouraged me to do things that had to be done but I kept putting on the back burner.” (Simpson et.al.,2010,100)

“We do a lot of talking about assumptions, [...] I also use a behavioural focus and point out what clients are doing as opposed to what are they thinking about or what are they worrying about. [...]” (Parrish et al., 2015, 237)

“I think it was the fact I was asked what the problems were and I, you know, I was at that moment in time able to say them. And she worked through them very good, very progressively” (Bennett et.al.,2013,5)

“DCS nurse: Go through the process and be very deliberate about it for this week to help you reduce your anxiety and stress and also to have a little fun with your husband, who’s the reason behind having a kid anyway.” (Gask & Ludman,2015, 236)

Few articles of chosen stated nurse’s role to seek or refer for further support when it is necessary. According to Bennett et.al. (2013,5) Nurse can help patients to get access to the other helpful out sources such as therapy group, courses to take.

“so people could come in with their problems and you could point them sort of in which way to go, sort of who could help them if I couldn’t, and refer them” (Bennett et.al.,2013,5)

“Did you know that there’s treatment right here at Group Health? Group Health has treatment for substance abuse, alcoholism.” (Gask & Ludman,2015, 236)

*“She’s been worried enough about me to say, ‘Before you leave here I want you to have made an appointment to see Dr H*****, and has checked that I have done so, which is a safety net” (Bennett et.al.,2013,6)*

7.3 Building competence as mental health nurse

According to the articles, nurse’s competency toward the mental health illness intervention had a great effect on patient’s satisfaction toward the treatment. Bennett et.al. (2013,5) stated that nurses who are not confident about mental health issues tend to be more protocol based which often makes it hard for patients to build the therapeutic alliance. As already mentioned in the first theme, patients often felt uncomfortable and felt too mechanical with such approach and often stated that it is hard to build trust. (Bennett et.al., 2013,5) Nurse’s attitude toward the mental health issue is also important factor for the successful nursing intervention. When nurse is reluctant and feel less interested in mental health issue, positive result is hard to be expected. (Leibel& Powers, 2015, 454). Lack of self-confidence toward the mental illness is often caused by lack of knowledge about special communication skill,

medication or past experiences regarding mental health illness. (Leibel& Powers, 2015, 454). Most of articles insisted the importance of the enough training program and education for the competency as mental health nurse. Moreover, most of articles stated that depression is often treated in collaborative environment, communicating with other professionals, which makes it possible to use referral system or to ask advice from others. (Simpson et.al.,2008,96)

8 Discussion

In this discussion section of the study, information collected from the background for seasonal affective disorder and diathesis stress model as framework will be linked with obtained result from the chosen articles and the grey materials. The first aim of the study was to identify the factors related to high prevalence of seasonal affective disorder and the question is: What are the factors for high dominance of seasonal affective disorder? Our second aim was in the light of first question and background study, what nurses can contribute to relieve the depressive symptoms of patient with SAD, so the question is: What are the nurse's role in alleviation of depressive symptoms in seasonal affective disorder? To answer the mentioned questions, the material found, were reviewed and analysed.

8.1 Method discussion

At first, we could not find enough materials regarding our thesis topic, so we chose an alternative methodology called "scoping review". Scoping review is a kind of literature review which allows researcher to use a wide range of data. It can include quantitative, qualitative and grey material (Arksey & O'Malley,2005). For the first research question "What are the factors for high dominance of seasonal affective disorder?", thanks to scoping review, broad range of data were chosen, including quantitative, qualitative and grey literature from web sites. For the second question "What are the nurses' role in alleviation of depressive symptoms in seasonal affective disorder?", the researcher focused on looking for qualitative articles because it is more effective to explain individual's experiences and actions (Moule & Goodman, 2009). According to Arksey and O'Malley (2005), scoping review does not necessary to have quality assessment. But Levac et.al. (2010), who further clarified scoping review, mentioned that there needs to be a tool to assess the quality of the scoping review. Levac et.al. (2010) stated that lack of quality assessment makes scoping

review hard to be interpreted and therefore hard to be used for further use such as policy making.

According to Polit and Hungler (1995), researcher should conduct critical evaluation to check the worthiness of the study. The main part of checking reliability and validity of the study is to see if the data utilized are appropriate to describe the truth. For the availability of quality assessment, we decided to use qualitative content analysis for the data we gathered. For the first question, which used both qualitative and quantitative articles, we answered our research mainly based on the qualitative articles then chosen quantitative articles were compared by similarities and differences. Numerical information from quantitative articles were not specifically used to make it fit for our analysis method.

We used criterias of Lincoln and Guba (1995) for the evaluation of trustworthiness of the qualitative research and they are: credibility, transferability, dependability and confirmability.

Credibility indicates how trustful the data is. (Polit&Beck,2012) Few methods were applied to improve the credibility in our study. First, data were read thoroughly and chosen carefully using inclusion and exclusion criteria for the best believable data. Second, two researchers provided external check of chosen data each other. According to Lincoln and Guba (1995), “peer debriefing” is one of the important technique to improve the credibility, by researchers working together to avoid bias. Each took different research question and proceeded search individually. Both recorded all the search history, search result and chosen data and then they were checked between peer researchers. The concept of each question was quite different although the topic itself was seasonal affective disorder. Therefore, it was possible to keep the objectiveness in checking each other’s research process.

Transferability refers to how well the finding of the study can be applied to other setting or context. (Polit & Beck,2012). The finding from the first question can be further utilized in psychiatric science, showing the possible inter-relationship between bioenvironmental and the onset of mental health disease. According to Lincoln and Guba (1995), researcher can apply strategy to increase transferability by providing reader enough and detailed explanation about the topic so that reader can utilize and make conclusion for other situation too. The result from the second question can be used by various health care provider for the care of other mental health issue. According to Patton (2002,14), however, result from qualitative research cannot be generalized due to its small size of samples, but rather its interest is to transfer.

Dependability refers to the stability in regardless of the time and condition of the research done. In our research, we used scoping review, which allowed us to choose data with different methodology and they were combined together in our finding. Not only that, we chose two theoretical frameworks. According to Lincoln and Guba (1995), This technique is called “triangulation”, which supplement the weakness of using one methodology. Use of this triangulation technique also known to ensures credibility of the result.

Confirmability is to show the objectiveness of the result of the data, that it should not be biased by the intention of the researcher but truly to describe the experience of the informant. According to Lincoln and Guba (1995), confirmability can be ensured by doing “Audit-trail”, providing all the procedure of the study as detail as possible. Detailed explanation about methodology, how we managed to answer quite different two questions by two researchers, made our study more transparent.

8.2 Result discussion

In this section, information collected from the background for seasonal affective disorder and diathesis stress model as framework will be linked with obtained result from the chosen articles and grey materials. The first aim of study was to identify the factors related to high prevalence of seasonal affective disorder. Similarly, first problem definition of dissertation seeks to address: What are the factors for high dominance of seasonal affective disorder? To address the required objective, the material found was overviewed and analysed.

The finding for first question “What are the factors for high dominance of seasonal affective disorder?” shows prime factor associated with seasonal affective disorder symptoms onset are photoperiod, circadian rhythms, melatonin and serotonin. The biological factor (serotonin, melatonin) and physical factor (circadian rhythm) are functioned in accordance to environmental factor (photoperiod). The finding for the first question of this study suggests that secretion of serotonin and melatonin in the pineal gland has a direct effect on psychological and behavioural factors. However, the finding for study question one also shows that changes in psychological and behavioural factors (sleep cycle, mood, stress, appetite) were related indirectly to photoperiod. Photoperiod act as stimuli or stress factor that bring changes in pineal gland secretion and disturbance to the internal clock of human being that led to predisposition of depressive symptoms in seasonal affective disorder patient.

The individuals suffering from seasonal affective disorder reported of having highly dysfunction in their internal biological clock, dysfunction in secretion of serotonin and melatonin with the variation of season. The photoperiod change according to different latitude also seems to have effect in abnormal function of circadian rhythm, melatonin and serotonin. The finding by Cotterell (2010) has mentioned that changes in photoperiod is associated with seasonal change that change human physiology (sleep, hunger) and behaviour (mood) changes. Similar result obtained in other studies agree that, photoperiod cause the onset of mood and behaviour disorder that may develop SAD symptoms (Young et.al., 1997; Pacchierotti et.al., 2001; Kurata et.al., 2016). The direct and indirect involvement of photoperiod as stimuli is acknowledged in the first part.

While answering the second question “What can be nurse role in mitigation of depressive symptoms in winter depression?”, researcher focused on the depressive symptoms and intervention of the nurse to reduce it due to the scarce of the material which is directly connecting role of nurse with the treatment of the SAD. The finding from this question shows that there are several nurses roles in dealing with depressive symptoms and they are: building therapeutic alliance, building therapeutic relationship and building competence as mental health nurse.

Both patient and nurse stated that therapeutic relationship between nurse and patient is important for the positive experience in intervention session for relieving depressive symptoms. Therapeutic alliance can be reinforced by active listening, forming trust and nurse establishing mutual relationship with patients/clients. This is parallel to what Parrish et. al. (2012) said, in which they say that active listening should be preceded prior to any kinds of interventions, to find the best appropriate solution for the successful reduction of depressive symptoms. Moreover, they mentioned that active listening, forming trust and building mutual relationship are all synergistically co-related. In the light of our theoretical frame work “comfort theory” to this category, Kolcaba mentioned that nurse’s activities such as listening, reassuring, responding and caring can help to promote her second and fourth dimensions “psychospiritual” and “social” comfort. (Kolcaba, 2003)

Another finding from our second question is that all selected studies were talking about different kinds of nurse’s therapeutic strategies to relieve the onset of depressive symptoms. Studies also mentioned that recent care of depression is initiated and treated collaboratively within a primary care setting, therefore, strategies mentioned in this finding were proceeded by the more advanced or broader extent of nursing personnel. Most of the study stated

nurse's therapeutic role in relationship with that of nursing process, scientific approach which is widely used in modern nursing practice. (Worret, 2007, 1-2). Most of the nurse mentioned that they assess the patient's status in bigger picture, considering different factors which may cause the depression. This finding is consistent with what Parrish et.al. (2012) and what Gask and Ludman (2006) mentioned, that through assessment including culture, interpersonal relationship, social, spiritual is necessary to understand possible multiplexity and complicated problems patient/client may possess. This view is also emphasized in comfort theory. According to Kolcaba (2003), Human shows holistic responses for different kinds of stimuli, therefore to improve the comfort of the person, it is necessary to consider all four contexts in her taxonomic structure, which are described as physical, psychospiritual, environmental and sociocultural comfort. Studies also mentioned, that there are many misunderstanding and unsureness regarding to the depression and other mental health disease due to stigma, lack of known knowledge. Therefore, studies stated the important role of nurse as information provider. All studies mentioned either indirective or directive approach of nurse intervention role, each were categorized as "counsellor" and "problem solver" in our study. Although nurses involve in intervention differently, both approach are aiming to increase the self-confidence, self-awareness and self-management skill of the patient. This concept is also found in our framework. Kolcaba (2003) mentioned that when people has reached to comfort level, they tend to do the health seeking behaviour, concept which is also explained in our studies, as goal of nursing intervention. It is consistent with what Simpson et.al. (2008) mentioned, after following nurse's intervention, patient got empowered that they do behaviour achieved to prevent depression and also to cope with it efficiently in case of relapse.

Additional finding from our second question focuses on nurse's role in improving competence to work with mental health problem. Nurse's experiences, knowledge, interest toward the mental health issue is strongly related to the success of the nursing intervention for the depression. So, it can be inferred that nurses need to work on building knowledge and technique to deal with mental health problems. This is also described by Leibel and Powers (2015), that lack of knowledge and communication skill for dealing with patient with depression decreases the nurse's confidence and many nurses are therefore appeal to getting extra training or education for the specialized skill.

Except one study, all care was provided by advanced health care professional such as nursing practitioner. Therefore, it can be inferred that the need of more study which investigate the role of bachelor level nurse in care of depression are required in the future. Not only that, as

mentioned earlier, no direct studies in relationship with SAD and nurse's role are found, so further study in this area is needed to be done in the future as well.

9 Conclusion

Our study has two questions with quite different scope. Our initial question was only one at the beginning, what is still our first question "What are the factors for high dominance of seasonal affective disorder?". It describes factors affecting the prevalence of seasonal affective disorder whose information is mostly found in psychiatric or medical field of studies. Therefore, we discussed with our supervisors how to connect our aim to be more relevant to our field of study, nursing. As a result, we concluded that we should make our second aim "What can be nurse role in mitigation of depressive symptoms in winter depression?", which answers nurse's role to alleviate the depressive symptoms of Seasonal affective disorder. Inspiring nursing point of view into our study made it more valuable and available for further utilization in nursing field.

Throughout our study, we found out that biological and environmental factor are inter-related and they can cause the onset of seasonal affective disorder. Even for the role of a nurse, therapeutic alliance should be built before nurses try to apply any therapeutic strategies. Nurse's competence toward mental health care then also affects crucially for the successful therapeutic alliance and strategies. Therefore, we can conclude that the answers for our research questions are very multidimensional.

The nurse should keep a holistic approach when to making nursing care plan for the patient with seasonal affective disorder. From the assessment, the nurse should be aware that many factors can affect the onset of seasonal affective disorder. For example, seasonal affective disorder can occur not only due to the commonly known biological factor, but also it can be triggered or intensified by social relationship of the patient/client. The choice of our two theoretical framework was very helpful in the sense that they are both were suitable to explain this holistic point of view.

It is true that there are still lack of studies done in regard of relation between seasonal affective disorder and nursing science, so further studies on this area is needed to give have a broader point of view in the topic.

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Appendices I. Data selection

Author	Title	Year/ Publication	Aim	Method	Result
Young, M.A., Meaden, P.M., Fogg, L.F., Cherin, E.A. and Eastman, C.I.	Which environmental variables are related to the onset of seasonal affective	1997	To investigate what environmental factor like photoperiod, sunshine related with onset SAD.	Environmental data collected from National oceanographic and climate data centre (1988-1994), N=190, Chicago 42degree north, November till March.	Finding explain that photoperiod is related with onset of SAD
Cotterell, D.	Pathogenesis and management of seasonal affective	2010	To collect information on ethology of SAD.	Review of Literature	Physiology and behaviour change is related with season and photoperiod.
Kurlanskik, S.L. and Ibay, A.D.	Seasonal affective disorder.	2013	To overview the seasonal affective disorder.	Literature review	Mention different related for onset of SAD.
Lam, R.W. and Levitan, R.D.	The chronobiology and neurobiology of winter	2010	The summarize on research on chronobiology and neurobiology of winter seasonal	Review of Articles.	The summarized information on finding chronobiology related with

Author	Title	Year	Aim	Method	Result
Roecklein K.A. and Rohan K.J.	Seasonal affective disorder:an verview and update	2005	To review pathophysiology related to SAD.	Literature review	SAD is likely to result from a complex interplay between environmental, biological, and psychological factors.
Germain A. & J. Kupfer D.	Circadian Rhythm In Disturbances Depression.	2008	The aim of this article is to review progress in understanding the mechanisms that underlie circadian and sleep rhythms,	Literature review	Psychology of mood disorder is related with circadian and sleep wake cycle. Patient with depression show altered circadian rhythms, sleep disturbances, and diurnal mood variation.
Miller, A.L.	Epidemiology, etiology, and natural treatment of seasonal affective disorder	2005	To review different hypotheses like circadian phase shifting, abnormal pineal melatonin secretion, and abnormal serotonin exist regarding the biochemical mechanisms behind the predisposition of depressive symptoms.	Literature review	Point out the various hypothesis (phase shift hypothesis, melatonin hypothesis, serotonin hypothesis related to seasonal affective disorder symptoms onset.

Author	Title	Year	Aim	Method	Result
Wehr, T.A., Duncan, W.C., Sher, L., Aeschbach, D., Schwartz, P.J., Turner, E.H., Postolache, T.T., Rosenthal, N.E.	A circadian signal of change of season in patients with seasonal affective disorder	2001	To investigate the melatonin secretion and circadian rhythms.	Melatonin measured from plasma in every 30 minutes.	In patients active melatonin secretion was longer in winter than in summer (9.0 ± 1.3 vs 8.4 ± 1.3 hours; $P = .001$) but in healthy volunteers there was no change (9.0 ± 1.6 vs 8.9 ± 1.2 hours; $P = .5$).
Forni, D., Pozzoli, U., Cagliani, R., Tresoldi, C., Menozzi, G., Riva, S., Guerini, F.R., Comi, G.P., Bolognesi, E., Bresolin, N. and Clerici, M.	Genetic adaptation of the human circadian clock to day-length latitudinal variations and relevance for affective disorders.	2014	To examine effect of latitude in circadian rhythm with genetic factor.	Seasonal variation of annual day length was analysed in 52 African immigrants living worldwide. Photoperiod from each location was obtained.	Result describe human adopt to changing latitude by turning the internal clock.

Author	Title	Year	Aim	Method	Result
Sandman, N., Merikanto, I., Määtänen, H., Valli, K., Kronholm, E., Laatikainen, T., Partonen, T. and Paunio, T.,	Winter is coming: nightmares and sleep problems during seasonal affective disorder.	2016	This study investigated how symptoms of insomnia, chronotype and sleep duration associate with seasonal affective disorder, a special form of depression	Random sample from FINRISK 2012. Finnish adults aged 25–74 years (n = 4905) collected during winter from Finnish urban and rural areas (60°N to 66°N), SAQP,	Participants with symptoms of seasonal affective disorder had significantly increased odds of experiencing frequent nightmares and symptoms of insomnia, and they were more often evening chronotypes.
Sansone, R.A. and Sansone, L.A.,	Sunshine, serotonin, and skin: a partial explanation for seasonal patterns in psychopathology?	2013	To collect information on serotonin secretion, seasonal variation and sunlight.	Literature review	Serotonin secretion is dependent to photoperiod and climatic variation.
Whiteman, H.	Seasonal depression 'caused by increased levels of serotonin transporter protein	2014	To compare the serotonin transporter level in SAD patient and healthy individual in winter.	Position emission tomography (PET) to scan the brains of 11 people with SAD and 23 people without the disorder	SAD patient has higher percentage of SERT in compare to healthy individual

Author	Title	Year	Aim	Method	Result
Neumeister, A.	Neurotransmitter depletion and seasonal affective disorder: relevance for the biologic effects of light therapy.	2004	Different hypotheses have been tested during the past decades to explain the biological basis of SAD and how light therapy works	Literature review	One hypothesis regarding the basis of SAD involves the role of monoamines, specifically brain serotonin and catecholamines. Abnormalities in these two systems may play a central role in the pathophysiology of SAD
Pacchierotti, C., Iapichino, S., Bossini, L., Pieraccini, F. and Castrogiovanni, P.	Melatonin in psychiatric disorders: a review on the melatonin involvement in psychiatry.	2001	To understand the role of the pineal hormone and of its alterations in psychiatric diseases could help to identify the biological mechanisms underlying seasonal affective disorder.	Literature review	Alterations of endogenous rhythms have been reported in patients with SAD.

Author	Title	Year	Aim	Method	Result
Macchi, M.M. and Bruce, J.N.	Winter is coming: nightmares and sleep problems during seasonal affective disorder.	2004	To know the functional role of melatonin in sleep and circadian rhythm.	Literature review	Melatonin production is related with circadian rhythm and photoperiodic
Lewy, A.J., Bauer, V.K., Cutler, N.L. and Sack, R.L.,	Melatonin treatment of winter depression: a pilot study.	1998	To investigate effect of melatonin in SAD.	Qualitative literature review	Result shows low dose of melatonin in evening improve circadian rhythm and mood disorder.
Gupta, A., Sharma, P.K., Garg, V.K., Singh, A.K. and Mondal, S.C.	Role of serotonin in seasonal affective disorder.	2013	To show the role of serotonin in seasonal affective disorder.	Literature review	Explain the different aspect of serotonin relation with winter depression.

Author	Title	Location	Aim	Method	Result
Parrish, E., Peden, A. & Staten, T, R.	Strategies used by advanced practice psychiatric nurses in treating adults with depression	United states	To describe the strategies used by 10 APRNs who treat clients with depression and also to describe how the nurse evaluate effectiveness of those strategies.	Qualitative descriptive study, An audio taped Interview of 10 psychiatric APRNs.	APRN provides care in holistic approach in treatment of their patients with depression. Strategies include active listening, psychopharmacology and psychotherapeutic strategies.
Bennett,M., Walters,K., Drennan, V. Buszewicz,M.	Structured pro-active care for chronic depression by practice nurses in primary care: A qualitative evaluation.	United Kingdom	To explore experiences of patients' and practice nurses' in providing and getting proactive care.	Qualitative in depth interview of 15 practice nurses' and 26 patients' agreed to participate into the study.	Patients felt practice nurse to be appropriate person to take care of their depression and most of the nurses also felt confident in case manager.

Author	Title	Location	Aim	Method	Result
Leibel, V.D. & Powers, A. B.	Home health care nurse perceptions of geriatric depression and disability care management.	United states	To describe how home health care nurses experience finding and evaluation of depression for elderly patients.	Qualitative descriptive study from October 2011 to December 2012. Home health care registered nurse participated 2 focus groups and 16 semi-structured interviews and they were audio-recorded and analysed. Additionally, also 25 Home visits were audio-recorded. Fieldnotes after each home visits were also recorded and analysed.	Nurses mentioned different views about treating depression and how to care in accordance with disability of elderly patients.
Gask, L. & Ludman, E.	Qualitative study of an intervention for depression among patients with diabetes: how can we optimize patient-professional interaction?.	United states	To describe the interaction between nurse case manager and patients in coping with depression and diabetes during pathways study.	Qualitative content analysis method was chosen. Consultation session were recorded between three nurses and the 25 patients in collaborative care group.	The nurse tried different kinds of interventions and it helped considerable patients to change. But also it is found the difficulties of nurses (who is not specialized in mental health) to take care of complicated case of the patients.

Author	Title	Location	Aim	Method	Result
Simpson,A., Richards,D., Gask,L.,Hennessy ,S.&Escott,D.	Patients' experiences of receiving collaborative care for the treatment of depression in the UK : a qualitative investigation.	United Kingdom	To describe the experiences of the UK patients with depression, who got collaborative care during the 'phase II' platform trial.	Qualitative thematic framework analysis. Semi-structured interview was done from purposively selected 13 patients from 41 patients who got collaborative care for the treatment of depression.	There came three themes regarding collaborative care: the process of collaborative care, the content of collaborative care and staying well.
Gensichen,J., Guethlin,C., Sarmand,N., Sivakumaran,D., Jager,C., Mergenthal,K., Gerlach,M,F.&Pet ersen,J.J.(Patients' perspectives on depression case management in general practice – A qualitative study	Germany	To describe the patient's experiences of general practice based depression case management, and also to describe how living with depression contextualizes case management.	Qualitative study was done. Semi-structured interview of 41 participant were made and they were analysed by content analysis method.	Case management trial was appreciated by the patients due to its regular, initiative contact and support by health care assistants. It has been found that trust is very important in the intervention. Limitation was suggested by patients, such as intervention was being too mechanical.

Appendices II. Data search history

Database	Keyword	Found material	Used
Google scholar	Seasonal affective disorder	20000	3
Google scholar	Cause of seasonal affective disorder.	19000	4
Google scholar	Melatonin, serotonin and circadian rhythm in SAD.	3720	3
PubMed	Seasonal affective disorder	936	2
EBSCO Academic Search Elite	Seasonal affective disorder	191	2
EBSCO Academic Search Elite	Circadian rhythm OR melatonin OR serotonin AND Seasonal affective disorder	1021	1
Google search engine	Grey material searched with different keywords like seasonal affective disorder, cause of SAD, Serotonin transporter	Several thousand	2
Finna	Depression AND Nurse role	27071	2
Finna	Depression AND Nurse AND Alleviation	443	1
Finna	Depression AND nurse AND qualitative	609	1
Finna	Depression AND collaborative care AND nurse	6548	1
Finna	Depression AND nurse AND interview	15290	1