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Contributing Factors in Recovery from Anorexia Nervosa and Bulimia Nervosa

A Systematic Literature Review

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Abstract

Anorexia Nervosa and Bulimia Nervosa are the most common types of eating disorder. Anorexia has the highest rate of mortality among all psychiatric illnesses because of its dangerous effect on the physical state. Bulimia considered less critical; however, the adverse impact on health is significant. Both anorexia and bulimia have general originate factors, medical complications and recovery criteria.

The purpose of this study was to investigate contributing factors in the recovery of anorexia nervosa and bulimia nervosa and to explore the nurse's role to help the patient transform from sick state to healthy state. The study conducted a systematic literature review. Transition theory, described by Meleis, was used to understand the recovery process. Sixteen scientific articles were collected and analyzed.

According to research questions, the finding reveals four categories with subcategories in it. Factors contributing to recovery are: 'psychological help', improvement of physical health', 'social and emotional connection' and 'treating underlying cause'. Nurses' role in promoting recovery process occurs in following categories: 'Establishment of therapeutic relationships', 'Person orientated care', 'Nurse's attitude towards patients' and 'Nurse as an educator'.

Language: English Key words: Contributing factors, Anorexia Nervosa, Bulimia Nervosa, Eating Disorder, Nursing role, Recovery, Recovery process, Treatment of bulimia, Treatment of anorexia.

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Abbreviations:

ED – eating disorder

AN – anorexia nervosa

BN – bulimia nervosa

BED – binge eating disorder

OCD- obsessive compulsive disorder

MDD – major depressive disorder

CBT- cognitive behavioural therapy

IPT - interpersonal therapy

PT - psychodynamic therapy

I.e - that is

TV - television

1 Introduction

In the past two decades, the number of eating disorders raised dramatically. Many reasons are affecting these disturbing growth factors, such as being obsessed with physical appearance imposed by media and facing psychological problems. Along with many other illnesses connected with lifestyle, eating disorders are highly discussed nowadays because of rapid development and possibly irreversible consequences. They are with a considerable probability disregarded and under-diagnosed. (Mehler & Andersen, 2017)

Eating disorders are long-term mental diseases which may lead to severe health complications such as psychiatric and physiological illness. It has the highest mortality rate among psychiatric disorders. In Finland, the lifetime prevalence of Anorexia Nervosa (AN) 2.1%, Bulimia Nervosa (BN) 2.3%, not specified eating disorder 2.0% respectively. In contradistinction to other mental illnesses, people suffering from eating disorders associated with a high level of education. Moreover, 67.9% of women diagnosed with lifetime eating disorder experience at least one co-morbid psychiatric disorder, prevalently depressive disorder. In most cases, co-morbid conditions frequently stay untreated and carry on as remaining symptoms after remission. Besides, eating disorders are the fourth largest group of mental disorders among young women in Finland. (Lähteenmäki, Saarni, Suokas, Saarni, Perälä, Lönnqvist, & Suvisaari, 2013)

It seems to be impossible to recognize an eating disorder at the initial stage. However, ED more common among female population; men make up 5-10% of all AN cases, 10- 15% of BN cases, and 30-40% of binge eating disorder cases. In the total population aged 18 and older, lifetime incidence is 0.9% for AN, 1.5% for BN, and 3.5% for the Binge Eating Disorder (BED). The prevalence of AN alleged to be at least eight new cases per 100,000 people per year and for BN 12 new cases per 100,000 people per year. AN and BN related to young age, the range of onset is between the ages of 15 and 19, while for the BED, it extends in a more excellent range and peaks in early adulthood. (Milano & Capasso, 2017)

Eating disorders are considered as a mental illness and refer to the field of psychopathology, psychiatry, and psychotherapy. The development of diseases and its impact on physical health employing punishment and destruction is devastating. That behavior towards an individual's own body can result in dangerous complications for sufferers. (Arcelus, 2011)

The role of nurses in the treatment of eating disorders is insufficiently researched individually in hospital side intervention. According to numerous studies, a critical part of nursing care is setting therapeutic relationships and medical aspects. Those factors are crucial for helping in the recovery process, which may take a long time. Caring for eating disorder patients is challenging and tiring for nurses because recovery percentage is low, but the rate of deaths is high. Eating disorder patients deny the treatment and seeing to be resistant as well as sometimes rebellious. Moreover, treatment often ends with drop-out and show reduced gratification described by patients despite it is usually long and expensive. (Ryan, Malson, Clarke, Anderson & Kohn, 2006)

Uncertainty about recovery relates to treatment resisting, which is common among eating disorder. Patients deny the treatment because by restricting dieting or eating, they soothe their problems even though for a short period. Eating disorders often provide a feeling of control by refocusing the mind from phycological problems to an accomplishment, known as losing weight. Anorexic, for example, described as the deniers who are often arrogant and proud of their anorexic symptoms, considering other people who eat as being weak. Therefore, eating disorders are not about food and weight but self-protection from facing social, familial, and emotional pressure. (Golan, 2013)

Nursing cares establish one of the most prominent aspects in the treatment of anorexia and bulimia, especially considering the amount of time they spend with patients. It is necessary to understand specific to the disease and its recovery process. (Ryan, et al., 2006)

This research work will be narrowed to AN and BN as the commonly emerged among eating disorder. Both consider as a hazardous condition because of difficulty in recovering and the high rate of mortality among mental disorders. BN can be determined by binge eating and using a compensatory tool such as purging, laxatives, or extreme exercises. In contrast, AN categorized with an intense emotional pathological fear of gaining weight.

2 Background

Eating disorders are significant public health concerns since it related to high morbidity and mortality rate. Beyond doubt, anorexia and bulimia extremely weaken the physical and mental state. Generally, the condition starts in youth or early adulthood when people experienced significant life changes, for instance, being discharged from school and starting the career. (Herpertz, Hagenah, Vocks, Wietersheim, Cuntz & Zeeck, 2011)

The eating disorder commonly appears along with one or several co-morbid diseases, which concern physiological and psychological health. Physiologically, it may cause heart disease, osteoporosis, mouth ulcers, and tooth decay, which can have long-term adverse effects. (Bryant-Waugh & Lask, 2004) Anxiety, depression, post-traumatic stress disorder, some other mental disorders are psychological factors. Those factors are often a reason for the onset of eating disease; thus, it is essential to consider these co-occurring mental illnesses. (Gauthier, Hassler, Mattar, Launay, Callebert, Steiger & Godart, 2014)

Dieting, a healthy lifestyle is not always connected with eating disorders. It certainly may lead to developing one, but still assumed as a different subject even though it related to weight issues. For example, anorexia misguided as slimmer's disease, but genuinely it associated with the incredibly wrong form of avoiding food. Dieting as a reason to improve the health and well-being of individuals is normal, and not all who are dieting develop anorexia. (Gauthier, et al., 2014).

2.1 Anorexia Nervosa

Anorexia Nervosa (AN) is an eating disorder characterizes by fear of augmenting weight. Commonly, it starts with a distorted perception of self-appearance, follows by dieting and the limitation of food intake. In addition to meal restriction, the variety of weight-loss strategies, such as purging, laxatives, and extra exercising. Well-documented shows that AN mostly affect young girls and early age women. The awareness appeared in the 1950s when anorexia concerned as a youth disease, but later it has been realized as a severe mental health issue. (Antoine, Flinois, Doba, Nandrino, Dodin & Hendrickx, 2018)

Even though a high number of anorexics patients getting out of symptoms over time, a large amount remains having wrong body image, broken eating habits, and diverse psychiatric problems. According to Chakraborty and Basu (2010), anorexics who hospitalized received treatment and followed up at least four years after the onset of anorexia display positive outcomes took place in 44% of the patients. However, about 5% of the patients died. AN has the highest rate among mental disorders. Moreover, the prognosis not appeared to have got better during the 20th century. There is plenty of variation of treatment available, but not many patients willing to use this opportunity to get help from healthcare facilities.

2.2 Bulimia Nervosa

Bulimia nervosa is characterized by repetitive episodes of binge eating, followed by implying of compensatory behaviors, such as self-provoked vomiting, the excessive overuse of laxatives and diuretics, and enormously exercising. Performing compensatory action is differentiated bulimia from anorexia and binge eating, because anorexia is mainly about food restrictions, yet binge eating may go on without applying compensatory tools. In opposite, bulimic patient regularly uses specific methods for preventing weight gain. (Nishimura, Komaki, Ando, Nakahara, Oka, Kawai, Nagata & Nishizono, 2008).

Around 30-50% of bulimics start binging and purging after remission. It happened because of co-morbid illnesses related to mental health, which may be untreated. Patients, suffer from bulimia often have anxiety, depression, personality disorders, post-traumatic syndrome. However, recently it expanded to four extra factors: mood intolerance, perfectionism, interpersonal problems, and low self-esteem. (Lampard & Sharbanee, 2015)

Bulimia has a hazardous impact on social, psychological, and physical health. It associated with a high tendency to become a chronic disease, primarily if not appropriately handled. Untreated bulimia results in severe complications that occur up to 50 % of reported cases within the next five years. Treatment of bulimia preferably reaching a patient's individual needs, building therapeutic relationships, psycho-education, giving motivation, and different types of suggestions such as group, family therapies. (Nishimura, et al., 2008) Comprehension of actions and feelings of bulimic is the principle to structure and carry out effective psychological treatments. Mental help, especially cognitive behavioral therapy, has a positive effect on bulimia treatment. (Lampard & Sharbanee, 2015)

In many cases, BN occurs after some period of AN; however, they sometimes go alone together. The studies show that approximately 50% of bulimic patients released from symptoms after five years, but nearly 20% stay on the disease stage. (Herpertz, et al., 2011)

2.3 Factors Causing an Eating Disorder

Predisposing causes of developing eating disorders vary among individuals. They are more likely to appear in developed countries with western cultural standards, with the presence of high food accessibility due to economic success. (Sachs, Andersen, Sommer, Winkelman & Mehler, 2015)

However, there is the presence of anorexia and bulimia everywhere in the world. First and foremost, psychological factors play a significant role in developing ED. According to Patching, Lawler (2009), *" The development of the condition attributed to a lack of control, a sense of non-connectedness to family and peers and extreme conflict with significant others."*

Individual factors also blamed for the combination of AN and BN. The researchers showed that high levels of criticism and perfectionism in low self-esteem compounds might be a factor of crossover in both diseases. Also, the presence of depression is high among women suffering from ED. (Nishimura, et al., 2008)

Physiological factors play a unique role. Logically, people with AN have lower body mass then bulimics. Thus, obesity reported as the risk factor for bulimia. People overthinking about the appearance may focus more on dieting and exercising, which leads to eating disturbance. (Sachs et al., 2015)

2.4 Stages an Eating Disorder

There are several stages of an eating disorder, and each has a specific characteristic. In the first stage, people commonly refuse to see the problem. People preoccupied with eating patterns or think this condition is healthy, while others notice some warning changes. When friends or family express their concern, it causes anger and frustration. The second stage, when people become aware of their problems. They start to think of changing at least some of their behavior patterns. However, the will of change may also differ between the wishes of changing and using eating patterns. At this stage, a person is quite confused, and the support of family and close ones is essential. They may remind the person how beneficial it is to get back in a typical stage both psychologically and physically. (Sachs, et al., 2015)

In the third stage, which is called preparation and determination, the person is ready to make some changes to recover. Generally, the patient starts seeking help from professionals. It is the most challenging stage both for the patient and next of keen. The patient needs support and assistance. (Sachs, et al., 2015)

The next stage characterized by actions. The patient looks forward to recovery and concentrates on completing the healing process. The importance of support is significant in this stage because of the substantial probability of relapse. In case of failure, it helps to assure the patient that relapse is a normal process. Professionals help to cope with the regression

and take over again towards recovery. On the final maintenance stage, if it happened, patients change eating habits and concentrated on building healthier substitutes. In the final stage happens the developing of knowledge about how to live without an eating disorder. It is significant to remember to maintain recovery, and reinforce the result, create a strategy for relapse prevention. (Sachs, et al., 2015)

2.5 Medical Complications of Eating Disorders

2.5.1 Medical Complications of AN

Anorexia has numerous adverse influences on body health. The severity of impact depends on how much body mass affects the lower weight, the more significant health issues. The main complications affect the cardiovascular system, which includes pericardial effusions, atrophy of cardiac mass, and lower cardiac output, the abnormalities of cardiac depolarization. (Garber, Sawyer, Golden, Guarda, Katzman & Kohn, 2015).

The endocrine system of anorexics often suffers from hypogonadism, hypercortisolemia, amenorrhea. It is proven as well, that appetite hormones are getting unbalanced. Moreover, anorexic patients suffering from mineral deficiency, which affects bones and teeth. Kidneys affected by either drinking water or dehydration, which both can happen in AN patients. The bone marrow is affected by developing anemia and thrombocytopenia. (Garber et al., 2015)

Nevertheless, elementary medical complications occur during the re-feeding of the patient and linked to the gastrointestinal tract. Nutritional administration is crucial essential life maintenance, but it is damaging the digestive system, including the esophagus, stomach, small bowel, colon, and liver. Every organ, in the gastrointestinal tract, may be affected by the re-feeding method. (Trees, 2016)

2.5.2 Medical Complications of BN

The standard compensatory tool used by the bulimic patient is self-induced vomiting. It causes severe complications to the gastrointestinal tract by appearing of reflux (GERD), dysphagia, and odynophagia. Due to repetitive purging, the esophagus suffers. The oesophageal epithelium endures frequent exposure to gastric acid and gets microtrauma. It leads to esophagitis, oesophageal erosions, and ulcers, bleeding. Gastric acid affects the throat and causes damage in areas of the pharynx and larynx and referred to as laryngopharyngeal reflux. (Mehler & Rylander, 2015)

Bulimics have different teeth problems such as dental erosion, depressed salivary flow rate, tooth hypersensitivity, caries, periodontitis, and abnormally dry mouth. Dental caries appears because of binging on high sugar foods and beverages, insufficient oral care, and acid impact. Gum disease called gingivitis also happens because of repeated acid exposure. It characterized by gum bleeding and pain. (Mehler & Rylander, 2015)

The bulimia effect on the cardiovascular system is hazardous. Imbalance of electrolytes, for example, hypokalemia, which often causes by binging and purging, affects the heart. It appears as tachycardia, hypotension, and orthostatic. The acute situation may create a specific type of ventricular tachycardia known as *torsades de pointes* that can be lethal. (Mehler & Rylander, 2015)

BN severely disrupts the whole-body system, including cardiovascular, pulmonary, gastrointestinal, reproductive, and dental health. Mostly it resulted in using compensatory methods as self-inducing vomiting and laxatives abuse. The severity of medical complications depends on the periodicity of purging. Diuretic abuse imbalances acid and electrolyte levels, and consequences have substantial impacts on health as well. (Mehler & Rylander, 2015)

2.6 Treatment Process

2.6.1 Treatment of Anorexia Nervosa

Treatment of AN takes a longer time, even if the patient follows all recommendations. The process starts with care plan management and further involves inpatient, day patient, outpatient therapy. The aim of treatment of AN is a stabilization of the body weight and the eating pattern along with working on psychological issues such as depression, poor coping, and low self-esteem. Nutrition management is significant in the treatment of anorexia because the physiological state does not improve without maintaining energy level and metabolism. Commonly, anorexics treat by cognitive behavioral therapy (CBT), interpersonal psychotherapy (IPT), psychodynamic therapy (PT), family therapy. (Herpertz, et al., 2011)

2.6.2 Treatment of Bulimia Nervosa

Treatment of bulimia nervosa commonly based on Cognitive Behavioural Therapy (CBT) and other psychological tools, which show excellent results over time. Besides, patients

supported by pharmacotherapy and diet reconsideration, which usually prescribed by healthcare professionals. In some case, residential treatment requires. However, there is evidence that self-help strategies may also help to get better. (Wonderlich, Mitchell, Zwaan & Steiger, 2008)

2.6.3 Comorbid Psychiatric Disorders

Eating disorders characterized by the presence of one to four co-occurring psychiatric disorders. The co-morbid disease can happen before ED as cause factor and after, as a result. The most common are major depression, dysthymia, bipolar illness, anxiety, obsessive-compulsive disorder, alcohol, or substances abuse etc. For example, the type of food-restricting anorexia usually occurs with two additional psychiatric diagnoses, and the binge-purge subtype has four relative diagnoses, bulimia nervosa has commonly three of the conditions. (Mehler & Andersen, 2017)

2.6.4 Recovery Process

Study shows the recovery process goes along with the slow changing of attitude to life and close ones—for example, reconnecting with reality, mastering the capability to cope with stressful situations and finding the meaning of self-helping to get better. Recovery from ED is not a separate process and must be concerned as a whole event. Developing a sense of reality is what helps in understanding the recovery process. ED shows many other deeper personal problems and cannot consider as just one condition. (Patching & Lawler, 2009)

2.7 Role of Nurses

Efficient nursing intervention is short of knowledge for people with ED. As a result, about 15% of all anorexic patients will die of this disease: either from malnutrition or co-morbid conditions. Some of them might commit suicide. It highly recommended that patients with the signs of AN start inpatient treatment as soon as possible. (Bakker, Meijel, Beukers, Ommen, Meerwijk & Elburg, 2011)

The main goal of inpatient care is to help with maintaining a healthy weight, improve psychological state and to obtain new healthy habits. Nursing role in actual recovery from ED is daily participation in a patient’s life during the treatment process. The attitude from the nursing side helps patients to recover through attentiveness, care, compassion, showing respect and interest. (Bakker et al., 2011)

The nurse acts as a critical element in recovering the person with anorexia and bulimia. Person-centred care with support and guidance helps in recovery. Adopting a holistic approach with a multidisciplinary care team upgrades the level of improvement. Support through caring, communication and sharing knowledge help people with ED overcome difficulties. In some situation, going with emotional issues might be very challenging for the nurses as well. To surmount this problem, following guidelines and resources offered by NICE might help. (Davies, 2017)

Monitoring the food intake and observing potential eating disorder, might help prevent worsening of health condition. Furthermore, along with emotional support, nurses carry medical treatment by balancing fluid and electrolytes in the body, proper nutrition intake. Nurses work as an educator to both patient and family by providing information on the recovery process and its pitfalls. (Ford, 2018)

2.8 Earlier Research

Numerous researches have been done in past years to identify the nurse's role in the recovery of ED, analyzing patients experience transitioning from sick to a healthy state, and other factors related to ED.

The research is done in Norway in 2010 to find the impact of psychoeducation program in the healing process for people with an eating disorder. The qualitative interview taken with 13 patients from CED and the criteria for the research included: all the patients must be over 18, have AN/BN for the minimum of three years. Six categories listed as the result of the research. They are self-awareness, setting boundaries, feeling and self-motivation, self-regulation, self-reflexivity, motivation and self-improvement. The results suggest that the psychoeducation in patients with the eating disorder may facilitate in the healing process (Pettersen, Rosenvinge & Wynn, 2011).

Establishing a therapeutic relationship is very important in providing proper care for the patient with AN. The anorexic patient tends to be quite sensitive, considering how they viewed by others. Thus, the positive attitude of nurses helps patients to cope with the situation causes sickness. Patient with ED has psychological issues, for example, the fear of weight gain and loss of control on oneself, low self-esteem, etc. Non-judgmental, positive attitude with warmth and trust are vital characteristics of nurses to build a therapeutic relationship. Additionally, continuously upgraded knowledge is essential for nurses to work with the patient with ED. (George, 1997)

Wright, (2010) studies relationships between nurses and anorexic patients and describe it as challenging. The main idea that patients disagree with the treatment and health care worker's opinion about it. They have their perception of the lifestyle and the sickness. She gives the idea that therapeutic relationship is significant for vulnerable patients. The paper presents the connection between the nurse-patient relationship and recovery outcomes. Building a therapeutic relationship in the ED ward seems to provide motivation, hope and optimism, which were appreciated by patients.

3 Theoretical Framework

The theory of transition uses in nursing widely because nurses face the changes in patient's condition such as improvement or deterioration. Nurses work related to environmental changes in families, communities and population. The transition theory explains by its author Afaf Ibrahim Meleis such as the way through rather a stable condition to alteration precipitated by the change. (Meleis, 2009)

The transition theory is well-connected to the thesis research questions because it applies to the process of recovery. This theory describes the way of interaction between nurse and patient during the time of transition and vulnerability. Meleis has done numerous researches before defining the role of the therapeutic nursing method is vital to the transition period of healing. Transitions theory focused on people who were not successful in making a healthy transition. The author identified: "The role insufficiency as any difficulty in the cognizance and/or performance of a role or of the sentiments and goal associated with the role behavior as perceived by the self or by significant others" (Meleis,2007). At that stage, the aim of a successful transition is overcoming of behaviors, sentiments, significant others, feelings and symbols which connect with the new role and new behavior habits. (Eun – Ok Im, 2018)

The significant part of transition theory applies to the role of understanding the transition period itself by nurse and patient. Nursing therapeutics relationships based on the role of supplementation, which might be both therapeutic and preventive. The middle-range theory of transitions consists of the patterns of changes, the properties of transition experiences, facilitating and inhibiting conditions, process indicators, outcome indicators, and nursing therapeutics. (Eun – Ok Im, 2018)

One of the critical factors of transition that it has to be positive, meaning that at the 'end' of development, the person has achieved more stability comparatively the situation before. The

completion of change is overcoming deteriorating state with positive outcomes. Transition performs by the process, disconnection, perception, patterns and response. The process of change concerns the frame time of it or the extent and intensity of it. Different people have different life circumstances and personal characteristics affecting the actual procedure. Disconnectedness means that person lost links to what his/her emotions depend. Findings show that to be connected socially or environmentally are the crucial elements of recovery. Perception going through transition period id differentiated between people, community, society. For some people, hospitalization is healing and promoting health; for another, it is deterioration. (Chick & Meleis, 1986)

A transition is a personal event, and it cannot be structured. The factor of awareness transition-related to process and outcomes, how the person understands what is happening on that exact step of transformation. If the transition occurs, the person must have an comprehension of change occurred. A person who denies changes is not yet experiencing transition. Patterns and responses to transition characterized by the situational and emotional reaction on the process. People react to changes in many ways: stress, happiness, disconnection, disorientation. (Chick & Meleis, 1986)

In the opinion of Meleis: *'Transitions characterized by different dynamic stage, milestones and turning points and can be defined through processes and/or terminal ward'*. She also mentioned the crucial role of nurses in the socio-psychological aspect, their ability to understand patient behaviour to conduct a proper intervention. She insists that nurses and other health care providers should not any more ignore psychosocial impact on client's well-being. Nurses run into various situation demanding role alteration, for example transition from health to illness or death. Addressing with this, nurses take the most relevant position to see patients' psychological needs while going through transition and make valuable changes, for example, offer up essential interventions and make changes according to patient's needs.

Nursing impact on people, suffering from an eating disorder mostly applies to the role of supplementation, the component of which could be preventive or therapeutic. Before, nurse’s used preventive role supplementation, however nowadays therapeutic role is valuables. (Meleis, 2009)

4 Aim and Problem Definition

This study aims to identify the contributing factors in transitioning from sick state to recovery people with AN and BN with a focus on the nursing point of view. The research questions are following:

1. What are the factors contributing to recovery from AN and BN?
2. What are the nurse's roles during the transition period to recover?

5 Research Methodology

Research in the nursing context is a set of systematic approaches to identify solutions to problems as well as to add new information to the healthcare setting, which improves health care overall. In the era of modern technologies, research gives unique insight and understanding of advanced methods for effective caring. (Gerrish & Lacey, 2010)

5.1 Qualitative Research and Systematic Literature Review

Qualitative research defined as the process of understanding the deeper underlying meaning, describe and interpret as experienced by the people, society and culture. The main aim of this research method is to focus on people's experience, exploration, understanding and life. (Holloway & Wheeler, 2009)

A systematic literature review is a method that functions consistently by identifying the pre-existing research, evaluating and synthesizing the result based on the given research question. It improves the sequence of the result as the existing data gets more power. It allows researchers to identify the link and a theme for further investigation. Moreover, it gives the possibility of generalizing the evidence for the research question, helps to find the result by analyzing the previous studies. (Glasziou, Irwig, & Bai, 2001)

A systematic literature review is vital for health and social care professionals because the technology and system are changing with the time, this methodology helps to catch up with a new vision and help nurses and students to update with the time. The literature review helps the reader summarize the available information and presents the possible result. (Aveyard, H. 2010)

A qualitative methodology was chosen for this study to understand the patient's experience throughout the journey from sickness to an acquired healthy condition and to analyze the

nurse's contribution to it. The literature review method seems the best way to investigate this topic because of the possibility to connect different experiences (Holloway & Galvin, 2016).

5.2 Data Collection

The articles used for the analysis gathered from the following databases: EBSCO, Pub Med, Allied Health Literature (CINAHL), Bio Med Central. The attention paid only on full-text data. 2019-2020 was the year of data collection. Therefore, the focus on studies conducted in English, published in the period 2013-2020. The keywords are contributing factors, recovery, Anorexia Nervosa, Bulimia Nervosa, Eating Disorder, nursing role, recovery, recovery process, the treatment of bulimia, the treatment of anorexia, patient's experience.

The study made through full-scope data research. Research results are collected and published in Appendix 1, and the suitable articles will be systematically reviewed in Appendix 2.

5.2.1 Inclusive and Exclusive Criteria

For systematic literature review, need to make specific criteria for data collections and exclude the one that does not fall under the standard. Articles found under the keywords, a list of inclusion and exclusive articles made depending upon the relevancy to the topic. Inclusive materials were the one that is in English, published within the given year limit and significant.

S. N	Inclusive	Exclusive
1.	Articles have written in English	Articles have written in other language than English
2.	Articles found in EBSCO, PubMed, Springer with full text peer reviewed	Articles that have an additional pay, articles with no full text.
3.	Articles relevant to research questions	Articles similar to the topic but is not relevant.
4.	Articles published in the year 2013-2020	Articles published before the marked year

5.3 Data Analysis

Qualitative content analysis opted for the study. According to Elo & Kyngäs (2008), content analysis defined as “a systematic and objective way for collecting reliable data for proving knowledge, new insight, indicative and empirical guidance”. The content analysis helps researchers to enhance the understanding of the collected data by experimenting the theoretical concern. The goal is to get an extensive and concentrated description of the phenomenon. This study conducted a systematic literature review, so the word categories used for describing the facts. (Elo & Kyngäs, 2008)

Inductive and deductive content analysis are two ways to examine the data. The inductive content analysis applies to find new information when the current data is scattered, or no previous studies found on the phenomenon. Whereas the deductive content analysis used to retest the hypothesis or theory when previous studies exist. (Elo & Kyngäs, 2008)

Three main phases included while analyzing the data in both inductive and deductive approach: preparing, organizing and reporting. Suitable data collected for analysis collected, reviewed, and different components picked. The collected information carried to the next phase for data organizing. With open coding, categories formation occurs in inductive content analysis. Categorization matrix developed that adequately supports the hypothesis tested in deductive content analysis. Lastly, the results explained with the categories and subcategories in both approaches. (Elo, Kääriäinen, Kanste, Pölkki, Utriainen, & Kyngäs, 2014)

The inductive content analysis method elected for this research design because of lack of studies available on the same topic. In this study, sixteen scientific articles obtained from actual databases and used for the process of data analysis. Inductive content analysis has a further sequence towards study completion. At first, all the articles collected read repeatedly and thoroughly until all the information become comprehensive. Keeping the research questions on the mind, all the facts and records were coded and documented. Next, appearing categories found and created. Thereby, the identification matrix was formed based on the research questions. The findings have emerged as categories and subcategories, which explained in Result chapter.

5.4 Ethical Considerations

Holloway & Galvin (2016), emphasizes ethics as an essential human right and mentions four ethical principles which are: respect for autonomy, non-maleficence, beneficence and justice. Allowing patients to be independent and involved in the decision-making process is very important. A policy of non-maleficence and beneficence were concerned with the risk and benefits that could occur during the data collection as it states that the risk should be as minimal as possible. Trustworthy and genuine research strategies must be implemented during data collection. Also, accurate information, respected owns privacy, confidentiality and faithfulness are ethical issues that should be considered. (Holloway & Galvin, 2016)

As this study is a literature review, the gathered information must be reliable, avoiding duplicate publications. Accuracy, transparency and plagiarism must be thinking about during literature research. The extraction of data supposes to be accurate without trying to bend the information. The data collected expected to be transparent, and all the sources must not falsify the others work. Plagiarism is the foremost issue that should be inspected and keeping in mind. The data collected from a source should be given in the text as well as in bibliography. (Wager & Wiffen, 2011)

6 Results

This study made to find out the contributing factors in recovery from AN and BN. The second research question was the nurse's role in promoting that recovery. For the study research, the qualitative content analysis used in the inductive approach. Sixteen different articles have been read, comprehend the subject matter and analysed carefully. Four different categories formed in each theme with subcategories in it. The categories and subcategories are further explained below as such:

Matrix

Theme	Category	Subcategories
Contributing factors	Psychological help	Personal growth
		Motivation
		Understanding of illness and recovery

	Improvement of physical health	Absence of symptomatic behavior
		Exercise
	Treatment of underlying factors	Anxiety
		Depression
	Social connection	Communication
Nursing role	Building a good relationship	Supportive and understandable
		Trust and safety
	Person oriented care	Seeing the person behind the disease
		Destigmatise & unjudgmental
	Nurses attitude towards patients	Motivation & hope
		Presence
	Nurses as an Educator	Provide knowledge
		Experience

6.1 Contributing Factors

Contributing factors to recovery from AN and BN is described here with four categories and their respective subcategories. The first and largest category is **Psychological help** includes subcategories: *Personal growth, Motivation, Understanding of illness and recovery.* The second category is **Improvement of physical health** with the following subcategories: *Absence of symptomatic behavior and Exercise.* Third, **Treatment of underlying factors** such as *Anxiety and Depression.* The last category is **Social connection** with one subcategory called *Communication.* Categories represented in this chapter stand out in findings, and they prescribed under the main research questions in this thesis.

6.1.1 Psychological Help

The primary category found in research about contributing factors to recover from AN and BN is psychological support. The studies investigation was conducted commonly by patient's experience. This category associate with the factors which are essential to promote mental recovery related to eating disorders. The results of analyzed material interpreted and support with the initial article's quotations.

> *'I started to be more open to trying things that the psychologist was suggesting and that really changed my behaviour. Things like challenging my thoughts and trying out new things like going out and eating things that I avoided eating for a long time.'* (Lewke-Bandara, Thapliyal, Conti & Hay, 2020)

Wu and Harrison (2019) found that patients felt that hospital treatment primely centered on improving their eating behaviors. Healing their physiological statement (i.e. focused on weight and nourishment) was more important than psychological improvement. However, patients perceived that mental health deserves similar or even more attention: "I felt they could have tried to provide more psychological interventions… I did not think they provided that much psychological intervention…".

> "*Psychological help they provided was too little. They could not help soothing you psychologically or reduce your anxiety…they normally just asked about whether you felt any physical discomfort these days…they would prescribe medications to you…and some issues like changing your meal plan. And something like bathing or other very tiny little things. Psychological help was extremely rare".*

Lack of psychological care explained as troublesome and unfavorable by participants. (Wu & Harrison, 2019)

Personal growth

Most of the studies show that a crucial factor leading to recovery is acceptance of the current situation. Patients experience is a valuable indicator of feeling the recovery process.

> *"I accept that I've had three kids and I'm never going to have that flat tummy again… Just maturing and understanding that [in] your net worth [appearance] is not a big component of that… And there's support and love and confidence in yourself that comes with maturity*" (Mitchison et al., 2016)

> *"The focus of treatment was to learn to listen to their body"* (Pettersen et al., 2017)

Being optimistic and developing positive attitude to own body, admit and accept the past mistakes as well as taking good self-care, boosting self-esteem are all contribute to recovery from ED. (de Vos et al., 2017)

Personal grow benefits ED sufferers with improvement of interpersonal relationship, boost of self-confidence, productivity. The patients who are close to recovery demonstrate a higher internal connection with themselves. While going towards the recovery they acquire a new knowledge of themselves, self-comprehension develops and broad.

> *"Recovery was experienced by Paul as greater integration between his body and mind ("centred") and reclaiming the sense of himself"* (Lewke-Bandara, at al., 2020)

Characteristics related to personal development stood out in many researches. Under psychological support given by health care it describes as building positive relationships with others and acceptance of self. For example, it was found that being in good relationships with friends, family and others help to reach recovery.

> *'The frequency effect size shows strong evidence for positive relationships with the others'* (de Vos et al., 2017)

> *'When treatment was suitable individuals also felt supported by practitioners, friends and or family: "having the knowledge that they were loved through their replaces, that they were safe to break down.'* (Fogarty & Ramjan, 2016)

Motivation

Motivation to change is viewing as good aspect towards recovery. Establish personal goals boost the essential mechanism to increase treatment involvement and give meaning of life.

> *''... that [motivation] is the most crucial aspect, right? in the treatment of eating disorders ... so ... that is the most important ... when motivation emerges you must do anything to maintain it ... because it is so crucial and rare ... that is what makes eating disorders so difficult to treat ... that it is the only disorder you don't want to get free from ... that's why motivation is so important when talking about treatment..."* (Nilsen et al., 2019)

The motivation to recovery may by rise if person become conscious of hazardous effects of eating disorders on own body. (Mitchison et al., 2016)

Factors related motivation include reediness for treatment implementation encompass the connection to external ward, personal growth and development of social network and relationship. (Thompson-Brenner et al., 2018) During the treatment many patients

experience beneficial factor of providing support to change from health care workers. (Fogarty& Ramjan, 2016)

> *"However, several participants viewed personal readiness and commitment to change as the most important aspect of recovery, thereby deserving greater attention during treatment. Many participants shared views such as "you have to want to change yourself, to make change happen" or "it was when I decided to change myself that change really started to happen"."* (Nilsen et al., 2019)

Understanding of illness and recovery

Another important factor was to build the understanding of recovery and set a belief that it is achievable. Many patients depict a coherent fearfulness of recovery. Talking about the sense that total recovery possibly unreachable may ruin any motivation. It happens often when treatment providers input the belief that recovery is obtainable. Moreover, those who goes onward to the recovery reacted to others' concern as they were never "normal" by participating in a rethinking of recovery:

> "*I have had my ED for over 20 years, with years of complete recovery along the way. I have found that no...it doesn't go away. You just manage it a bit better. If you are happier in yourself, gaining a pound while I still find difficult, I can cope with. I too ask the question, does recovery mean that one day I will be 'normal' with normal eating habits, but I now don't believe it will happen. Not to dishearten anyone...what I mean is, stop searching for the time when everything will be perfect, and then being hard on yourself for not reaching that perfection. For me anyhow, I have accepted that I have an ED, I will always have it. I do believe complete recovery is possible, and living a normal life is possible. But the underlying association with food, I think will always be there. So just to accept that and try to live with that in the most healthy and positive way possible."*

Recovery is perceived as something complex, but feasible and formulated as learning how to manage inappropriate behaviour a nd obsessive thoughts. (McNamara& Parsons, 2016)

> *"It was obvious that patients achieved some form of recovery from ED, however, none of them reported of being fully recovered or being in remission. All participants ended up at different points in the recovery process."* (Lewke-Bandara, at al., 2020)

6.1.2 Improvement of Physical Health

The second subcategory related to the physiological well-being, for instance weight restoration and reducing in destructive behaviour such as bingeing and purging.

Absence of symptomatic behaviour

In medical view recovery from eating disorder characterized of a lack of clinical symptoms such as binging and purging. Patients who have eating disorder in the past describe that an absence of symptomatic behaviour is the important element of recovery from anorexia and bulimia. All participants agreed that recovery is, primarily, a patient's change to get better in symptomatic actions. Physical measures such as normal body temperature, heart rate, body weight, and electrolyte levels, was ascribed to have less value then a lack of symptomatic behaviour. (Bachner-Melman et al., 2018)

Physiological health in some situation takes the most important place. Studies participants shared about how inpatient treatment can save the life:

> "*It has already saved my life more than once or twice. Probably without receiving inpatient care I would have already died". "I have gained lots of weight during the period of receiving inpatient care…".* (Wu & Harrison, 2019)
>
> "*Now I am eating normally and can stop bingeing and purging…. The only positive impact was on physical health, and the other impacts were all negative"*. (Wu & Harrison, 2019)

Exercise

It has been proven that physical activities boost self - esteem and motivation towards to recovery due to better understanding of body requirements and body signals. Focusing on well-functioning body rather than own appearance views as rewarded.

> *"Especially running gave me a feeling of being free, because I think too much...and that something I will take with me as a useful experience"* (Pettersen et al., 2017)

Also, practicing physical exercise helps to think less about the food and build a healthier relationship with it. (Pettersen et al., 2017)

One study shows that 67% of patients improved after starting to see themselves from a physical health perspective instead of appearance. Considering weight factor in term of impairing physical health prevailed the weight factor of attraction. It gives motivation to minimized binging, restriction, improve body image worriedness. Patients started to think

about health in the perspective of the healthy function of body organs like lungs, heart and teeth. (Mitchison et al., 2016)

6.1.3 Treatment of Underlying Factors

Anxiety

One of the factors causing eating disorders is presence of anxiety.

> '*Being recovered from an ED was often described in terms of being released from anxiety and other negative states that existed or remained'* (Lewke-Bandara,at al., 2020)

Considering eating disorders from a scale point of view have an only temporary effect. If patients discharged with target weight but still has the same psychological state, they will feel treatment unfinished. (Fogarty & Ramjan, 2016)

People suffering from both BN and AN reported that emotional stress is one of the most significant factors causing the illness. About 63% admitted using binge eating for hiding the natural feelings, shutting down emotions. Stress leads the list of other factors; it can be associated with work, school or family and named as promoting nutrition and weight problems. For instance, ignoring mealtimes during the day turns to overeat of fast food later, which is high in calories and unhealthy. Then it comes to regretting and even more stress. (Mitchison, et al., 2016)

Curing underlying criteria of ED deal with the dysfunctions underlying the disease. This treatment focused on a holistic view of sickness and evolved psychology, nourishment, medicine and practice.

> 'When *treatment was perceived to address only weight then it was viewed as hindering recovery. Individuals felt strongly that there was a need to treat underlying factors, not just the signs/symptoms of AN. Individuals experienced a feeling of incomplete treatment, invalidation and lack of congruence about treatment and recovering. This occurred for individuals who were discharged at their 'target weight' and yet they still felt emotionally the same as explained by this participant: "when in inpatient treatment the focus was on physical restoration so when I was discharged at the 'target weight', I was still the same emotionally as when I was admitted* ". (Mitchison, et al., 2016)

Depression

Anorexic and bulimic patients have a high possibility of major depression as an onset of the disease. That is the main factor for being diagnosed with AN.

> '*Comorbidity with depression is known to be high in eating disorders, but this is the first study to find that depression predicts an active eating disorder over such a long period of time. It is possible that the combination of depression and AN makes an individual much less likely to be able to benefit from treatment for an eating disorder, or that the interaction of the two disorders makes it very difficult to recover. To date, treatment approaches that address both depressive and AN symptom simultaneously are yet to be developed'* (Franko et al., 2018)

Both the eating disorder and depression should be taken into consideration during treatment to achieve positive results. (Franko et al., 2018)

6.1.4 Social Connection

Social life seems like an essential key element to recovery. Socializing help people with ED achieve their goals. For example, parents are the most important in the treatment of anorexia and bulimia for children and adolescent. Many were getting better with the support of friends, love ones and health care workers. The positive way of interaction gives a feeling of involvement to society which distracts from negative body image and promotes help-seeking behaviour. (Mitchison et al., 2016)

Communication

Social entertainment also distracts hospitalized patient from monotonous treatment routine. (Nilsen et al., 2019) Mastering social skills is one of the fundamental criteria from the perspective of people who have experienced recovery. (de Vos et al., 2017)

> *'You accept yourself more, when you feel accepted in a group as the person you are...*' (Pettersen et al., 2017)

The social and emotional connection that consists of a right amount of self-approval ("able to express emotions in words," "dares to express a different opinion") have a significant impact on recovery (Bachner-Melman et al., 2018)

The following factors which connected to social connection were also frequently mentioned as helpful: intimate and family relationships (95 %), friends (63 %), work/study (68 %), and leisure (32 %). For instance, to be accepted by a devoted partner, enhance self-approval and decrease ED symptoms. Regular eating habits and a positive attitude to own body showing by a healthy partner may help to adopt the same model by the sick person. That works

similarly for a family wanting to give an excellent example for their children with ED by diminishing unhealthy eating behaviour.

> "*Desire to be a positive role model to own children as motivation to address symptoms. 'Support from family as an encouragement to address symptoms."* (Mitchison, et al., 2016)

The same study says that building relationships with new friends with healthy eating behaviour convincing to accept the same approach towards food. Social contact helps to get the sense of fulfilment following solitude time. Being productive and appreciate study and work also affects the recovery by decreasing stress and therefore, binge eating. (Mitchison, et al., 2016)

6.2 Nursing Role

The nursing role is the second main theme describe in four categories with their respective subcategories. **Establishment of a therapeutic relationship** is the first category, including subcategories *supportive & understandable* and *trust & safety*. The second category is **Person-oriented care** with subcategories as *seeing the person behind the illness* and *Destigmatize & unjudgmental*. The third category is **Positive nurse's attitude toward patient** and has subcategories *motivation & hope* and *Presence*. The last category is **Nurses as an educator** are *Providing knowledge* and *Experience*.

6.2.1 Establishment of Therapeutic Relationships

Building a good/positive relationship between the patient and nurses were seen as vital in several articles that were analysed.

Support & understandable

Patient's experience described by Fogarty & Ramjan (2016), proving that support during the treatment has a positive impact which leads toward the recovery. Being understood increases the self-worthiness. Moreover, it gives the patient sensation of being more confident and stronger.

A feeling of being equal and respected by the nurses identified as one of the factors. Due to which a patient can express their inner emotions and ask help they need.

> *"Feeling listened to and understood helped individuals to feel safe, validated and worthy and supported to open up and make changes"* (Fogarty & Ramjan, 2016)

> *"...treated with respect and curiosity during their admission, which had boosted treatment involvement"* (Nilsen, Hage, Rø, Halvorsen & Oddli, 2019)

Understanding the patient's illness and taking an individualized approach is found to be very helpful. Moreover, it showed that constant and continuous support provided by the nurses or professional or families/friends are very vital in treating the patient with ED.

> *"the importance of therapy addressing their unique issues and strengths and being focused on insight generation and skills building"* (Lewke-Bandara,et al, 2020)

> *"the need for ongoing support – either from a health care professional or family and friends or both"* (Lewke-Bandara,et al, 2020)

The bona fide interest of nurses in helping the patient to recovery has shown a positive impact. Whereas, some patient as explained in Salzmann-Erikson & Dahlén, (2016), expressed negative influence as been unsupportive and misunderstanding. It led to the deterioration of recovery and worsened the patient's condition. Similarly, In Kendal, et al., (2016), the patient experienced health care service deteriorating at the beginning but very helpful at the end, when patient understood the need and the reason for the care they are getting.

> *"Nurses showed empathy and a desire to validate the patient's feelings, it was only when the nurses really showed a genuine commitment that patients felt meaning in care"* (Salzmann-Erikson & Dahlén, 2016)

> *"Lack of involvement could lead to resistance and hamper the recovery process and the relationship and could even worsen the illness"* (Salzmann-Erikson & Dahlén, 2016)

> *"Community mental health services could be experienced as unhelpful at one point but helpful later on."* (Kendal, et al., 2016)

Trust & safety

Being respected by the health care providers provides the patient with a safe environment where they can express their feeling without hiding it at all. Moreover, trust is another

essential factor, helps to develop a good therapeutic relationship between nurses and patients.

> *"The nurses' abilities to understand and respond to the patients' feelings with empathy and interpret the patients' feelings were described as having supportive and nurturing effects"* (Salzmann-Erikson & Dahlén, 2016)

> *"trusting relationships are needed for achievement of therapeutic goals and ultimately recovery"* (Bannatyne & Stapleton, 2016)

> *"Equality in the relationship and respect for each other's positions as nurse and patient along with involvement in care"* (Salzmann-Erikson & Dahlén, 2016)

In the study of Salzmann-Erikson & Dahlén (2016), patients explained that their self-confident was boosted if nurses trusted them and motivated them in their journey to recovery.

> *"patients felt motivated and safe and this strengthened the patients' self-esteem and feelings of independence"* (Salzmann-Erikson & Dahlén, 2016)

> *"the views of the young person into decisions, allowing for a more shared and dynamic decision-making process"* (Nilsen, et al., 2019)

6.2.2 Person Oriented Care

Seeing the person behind the illness

Evidence shows that when health care professional sees the person behind the illness patients start to progress forward to recovery. It is vital that nurses treat physiological symptoms but also bare in mind that there is a person behind the illness. That may help to balance the understanding of person separate from disease.

> *"When nurses were able to express respect for the person behind the illness, it helped the patients to take a more active role in the relationship, nd these patients were able to progress toward health"* (Salzmann-Erikson & Dahlén, 2016)

> *"the importance of staff displaying a genuine interest in getting to know them as people, and understanding the influence the illness had upon their lives, without too much preconception"* (Nilsen, Hage, Rø, Halvorsen & Oddli, 2019)

> *"not losing sight of the person behind the symptomatic behaviors"* and *"a balance between focusing on the person versus the ED"* (Nilsen, et al., 2019)

Giving respect to patients is the principal factor of the nurse's role. Carry treatment with the high respect motivates people suffering from ED. Important to show that interventions and procedure used for the treatment are not against the person but for their illness

> *"it was very important to me that my therapist respected me as a person and not just an illness"* (Fogarty & Ramjan, 2016)

> *"the need for nurses to persuade patients that interventions and restrictions are actions against the illness and not against the patient as a person"* (Salzmann-Erikson & Dahlén, 2016)

Destigmatised & unjudgmental

As explained by one of the participants in study, conducted by Nilsen, et al. (2019), staffs being judgmental on patient's illness/condition as *"being perceived as "yet another anorexic"* showed a negative effect on the treatment. Patient also explained that pre-judgement and stigmatizing patients creates difficulties in developing truthful therapeutic relationship between nurses and patients. Thereby, its consequences are reflected in the process of treatment or recovery. Thus, the nurse's role includes not being stigmatized and judgmental toward the patient's illness.

> *"Strikingly, sufferers described feeling voiceless and subject to the agenda of professionals in the therapeutic setting, particularly with respect to pain and anguish regarding previous medical care or stigmatising experiences within the community. There appeared to be a general consensus among participants that practitioners would benefit from spending additional time exploring and validating emotions regarding previous treatment episodes, rather than disregarding or minimising perceptions of these experiences, possibly due to fear of insulting the profession or the authority of the medical community. Over coming this anguish appeared vital in developing trusting relationships and achieving collaboration between sufferers and practitioners"* (Bannatyne & Stapleton, 2016)

> *"the behaviour of staff members and treating teams did not always appear to be based on objective indicators, which often lead to feelings of frustration and a perception of unjust superiority and judgement. This mistrust and struggle for*

> *control appeared to severely impede the ability for treatment teams and participants to work collaboratively on achieving shared goals"* (Bannatyne & Stapleton, 2016)

Health care professionals labelling patients illness as it was an individual choice, or consider them as attention seekers, affected patient psychologically and hinder the treatment process. It highly demanded that nurses act not judgmental and stigmatized.

> *"EDs are an attention-seeking attempt, a "phase," or a "lifestyle choice.""* (Bannatyne & Stapleton, 2016)

> *"the stereotype that their disorder was 'a choice we make'"* (McNamara & Parsons, 2016)

6.2.3 Positive Nurse's Attitude Towards Patient

Motivation & hope

Fogarty & Ramjan, (2016) study shows that nurses providing hope for the recovery and motivating patient in their journey enhance the treatment procedure. A hope of life beyond the illness motivates patients to achievements. That factor demonstrated as an important role of nurses. Furthermore, good therapeutic relationship provides emotional comfort and ultimately, patients can adhere to the treatment plan.

> *"The elements of treatment that contributed to participants experiencing support included hopefulness, being listened to and understood, having input into recovery, increased self-worth and learning new skills and coping mechanisms"* (Fogarty & Ramjan, 2016)

> *"Imbuing hope through treatment helped individuals feel supported, normal and believed in and provided them with the motivation when confronted with challenges"* (Fogarty & Ramjan, 2016)

> *"connection with hope was experienced as "a part of me" that "still wanted to actually achieve in life"* (Lewke-Bandara, et al., 2020)

Additionally, to motivate the patient, nurses need to provide proper information about ED including cope methods. It helps the patients to rise self-esteem and maintain the confidence.

> *"important role in informing and educating the patients about the treatment and therapeutic goals in order to motivate the patients"* (Salzmann-Erikson & Dahlén, 2016)

Presence

The physical presence of nurses seen helpful for patients. Holding on the patient and follow up help to prevent the relapse and consistency in recovery phase. Being heard and understood without making the judge give a positive attitude, as highlighted in the studies.

> *"Needed to be followed up with engagement with formal health services and treatment"* (McNamara & Parsons, 2016)

> *"the role of access to follow-up treatment sessions to "make sure I'm not falling back"* (Lewke-Bandara, et al., 2020)

> *"When nurses were understanding but at the same time confident enough to challenge the patient, this was experienced positively and it strengthened the feeling that the nurses were there for them"* (Salzmann-Erikson & Dahlén, 2016)

As described in Salzmann-Erikson & Dahlén,(2016), calendarized therapy has less impact in comparison with the persistence care and support given by the nurses to the ED patient. Hence, nurses pronounced as a 'saviour' by the patient. However, nurses should be careful as ED patients might be manipulative. Besides, nurses should know their limit to be close with the patient and allow them decide for themselves.

> *"continual emotional support, such as short daily conversations, was better than scheduled, weekly therapy"* (Salzmann-Erikson & Dahlén, 2016)

> *"nurse was described as a "saviour" that helped patients move away from the disease"* (Salzmann-Erikson & Dahlén, 2016)

> *"it was necessary that the nurses were able to find a balance between closeness and distance in order to help the patient move forward and make more independent choices concerning food intake and meals"* (Salzmann-Erikson & Dahlén, 2016).

6.2.4 Nurse as an Educator

Providing knowledge

One of the significant roles of nurses explained in different studies is proving knowledge. Guiding patients towards recovery by providing information about how to deal with the trigger's person might face in the future is very crucial. Nurses use different strategies to help patients manage with their emotions. Providing information about provoking symptoms of relapse can uplift confidence in patient's life beyond ED.

> *"the necessity of advice or information being delivered in a constructive and collaborative manner, not just stated repeatedly as factual information to be trusted"*
>
> *"An important aspect of the recovery journey was having skills and knowledge to maintain that recovery by self-awareness and knowing how to respond to triggers"* (Lewke-Bandara, et al, 2020)
>
> *"Treatment was perceived as a process of learning and applying adaptive coping skills to navigate life, but a key (and often missed) component of treatment was guidance and support for the sufferer to explore and understand his/her values and the development of committed action to move forward with life beyond the ED"* (Bannatyne & Stapleton, 2016)
>
> *"A sense of empowerment was also experienced as participants regained some control through learning new coping strategies and skills to help combat the disorder such as increasing selfworth and respect"* (Fogarty & Ramjan, 2016)
>
> *"The nurses' abilities to provide patients with strategies to manage their own emotions was yet another key aspect in a supportive relationship that allowed for the patients to move forward in the process"* (Salzmann-Erikson & Dahlén, 2016)
>
> *'They can be educated about their eating disorder mindset and helped to become aware of the signs that this is reactivating. They can then be provided with strategies designed to help them decentre from it quickly, and thereby ward off relapse'* (Dalle Grave, et al., 2019)

Nurses in the mental health care system should have proper understanding and knowledge of the psychological problems before they deal with the patient. On top of that, nurses update their knowledge and skills so that they can cope with various forms of ED as AN/BN which can modify in a different individual.

> *"Treatment providers not having AN specific experience or skills negatively influenced recovery and the treatment experience with many participants experiencing treatment providers negatively"* (Fogarty & Ramjan, 2016)

Experience

Personal experience of ED in nurses has a positive impact on patient's treatment because they can share own stories and struggles. Nurses, experienced ED in the past, might help the patient by giving the tips and tools to cope with the sickness.

> *"I can say hands down my personal experience has helped me guide vulnerable patients, both by sharing my struggles, and by instinctually knowing what may help"* (Warren, et al., 2013)

Nurses went through the same phases of ED and overcame the illness, can provide a better understanding of the patient's emotions. Patients have a sense of safety about sharing their feelings with them.

> *"When nurses provided information about their own personal lives, they conveyed a sense of equality between themselves and the patient, which was considered important in the development of the relationship"* (Salzmann-Erikson & Dahlén, 2016)

> *"When they know I've been there and recovered it gives them hope. Additionally, it gives me power in their eyes". "They have expressed that they feel safer with me because they don't feel judged. They also have said they feel like I 'get it' and understand their thoughts and feelings"* (Warren, et al., 2013)

Personal experience of nurses provides hope for better life.

> *"When they know I've been there and recovered it gives them hope. Additionally, it gives me power in their eyes"* (Warren, et al., 2013)

7 Discussion

This chapter represents two sections: Discussion of the results and discussion of the method. All information is taken from qualitative data analysis, which includes contributing factors of recovery from ED and nursing role in recovery. The obtained data is analysed and made in discussion to answer the research questions.

7.1 Discussion of the Results

The contributing factors to recovery from ED appear in four categories. First, Psychological help is crucial for treatment because ED belongs to mental health illnesses. This category includes Personal growth, Motivation, Understanding of illness and recovery. Studies show that psychological help and support underestimated, and health care staff count prevalently on the physiological index, such as BMI. The participants of explored studies are unhappy by very limited or inadequate emotional support, which as they describe as being neglected by doctors and nurses. (Wu & Harrison, 2019). According to the role of supplementation, described by Meleis, providing necessary support, experience and knowledge in mastering the healthier behaviour associated with the new role and identity.

Furthermore, there are many positive responses to psychological help found in the studies, which set that criteria in a priority of treatment. Development of AN/BN connected to lack of self-control or obsessing with the control, fillings of being not connected to family and peers and significant conflict with the others (Patching & Lawler, 2009). Thereby, providing psychological therapy health care professionals teach patients how to figure out and fix or improve external and internal connections.

Making good relationships with love ones, friends, family soothing the symptoms of eating disorders. Many studies suggest Family therapy (FT), cognitive-behavioural therapy (CBT), and group therapy to improve quality of life. Although it not connected to contributing factors, all these therapies help to develop Personal grow and self-acceptance which shows the importance on the way to recovery. Like this mentioned in the introduction of this thesis, the recovery process starts with a slow transformation of perspective to life and close ones. Therapy helps to keep on with reality, learn to cope with stress and find the meaning of being. (Patching & Lawler, 2009). When patients learn how to focus on listening to their own body, being optimistic, accept the past, care of self, it helps to move forward to a better health state.

Motivation is a great if not the most crucial aspect for recovery, especially in the context of eating disorders when it can be the only disease without patients own will to treat eat. Good psychological therapy helps with the establishment of therapeutic goals, especially if the patient realises the harmful effect of ED on their body function. (Mitchison et al., 2016).

However, being realistic and Understand of illness and recovery, play also an essential role. Learning about recovery process means that it possibly never completely accomplishable

prevent from wrong expectations. It is connected to transitional theory as it concentrates on people who were not able to make a healthy transition. It would be problematic to know the time frame of the transition to make it to recovery. Different studies indicate that participants ended up in different points of recovery, but no one was completely healed. (Lewke-Bandara, at al., 2020).

To get aware of the transition from sick condition to healthier one is connected to a category of Understanding the recovery and illness. The transition has several levels which are similar to the stage of ED described in the background.

The next category was Improvement of physical health associated with physical restoration and exercise. Results show that the absence of symptomatic AN and BN behavior such as dieting, binging, purging indicates as a factor of recovery. Weight restoration is essential for criteria for anorexic patients; however in some points, patients feel emotionally the same despite obtaining physical improvement. The result highlighted the decisive role of exercising on treatment BN. Doing physical activities destructs from negative thoughts, boost self-esteem and improve motivation. Exercising helps to turn attention out from appearance to physiological health.

The vital element promoting recovery is Treatment of underlying factors such as anxiety and major depressive disorder. As was described in the background, anxiety is a risk factor of ED related to eating and weight gain. Depression occurs in most cases of AN and BN. Results indicate that underlying factors treatment consists of both psychological help and medication.

A fourth factor leading to recovery from AN/BN is Social connection. Development of social skills helps to concentrate on real-life instead of controlling weight and food intake. Patients emphases the role of family, friends and love once during the recovery process. Family members and friends with healthy habits impact the person with ED like a role model. Being accepted and supported by family and intimate partner seems to be a significant contributing factor in ED recovery.

The second theme is Nursing role in the treatment of ED. As described by Meleis, the transition has different stages, milestones and turning points. Moreover, it also highlights the crucial role of nurses in the socio-psychological aspect and nurses' roles in a demanding situation such as the transition of health to illness/death and vice-versa. Thus, the findings

of a nurse's role act as a catalyst that certainly brought the turning point and towards the recovery in a patient's experience.

Four different categories enclosing other subcategories ruled out as the nurse's role. Building a good therapeutic relationship is a vital aspect in proving good care and projecting patients towards recovery. Supportive & understandable and trust & safety are two subcategories of building good therapeutic relationship. Providing support and understanding patients by the nurses helps patients to open up about their feeling and their condition which leads them to trust and feel safe in the hands of nurses. Nurses should be careful while caring patient as they need to know their limitation of how close they can be because at some point patients have to take control over their own life and their eating habit. Proper follow-ups, motivation, strengthening self-esteem can be supportive measures towards recovery. The background literature reveals how dangerous ED certainly can be and patients need to be treated as soon as possible because the condition might deteriorate very fast. With the help of nurses and support of the loved ones, proper follow-ups, patients may improve significantly with the time. Results show that patients who were unsupported, loose their motivation to get better. Thus, the goal of transitioning from illness to recovery might fail and reversed towards the worst.

Person oriented care is another category listed in findings which tends to describe how the patient like to be taken care of by the nurses. Stigmatizing the illness as "yet another anorexic" is very demotivating, as explained in Bannatyne & Stapleton, (2016), has negative impacts on patients. Patients in Salzmann-Erikson & Dahlén, (2016) and Nilsen, et al., (2019) explain that when the nurses were able to see the person beyond the illness, it boosted their confidence and provide positive milestone on their journey to recovery. The background literature mentioned the importance of person-centred care in recovery, and the result emphasizes it at a higher level.

Nurse's attitude towards the patient is another category which has a high impact on any care setting, not just in the psychological field. This category has two subcategories: Motivation & hope and Presence. Motivation & hope included in the same place as one has a similar meaning to others in this study context. When a nurse shows a positive inclination on patients, proving motivation and hope for life beyond ED making them to achieve their goal. Being there, hearing the patient and giving choices to make decisions for themselves helped to overcome fear and decrease the stress level.

Finally, the last category is the Nurse's role as an educator. Providing proper information, skills and knowledge to maintain recovery is essential. Teaching the coping skills to navigate life and strategies for being aware of reactivating triggers are the Nurse important role afterwards. Not only this, but Nurse's role is also to observe the potential changing situation, which sometimes is not the positive one. In such a case, nurses should take further action to help the patient divert the path towards a positive one.

7.2 Discussion of the Method

Elo, et. al., (2014), mentioned the word 'trustworthiness' developed by Lincoln and Guba (1995) to evaluate the research done with qualitative content analysis method, especially using an inductive approach. This is important because it gives a clear view to the researchers if the results obtained are "worth paying attention to". Credibility, dependability, conformability, transferability, and authenticity are the five terms that help to support the trustworthiness of research. (Holloway, & Galvin, 2016; Elo, et, al, 2014)

Credibility in this study context refers to the identification of the research question and describing it without false. This study conducted using qualitative content analysis in the inductive approach. All the data (articles) reviewed in this study obtained from trusty databases which are EBSCO (CHINAL), Pub Med, Springer. Those articles found using different sets of keywords and applying inclusive and exclusive criteria, as explained in 'CHAPTER 4', fitted to the research questions as acquired by the researchers.

Data were gathered using the keyword in a different period and under different conditions. All the articles were read thoroughly familiarizing the content. Categories and subcategories were formed through the process which refers to dependability.

As two authors have done this thesis, data accuracy checked independently and included in findings referring to conformability. When conclusions were written, researchers have provided accurate and enough data on quotation marks to link them, relating to transferability and proving the original reference showing the reality proofs to be authenticity.

The systematic literature review method chosen for this study was vigorous. This thesis was made to know the contributing factors in the recovery of AN and BN and also, to know the nurse's role in it. This thesis points out mostly the positive experience of nurses and patients as in general but thoroughly reading the articles analyzed, a researcher found out that whole

new research can be carried out in negative experience in nurse's perspective or patient's perspective. While finding the articles for this study, there was a challenge for the researchers as there are a limited number of studies done in the past within a particular year limitation. The research also provides a finding of the recovery factors in AN and BN in general without differentiating them.

8 Conclusion

Treatment of eating disorders is a big challenge demanding from the patient perspective willingness to accept the treatment and motivation. In the other hand, nurses provide holistic treatment giving emotional support along with necessary physical intervention.

Psychological treatment is one of the most crucial aspects toward recovery from AN and BN as well as physiological restoration. Both sicknesses are a combination of mental and physical deviation. Therefore, it is better not treating one separate from another for reaching the best results.

Nurses play a vital role in the transition of ED patient to recovery. Proving adequate support, motivation, hope, destigmatizing about illness, educating a patient about the disease seen as important in the findings as a nursing role. However, nurses face numerous challenges dealing with treatment of eating disorders. Gaining patient's trust from nursing side and express the emotions from the another, make the process difficult for both.

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Appendix Table 1

N	Database	Searching topic	Hits	Usable articles
1	EBSCO (all)	Contributing factors, eating disorder, recovery	1283	'The body remembers': narrating embodied reconciliations of eating disorder and recovery. Everyone here wants everyone else to get better: The role of social identity in eating disorder recovery. Quality of life as a vulnerability and recovery factor in eating disorders: a community-based study.
2.	EBSCO (all)	Recovery, anorexia Nervosa, bulimia nervosa, treatment	78	Predictors of long-term recovery in anorexia nervosa and bulimia nervosa: Data from a 22-year longitudinal study.
3	EBSCO (all)	Nursing role, eating disorder, recovery, recovery process	898	The role of the nurse in eating disorder recovery. How a moderated online discussion forum facilitates support for young people with eating disorders. Nurses' Establishment of Health Promoting Relationships: A Descriptive Synthesis of Anorexia Nervosa Research
4	EBSCO (all)	Patients experience, eating disorder,	854	Eating Disorder Patient Experiences of Volitional Stigma

		Recovery, treatment		Within the Healthcare System and Views on Biogenetic Framing: A Qualitative Perspective. How do women with eating disorders experience a new treatment combining guided physical exercise and dietary therapy? An interview study of women participating in a randomized controlled trial at the Norwegian School of Sport Sciences.
5	EBSCO (all)	Eating disorder, treatment,	648	Treatment Providers with a Personal History of Eating Pathology: A Qualitative Examination of Common Experiences Evidence-based implementation practices applied to the intensive treatment of eating disorders: Summary of research and illustration of principles
6	Biomed central	Contributing factors, eating disorder, recovery, Nurses' role	1152	Quality of life as a vulnerability and recovery factor in eating disorders: a community-based study "It also taught me a lot about myself": A qualitative exploration of how men understand eating disorder recovery Development of the "Recovery from Eating Disorders for Life"

				Food Guide (REAL Food Guide) - a food pyramid for adults with an eating disorder "Our daily life was mainly comprised of eating and sitting:" a qualitative analysis of adolescents' experiences of inpatient eating disorder treatment in China Factors impacting treatment and recovery in Anorexia Nervosa: qualitative findings from an online questionnaire
7	Biomed central	Recovery, eating disorder, AN, BN	1665	Identifying fundamental criteria for eating disorder recovery: a systematic review and qualitative meta-analysis
8	Biomed central	Treatment, Anorexia nervosa, Bulimia nervosa	894	Minding the adolescent in family-based inpatient treatment for anorexia nervosa: a qualitative study of former inpatients' views on treatment collaboration and staff behaviours.

Appendix Table 2

Author and journal	Name of study	Aim	Research method	Result
Bannatyne, A., & Stapleton, P. (2016). Australian Psychologist, 53(4), 325-338. doi: 10.1111/ap.12171	Eating Disorder Patient Experiences of Volitional Stigma Within the Healthcare System and Views on Biogenetic Framing: A Qualitative Perspective.	To investigate the treatment experiences of ED sufferers	Qualitative Semi-structured online data	Treatment was perceived as traumatic, punitive, overemphasized physical dimension of illness. Sufferers had adverse effect because of volitional stigma which was quite expected and frequent.
Fogarty, S., & Ramjan, L. (2016). Journal of Eating Disorders, 4(1). doi: 10.1186/s40337-016-0107-1	Factors impacting treatment and recovery in Anorexia Nervosa: qualitative findings from an online questionnaire.	The aim of the questionnaire was to better understand factors impacting the care experiences during treatment and or recovery from self-reported Anorexia Nervosa (AN).	Qualitative	Most patient had trust and confidence on their health care provider. They were listened and supported as well as understood, given hope and helped building self-confidence. These were the important factors in treatment and recovery.

Kendal, S., Kirk, S., Elvey, R., Catchpole, R., & Pryjmachuk, S. (2016). Health Expectations, 20(1), 98-111. doi: 10.1111/hex.12439	How a moderated online discussion forum facilitates support for young people with eating disorders.	To explore how young people used online, eating disorders discussion forum supports and helps young patients.	Qualitative	It reveals how a person can take responsibilities and help others, supports emotional well-being as a mentor. The online discussion forum works as a safe space where young people can put their thoughts and wondering without hesitating, also it provides flexible help supporting them during recovery and for relapse prevention
Lewke-Bandara, R., Thapliyal, P., Conti, J., & Hay, P. (2020). Journal Of Eating Disorders, 8(1). doi: 10.1186/s40337-020-0279-6	"It also taught me a lot about myself": A qualitative exploration of how men understand eating disorder recovery.	The aim of this study was to explore recovery from men's perspectives	Qualitative	Result includes two themes: 'psychological recovery' which includes good relationship with food, personal growth and understanding illness. The second theme: 'recovery as recursive process' which includes unclear about

				recovery and unclear endings.
McNamara, N., & Parsons, H. (2016). British Journal Of Social Psychology, 55(4), 662-680. doi: 10.1111/bjso.12161	'Everyone here wants everyone else to get better': The role of social identity in eating disorder recovery.	This study explores how a sense of shared identity helps individuals with EDs manage their condition and promotes recovery	Qualitative Thematically analysed	Illness identify as social identification that forms the basis for connection with similar ones. Identity-based support is perceived as more effective than outside for those who wants to recover.
Nilsen, J., Hage, T., Rø, Ø., Halvorsen, I., & Oddli, H. (2019). BMC Psychology, 7(1). doi: 10.1186/s40359-019-0348-2	Minding the adolescent in family-based inpatient treatment for anorexia nervosa: a qualitative study of former inpatients' views on treatment collaboration and staff behaviors.	To understand how young persons with lived experience from a family-based inpatient treatment setting, where the adolescents were admitted together with their parents viewed therapeutic aspects related to staff-patient collaboration	Qualitative Semi-structured interviews	two main themes: 1) There are no ready-made solutions. Staff should facilitate collaboration by tailoring treatment toward the young person's perspectives, and 2) Emphasizing skills that matter. Staff should display a non-judgmental stance, educate patients, stimulate motivation, enable activities and

		and staff-related behaviors.		prevent iatrogenic effects during the stay.
Salzmann-Erikson, M., & Dahlén, J. (2016). Journal Of Child And Family Studies, 26(1), 1-13. doi: 10.1007/s10826-016-0534-2	Nurses' Establishment of Health Promoting Relationships: A Descriptive Synthesis of Anorexia Nervosa Research	To identify and describe factors that promote and impede the relationships between nurses and patient with anorexia nervosa. Also, to explore and describe how those relationships benefit the patients' processes toward increased health and well-being.	Qualitative	This study reveals the importance of nursing role such as: developing nurse-patient relationship, person-centred care and genuine commitment and motivation. With the good nursing attitude and adhesion to treatment helps patients to open up about their illness and makes them feel safe and trusted.
Warren, C., Schafer, K., Crowley, M., & Olivardia, R. (2013).. Eating Disorders, 21(4), 295-309. doi: 10.1080/10640	Treatment Providers with a Personal History of Eating Pathology: A Qualitative Examination	To understand if personal history of nurses influences the treatment of patients and also to obtain	Qualitative	It reveals that patient with ED were largely influenced by the nurses with a history whereas some of them felt as they were over-identified about

266.2013.797318	of Common Experiences	feedback for other therapists.		illness. It also shows the importance of personally recovering before treating patients.
Mitchison, D., Dawson, L., Hand, L., Mond, J. and Hay, P., 2016*BMC Psychiatry*, 16(1).	Quality of life as a vulnerability and recovery factor in eating disorders: a community-based study.	To explore patients views on QoL the onset, maintenance, and/or remission of ED symptoms.	Qualitative	QoL as vulnerability factors includes ED symptoms triggered by stress, abusive intimate partners, physical impairment etc. Whereas, QoL as recovery factor includes ED symptoms being improved due to increased general improvement in life, emotional support, improving physical health condition.
Pettersen, G., Sørdal, S., Rosenvinge, J., Skomakerstuen, T., Mathisen, T. and Sundgot-Borgen, J., 2017. BMJ Open, 7(12), p.e018588.	How do women with eating disorders experience a new treatment combining guided physical exercise and	To investigate the new treatment approach for ED based on physical exercise and dietary with the women having BN and BED.	Qualitative Semistructured interview	Result shows that the positive attitude towards exercise helped which also help boosting patients to know their own value. With the increase knowledge of foods and less fear of

	dietary therapy? An interview study of women participating in a randomised controlled trial at the Norwegian School of Sport Sciences.			food, patient got insight of his/her own recovery process. It also reveals that the patients had both positive and negative sides of being in heterogeneous treatment group.
Wu, Y. and Harrison, A., 2019. Journal of Eating Disorders, 7(1).	"Our daily life was mainly comprised of eating and sitting:" a qualitative analysis of adolescents' experiences of inpatient eating disorder treatment in China.	This qualitative study aimed to use Interpretative Phenomenological Analysis to understand the experiences of four adolescents receiving inpatient treatment for EDs in China.	Qualitative Individual, semi-structured interviews were conducted.	Four themes emerged from the data: perceptions of the treatment received, peer influences during admission, the impact of treatment on wellbeing and participants' sense of self.
Bachner-Melman, R., Lev-Ari, L., Zohar, A. and Lev, S., 2018.	Can Recovery from an Eating Disorder Be Measured?	The study proposes a multidimensional questionnaire encompassing	Qualitative Multidimensional questionnaire	Four factors were identified in an exploratory factor analysis: Lack of Symptomatic

Frontiers in Psychology, 9.	Toward a Standardized Questionnaire.	the main features of recovery from ED, derived from the endorsement of different criteria by people with a lifetime ED diagnosis, family members and ED clinicians.		Behavior (LSB), Acceptance of Self and Body (ASB), Social and Emotional Connection (SEC), and Physical Health (PH).
de Vos, J., LaMarre, A., Radstaak, M., Bijkerk, C., Bohlmeijer, E. and Westerhof, G., 2017. Journal of Eating Disorders, 5(1).	Identifying fundamental criteria for eating disorder recovery: a systematic review and qualitative meta-analysis.	Identify fundamental criteria for eating disorder recovery according to recovered individuals.	Qualitative	The most frequently mentioned criteria were self-acceptance, positive personal growth, relationship, decrease in eating disorder behaviour/cognitions, self-adaptability/resilience and autonomy.
Thompson-Brenner, H., Brooks, G., Boswell, J., Espel-Huynh, H., Dore, R., Franklin, D.,	Evidence-based implementation practices applied to the intensive treatment of	Summarize the research on evidence-based practice (EBP) implementation science organized by	Qualitative	Description the recent successful implementation of EBPs in a community-based intensive ED treatment network,

Gonçalves, A., Smith, M., Ortiz, S., Ice, S., Barlow, D. and Lowe, M., 2018 *Clinical Psychology: Science and Practice*, 25(1), p.e12221.	eating disorders: Summary of research and illustration of principles using a case example.	existing frameworks and illustrate how these practices may be applied using a case example.		which recently adapted and implemented transdiagnostic, empirically supported treatment for emotional disorders across its system of residential and day-hospital programs
Dalle Grave, R., Eckhardt, S., Calugi, S., & Le Grange, D. (2019). *Journal Of Eating Disorders*, *7*(1). doi: 10.1186/s40337-019-0275-x	A conceptual comparison of family-based treatment and enhanced cognitive behavior therapy in the treatment of adolescents with eating disorders.	To give a conceptual comparison of family-based treatment (FBT), a specific form of family therapy, and enhanced cognitive behaviour therapy (CBT-E) in the management of adolescents with eating disorders.	Quantitative	FBT is the leading recommended empirically-supported intervention for adolescents with eating disorders. Data from randomized controlled trials indicate that FBT works well with less than half of the parents and adolescents who accept the treatment. CBT-E has shown promising results in cohort studies of patients between ages 11 and 19years and has recently

				been recommended for youth with eating disorders when FBT is unacceptable, contraindicated, or ineffective.
Franko, D., Tabri, N., Keshaviah, A., Murray, H., Herzog, D., & Thomas, J. et al. (2018). *Journal Of Psychiatric Research*, *96*, 183-188. doi: 10.1016/j.jpsychires.2017.10.008	Predictors of long-term recovery in anorexia nervosa and bulimia nervosa: Data from a 22-year longitudinal study.	To investigate predictors of long-term recovery from eating disorders 22 years after entry into a longitudinal study.	Quantitative	A comorbid diagnosis of major depression at the start of the study strongly predicted having a diagnosis of AN-Restricting type at the 22-year assessment. The only predictor that increased the likelihood of having a diagnosis of BN at the 22-year assessment was the length of time during the study when the diagnostic criteria for BN were met.