



# **Factors assisting breast cancer survivors improve quality of life: A salutogenic approach**

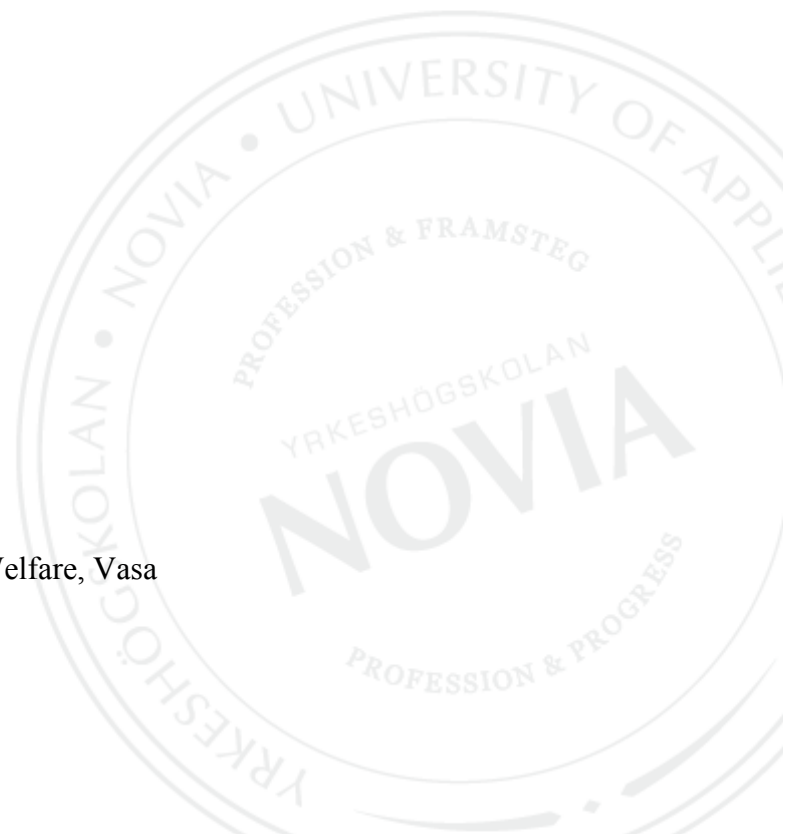
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### **Abstract**

Through improved technology in cancer treatment, the rate of breast cancer survivors has increased tremendously. Curiosity into the life beyond breast cancer treatment has led to this study. The aim of this study is to determine the factors that have contributed to improve quality of life in breast cancer survivors after treatment has been completed.

Aaron Antonovsky's salutogenic model of health promotion was used as framework for this study. Qualitative content analysis was used in the method analysis of the study. Materials for analysis were qualitative articles. The literature used contained interviews from breast cancer survivors, telling their perception of the factors that has assisted in improving their quality of life. Results showed four categories, applying deductive approach: Support system, Selflessness, Resilience and Appreciation of life.

Having a strong support system, being selfless, showing resilience and increased appreciation of life helped improve quality of life of breast cancer survivors. This study further revealed that quality of life is not a culture bound concept but rather a multidimensional and an individual concept.

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Language: English Keywords: quality of life, breast cancer, survivor, salutogenesis, sense of coherence.

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Appendix 1: Summary of articles used for analysis.

## 1 Introduction

There have been various researches on breast cancer as a disease but not so much has been discussed about what the coping mechanisms for breast cancer survivors are and what helps in improving their quality of life. Breast cancer affects women from every socio-economical class regardless of financial status, or location, and cannot be seen as an automatic death sentence anymore. (World Health Organization (WHO), 2008, 5). While breast cancer is the most common cancer among women around the globe, the prognosis has increased significantly. This has led to the increase in breast cancer survivors having to deal with the quality of their daily lives after treatment is over. Many factors such as early detection, aging population, and efficient treatment will in time lead to increased breast cancer survivors worldwide. (Davis, Myers, Nyamathi, Lewis, & Brecht, 2014).

To be diagnosed with breast cancer is a traumatic event and this usually has a big impact on the woman. Tsuchiya, Horn, & Ingham (2013) reported that despite having undergone the stressful experience of breast cancer, positive changes are often reported by survivors. These changes are frequently associated with posttraumatic development, stress-related growth and benefit finding.

The negative impacts of cancer are well known, for example, depression is common among women diagnosed with breast cancer. The motivation for this study came from the interest towards understanding what has helped women actually improve their quality of life, instead of focusing on the negative impacts. The taste for knowledge in the area of improved quality of life of cancer survivors led the authors into finding out more on the subject.

To suffer from breast cancer is a subjective experience and each of the diagnosed have an individual experience. Nurses have the duty to promote health and care for patients. Understanding what can help breast cancer survivors improve their quality of life is an important role for a nurse, to be able to carry out duties efficiently and assist women in the process. Findings from the study can be used in developing support programs for breast cancer survivors. The information gained can also be translated to other health promotion areas. Focus is put on the term 'quality of life' and what assists breast cancer survivors improve quality of life.

## **2 Aim and problem definition**

The aim of this thesis is to determine the factors that have contributed to improve quality of life in breast cancer survivors. Specifically, the authors hope to gain more knowledge on how breast cancer survivors tend to improve their life quality after treatment is over. Through the analysis of literature, the authors intend to explore and develop deeper understanding about different factors through which breast cancer survivors use to improve their quality of life.

The problem definition posed is:

**What are the factors that have assisted breast cancer survivors improve quality of life?**

## **3 Theoretical Background**

In this chapter, the foundation for the study will be explained with definitions and concepts. The theoretical background will give an understanding to the basics of breast cancer, survivorship, quality of life and its effects on women in Finland and around the world.

### **3.1 Breast Cancer**

Breast cancer is formed when healthy tissue in the breast starts to change into malignant tissue. Most commonly, the tumor will grow in the area of greater glandular tissue, which is located at the upper quadrant of the breast. (Bauldoff, Burke, & LeMone, 2011, 1705). Modifiable risk factors of breast cancer includes; smoking, alcohol, and obesity. Non-modifiable risk factors such as age, gender, hereditary factors, early puberty, late menopause, a low birthrate (under 3 children) and not breastfeeding can also increase the risk of breast cancer. Vehmanen explains that breast cancer can be caused by multiple reasons, but on an individual level, it is impossible to say what factors caused the cancer. (Vehmanen, 2012).

Symptoms of breast cancer vary widely. A woman can detect a lump in her breast herself but it should also be noted that not all lumps are cancerous. Women should examine their breasts on regular basis and in detail for lumps and abnormalities. In the case where atypical lump or skin rash is detected, a physician should be consulted for further examination. (Kaikki Syövästä, w.y.). Breast cancer can also be symptom free or it can

appear as a painless lump, an unusual skin rash, nipple retraction, and clear or bloody discharge from the nipple. In some cases there is also burning or stinging sensation in the breast caused by the cancer.

Mammography is essential in diagnosis and can detect the tumors long before it is possible to feel it through palpation. A biopsy is needed to determine the type of tumor at hand and usually an ultrasound is used to guide the biopsy procedure. The biopsy can either be an aspiration biopsy, which is a process in which a needle is used to aspirate fluid from the breast tissue to be further examined in laboratory, or by excisional biopsy, which is when tissues from the breast lesions are removed surgically. (Bauldoff et al., 2011, 1705).

### **3.2 Breast Cancer in Finland**

According to Finland's cancer registry, the registry covers 99 per cent of the cancer cases in Finland (Suomen Syöpätalastot, 2014). The Finnish Cancer registry collects information of the tumor size, date of the diagnosis, analysis of type, treatment method, date and cause of death (Murtola, Visvanathan, Artama, Vainio, & Pukkala, 2014).

Joensuu states that 11% of women in Finland are at risk of breast cancer during their lifetime. Finland has one of the highest breast cancer rates in the world and also the best prognosis in Europe. (Joensuu, 2015, 6). Treatment is improving and there are more cancer survivors than before. About 90% of the females diagnosed with breast cancer live more than five years after diagnosis. (Vehmanen, 2012).

According to Aittomäki et al (2015, 6), breast cancer is the most common type of cancer among females in Finland. Annually there are about 4800 women diagnosed with breast cancer, and approximately 860 women die every year of breast cancer. In 2014, 815 women died of breast cancer. Breast cancer among women under 30 years of age is rare. The amount of diagnoses is gradually increasing due to the aging population and the average age for a diagnosed woman is 60 years. (Kaikki Syövästä, w.y.).

At the same time the prognosis is more positive due to early diagnosis, because of the awareness of monthly self-examination. It is commonly the woman that seeks medical attention due to a lump they have discovered in the breast. Breast cancer can also be discovered in mammography, which every woman in Finland over the age of 50 should

attend every second year, until the age of 69. (Kaikki Syövästä, w.y). The breast cancer screening has 90 per cent participation rate (Murtola, et al., 2014).

### **3.3 Breast Cancer worldwide**

Breast cancer is the most common type of cancer in women around the globe. It affects women from low, middle and high-income countries (Rohani, Abedi, Omranipour, & Langius-Eklöf, 2015, 2). Breast cancer prevalence has increased within the last few years in middle- and low-income countries. The increase is explained by higher life expectancy, urbanization and westernization. (WHO, w.y.).

One in every eight women will be estimated to be diagnosed with breast cancer and from those diagnosed, 94% will survive 5 years post diagnosis (Documet, Trauth, Key, Flatt, & Jernigan, 2012, 309). Though the incidence of cancer is continuing to increase, the diagnosis and treatment has improved prognosis in the past four decades (Wronski, 2015, 8).

WHO reports that annually there are 1.38 million women diagnosed with breast cancer. Yearly 458 000 deaths are caused due to breast cancer. Recommendations include early detection programs and national cancer control plans to middle and low-income countries for a better outcome for women. Early detection is the key factor on the survivor rate. (WHO, w.y.).

### **3.4 Types of Breast cancer treatment**

Breast cancer can be treated and cured with various treatment methods. Surgery is usually the primary step to remove the tumor. The choice of surgery is made based on the size and type of the tumor, the age of the patient, and the individual patient. (Aittomäki et al., 2015, 23).

Neoadjuvant chemotherapy is chemotherapy that is given before the surgery to shrink the tumor to be small enough to be removed with a lumpectomy, instead of mastectomy (Bauldoff et al., 2011, 1708). Before starting neoadjuvant treatment the size of the tumor has to be determined with a mammography and/or ultrasound, and the physician will determine if neoadjuvant treatment is beneficial. The surgery is usually scheduled about 3 weeks from the last dose of cytostatic drugs (Aittomäki et al, 2015, 40).



Radiation therapy most often follows the breast surgery to destroy remaining cancer cells on the specific area in the breast (Vehmanen, 2012). Usage of radiation therapy decreases the risk of recurrence locally with 65-70%. Radiation therapy can also be given before the surgery to shrink the tumor (Aittomäki et al., 2015, 36).

Biological medicines are a new type of cancer medications that focus on interfering with the blood supply to the tumor. Biological medicines can also interfere on specific genes on the tumor (Kaikki syövästä, w.y.). This prevents the tumor from growing further. Biological medicines are often used together with chemotherapy (Aittomäki et al., 2015, 43). Hormonal treatment is used to block estrogen activity. When the tumor has properties of estrogen or progesterone, hormonal treatment is used (Aittomäki et al., 2015, 55).

Treatment with cytostatic drugs focuses on destroying the cancer cells. Cancer cells can increase in number faster than normal cells. Therefore cytostatic drugs have a bigger effect on the cancer cell than the healthy cell. Healthy cells also recovers faster after the treatment. (Kaikki syövästä, w.y.).

### **3.5 Psychosocial Support**

Gustavsson-Lilius, Julkunen, Keskivaara, Lipsanen, & Hietanen (2012, 178) reports that receiving a cancer diagnosis can be very frightening, which can lead to increase in levels of stress factors and surge in anxiety. This can give rise to depression in the patient and family members. According to WHO, the psychosocial support should be part of any cancer treatment. The support should be available to the patients undergoing treatment and after breast cancer and there should be collaborative partnership among the care-providers. Emotional support should also be offered to the family members and necessary information should be provided. Access to support groups and possibility to talk to an individual who has undergone breast cancer should be an option. Patients who receive psychosocial support show lesser anxiety and depression and have a higher possibility to return to a normal life. In addition, significant improvement in quality of life was evident in patients and family members who received psychosocial support. (WHO, 2008, 36).

Long-term cancer survivors can show mental health problems and quality of life concerns, and therefore each patient should be evaluated for the need of additional support after care (Harrison et al., 2011, 2091). The most common psychiatric disorders among breast cancer

patients are anxiety and depression. The disorders are in many cases ignored and therefore can affect the course of the healing process. Leaving the disorder untreated has a direct negative impact on the women's health. (Lueboonthavatchai, 2007, 2164).

Modifiable risk factor for the prevalence of anxiety and depression in breast cancer-patients are pain, fatigue, poor family relations, dysfunctioning problem and conflict solving competence. Promoting patient's social support system and teaching coping skills can reduce the risk of anxiety and depression that is related to breast cancer. (Lueboonthavatchai, 2007, 2164).

### **3.6 Survivorship**

Survivorship is a broad term and there are multiple definitions for it. In existing literatures, the meaning of survivorship has been analyzed and defined according to different standards.

WHO defined 'Cancer survivor' as follows;

"Those patients who having had cancer, are following treatment and now cured of the disease. Cure is defined as the attainment of normal life expectancy and has three important components: (1) recovery from all evidence of disease (complete remission); (2) attainment of a stage of minimal or no risk of recurrence or relapse; (3) restoration of functional health (physical, developmental, and psychosocial)." (WHO, 2008, 5).

Wronsky asserts that a cancer survivor is considered including those that have not completed all cancer treatments, but those that are as well in the process of treatment. Wronsky asserts that the definition 'cancer survivor' is not dependent on whether the cancer is cured or not. One can be a survivor without being cancer-free. (Wronsky, 2015, 14). According to Harrison et al, being a cancer survivor is subjective experience and a high number of cancer survivors report having a good health, excellent quality of life, not suffering psychologically and/or do not lack caring needs and healthcare support in their life. (Harrison et al., 2011, 2094).

### **3.7 Quality of life**

The World Health Organization determines health as a state of not merely the absence of disease but also as a state of complete physical, mental, and social well-being. Quality of life on the other hand can be determined by an individual's perception of their position in

life in the context of the value systems and culture in which they live and in relation to their goals, standards, expectations, and concerns. (WHO, 1997, 1).

Rohani et al (2015, 2) explains that a woman who is diagnosed with breast cancer will most probably re-define their quality of life in a different manner. Breast cancer can have positive or negative impacts on quality of life. The impacts of breast cancer diagnosis on quality of life is a contributing factor to mental and physical health, material well being, relationship with the family, relationships outside the family, work and other activities within the community, fulfillment and recreation. (Odebiyi, Aborowa, Sokunbi, Aweto, & Ajekigbe, 2014, 239).

Quality of life can also be seen as, a personal view of one's own health and life situation. Having a breast cancer diagnosis does not necessarily mean poor quality of life, nor does it mean that good quality of life automatically means good health. Therefore, quality of life can be said to be a multidimensional, evolving, and subjective concept.

## **4 Theoretical Framework**

Aaron Antonovsky's salutogenic model of health promotion has been chosen for this study. This theory was chosen because the purpose of this study is to determine how women that have gone through breast cancer (a stressful event) in their lives have been able to improve their quality of life after treatment was over. In Antonovsky's salutogenic model, he has described with evidence, events that has helped promote quality of life in people that have undergone stressful events in their lives. With the use of the salutogenic model, the authors intend to use it as a guide to correlate findings in arriving at the conclusions of the study.

### **4.1 Aaron Antonovsky**

Aaron Antonovsky was born in 1923 in Brooklyn and studied history and economy in Brooklyn collage. After participating in the Second World War, he studied social sciences in Yale University. Antonovsky had interest in medical sociology that was at the time a new field of science. In 1955 he acquired a doctorate degree in sociology. He was the head

of research in New York State Commission Against Discrimination in 1956 and then as a professor in Tehran during the years 1959-1960. (Antonovsky, 2005, 15-17).

In 1960, Antonovsky and his wife Helen migrated to Israel and he worked at the Israel institute for applied social research in Jerusalem. His interests were within healthcare, and he examined correlations between social classes, mortality and morbidity. (Antonovsky, 2005, 15-17).

In 1970s, Antonovsky participated in a research based in central Europe that would change his research and was the beginning of salutogenesis. In 1979 he published the book *Health, Stress and Coping* and in 1987 he published *Mystery of Health*. (Antonovsky, 2005, 15-17). Officially he retired in 1993 but continued on his research from home. He died after a short battle against myeloid leukemia in June 1994 (Lindström & Eriksson, 2006, 238).

## 4.2 Salutogenesis

What makes humans move in the path of health? What creates health? These were some of the questions asked by medical sociologist Aaron Antonovsky that led to a new line of thought in health research. (Lindström, 2010). Antonovsky, the originator of salutogenesis found stress theory fascinating and he raised this in the 1970s when he did a study on effects of menopause on women who had gone through very stressful life occurrences. Antonovsky discovered that while some women were more affected negatively by stress and symptoms, some managed well in spite of what they had been through. (Lindström, 2010).

Antonovsky proposed the salutogenic model, a model in which studies the strength and weaknesses of promotion, prevention, curative and rehabilitative practices and ideas. This theory does not focus on keeping people well but rather studying strengths and weaknesses of health of the complex system of the human being. (Antonovsky, 1996, 13). Forming a new theory of health, he came up with what is labeled the sense of coherence, which is the direction or path of health or a healthy life (Lindström, 2010).

Antonovsky came up with a graphic description of his theory in which a horizontal line described as the health continuum (also called ease/dis-ease continuum) is between the total absence of health (H-) and total presence of health (H+) where everyone is placed somewhere on the line. (Lindström, 2010). Salutogenesis conceptually means to move

towards H+. Sometimes, life can be difficult and we all experience different activities or events that can stress us. This can create tension and overturn our position. But here, there are two choices, we either give in or we don't. We can recover our health through salutogenesis or let pathogenic forces take over and break us down. (Lindström, 2010).

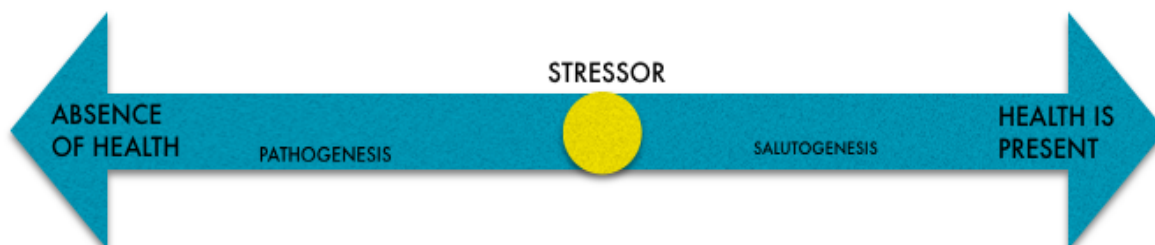


Figure 1: A typical health continuum. Inspired by Antonovsky (1996).

### 4.3 River of health

The model has been demonstrated using a river with many stages. This is called the river of health. Lindström (2010) illustrated the stages of moving up the river as follows:

- Treatment of disease
- Health protection
- Disease prevention
- Health education
- Health promotion

WHO defined Health promotion as the process of allowing people to have improved and increased control over their health. This goes past focus on individual attitudes and moves towards a wide range of environmental and social interventions. (WHO, 2017). According to Lindström (2010), Eriksson et al reported that Health promotion involves mainly resources for life and health and basically not risk and disease. This approach from different perspectives, strives to improve health eventually.

The river of health consists of a 'down river bias' and concentrates on risk exposure that has already created damage (i.e. cure, protection, prevention and often health education) and health promotion. Approaching from the side of health promotion, the concentration goes upstream and tries to find resources for wellbeing, health and more importantly

quality of life. (Lindström, 2010). Health promotion is mainly stressed in all of this so as to improve quality of life.



Figure 2: A classic river of health. Inspired by Antonovsky (1987).

#### 4.4 From the River of Health to the River of Life

In salutogenesis, the approach is to focus on health. Facilitation of fundamentals of a good life is the main objective of health promotion. For quality of life to be good, an important factor is apparent good health promotion. The river depicts life, which is filled with resources and risks but through experiences over time, resources can be used to improve outcome, which can lead to increased health and better life. (Lindström, 2010).

Antonovsky (1996, 14) noted in his works that all humans are always in the dangerous river of life. He therefore asked the question of how dangerous is each person's river and how well can they swim in it.

Risk and resources can become relative concepts over time if experience gotten from risk progresses into a resource. Reflection on what creates health, options for life, and what improves quality of life are life long health processes. (Lindström, 2010).

#### 4.5 Sense of Coherence

Antonovsky in his research coined what is termed as the Sense of Coherence. This he described as the capability to identify and use one's health resources to gain health and have a better orientation in life. Lindstrom reported that Antonovsky described a strong Sense of Coherence as being beneficial to health under serious stressful conditions such as suffering a terminal or chronic disease such as breast cancer. (Lindström, 2010).

Antonovsky's work established that sense of coherence foresees a positive health result and he also noted in his research that the strength of a person's sense of coherence was an important factor in facilitating the drive towards health in which when encountered with a stressor, a person with a strong sense of coherence will do the following:

- Believe that the trial is understood.
- Believe that there are available resources to cope.
- Wish to be motivated to cope with the circumstances. (Antonovsky, 1996, 15).

This, he called the three components of sense of coherence which in general terms can be classified as the following:

- **Comprehensibility:** A belief that events occurs in an orderly and predictable way and a sense that a person can understand the events that occur in their life and sensibly predict what will transpire in the future.
- **Manageability:** A belief that things are manageable and within your control, and that you have the ability or skills, help, support and resources required to take care of things happening in your life.
- **Meaningfulness:** A belief that things are meaningful and there is a good reason to care about what happens around you and that things in life are interesting and a source of fulfillment.

According to Antonovsky, these components are similar to concepts such as will to live, learned resourcefulness, optimism, and hardiness. What is particularly unique and exceptional about these components is their combination (cognitive, behavioral and motivational). That is, the combination of the three components gives rise to the sense of coherence. However, Antonovsky believed the third component as the most important in which he explained that if an individual believes that there is a reason to survive, persist, confront life challenges and has a strong sense of coherence, he will have the motivation to understand and manage events in his life. (Antonovsky, 1996, 15).

Antonovsky also made mention of the fact that the sense of coherence is not a culture bound concept. Meaningfulness, resourcefulness, comprehensibility can all vary from culture to culture and also vary among situations in which what is important is that a person has had life occurrences that had led to a strong sense of coherence which in turn

permits the person to reach out in any given circumstances and use resources appropriately to whatever the initial stressor is. (Antonovsky, 1996, 15).

When people develop a strong Sense of Coherence, they tend to make better life choices such as (more physical activity, improved eating habits, less alcohol and less smoking) and they tend to live longer. Management of stress and undesirable life events are better and they also have improved management when struck with either chronic or acute diseases such as diabetes, cancer or mental illness. (Lindström, 2010). The health care system also has an important role in the health promotion processes and should not be neglected because by their involvement, a good quality of life will be established for the population as a whole (Lindström, 2010).

## **5 Research Methodology**

Research can be divided into two main categories, qualitative method and quantitative method. In this study qualitative method was used. In qualitative research, the researcher captures the individual's observations or experience as they have lived and/or felt it. It is usually a few participants who take part in a qualitative research and the questions asked are in depth, giving the individual the chance to answer personally and flexibly. In qualitative research, the interview with the participant might change and new questions will appear along the process. (Polit & Beck, 2008, 14-15).

In a qualitative study, the researchers have the flexibility to move forward in the research as they see fit the situation. The qualitative research focuses on the human being as an individual and tries to gain understanding of certain behaviors and trends. Qualitative research can be structured to a certain point, but is mostly unstructured and time consuming - which is considered a disadvantage. (Polit & Beck, 2008, 14-15). To gain a deeper understanding in breast cancer survivor's experiences the qualitative method is suitable due to its ways of gaining knowledge in depth and gives an unedited 'voice' to the participants by directly quoting them. In qualitative research the main source of data are interviews, observations and documents. (Patton, 2002, 4).



## **5.1 Literature Review and Content analysis**

When conducting a literature review with method of content analysis the researchers tries to summarize the phenomenon from the data collected for that particular research. The data used can either be from quantitative or qualitative researches. In content analysis, the method is a systematic review where the content is being explained as it is. (Janhonen & Nikkonen, 2001, 23-24). Elo and Kyngäs describe this method as ‘a systematic and objective means of describing and quantifying phenomena’ (Elo & Kyngäs, 2007, 108).

It is essential that the information collected is divided into similarities and diverges. According to Goodman and Moule, this is called coding (Goodman & Moule, 2009, 349). The data should be exclusive and clear (Janhonen & Nikkonen, 2001, 23-24). A computer programme can either do coding for this purpose, or it can be done manually. The outcome of coding is themes, which will link the categories together from different material and form the research result. (Goodman & Moule, 2009, 349-351). In this study the coding was conducted manually without the usage of computer programming.

The aim of an analytic approach is to gain or provide knowledge, showing fact, new approaches and aid to practices. Using content analysis can be simple or complicated, depending on the researcher's own approach and applicability. (Elo & Kyngäs, 2007, 108). In the analysis of this study, the authors will examine the categories that arise from the data material, combine the similarities, note the differences, and determine the common patterns found which will eventually lead to the results of the analysis.

## **5.2 Data collection**

To search for literature suitable for this study, manual search in databases CINAHL, EBSCO and PubMed were used. Manual search is recommended by Polit and Beck. (Polit & Beck, 658). Specific keywords were used in the searches aiming to find articles suitable for the subject. ‘Breast cancer survivors’ was the main search word and this was used in all searches. In addition to the search term ‘breast cancer survivors’, other search words used were; salutogenesis, quality of life, health promotion, survivorship and sense of coherence. Searches were conducted on multiple occasions with different Boolean operators, and varying the search from title page to abstract with the search words.

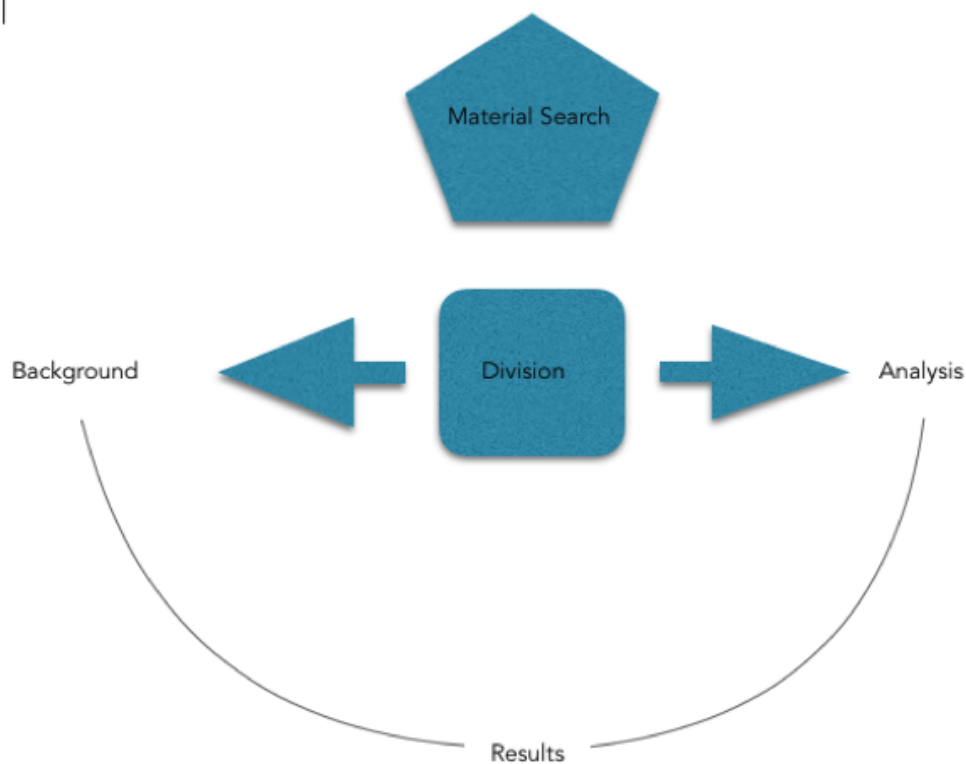


Figure 3: Data collection process

All materials found were carefully screened to ensure the information provided were suitable for the study and to ensure the accuracy of the articles. The authors read through the articles and decisions of exclusion and inclusion were made based on mutual understanding.

Searches were also utilized to determine specific information about data concerning Finnish breast cancer statistics and information about WHO recommendations in treatments of breast cancer patients.

Tritonia library and the public library were used in search of literature for the background research of breast cancer, framework and methodology. Eight articles were chosen for the analysis from all the materials found suitable for this study. The articles chosen for the analysis were qualitative.

The respondents chose qualitative articles for the study because qualitative studies are far more subjective than quantitative studies. Surviving breast cancer is a personal experience and the authors wanted to capture each individual experience and observation as being felt by the survivors. Quantitative articles, that were excluded based on type, were utilized in the background solely due to suitability of the topic.



Figure 4: Process of thesis

### **5.3 Inclusion and Exclusion Criteria**

Articles that were relevant to the study topic were included. Included materials were in English, and were articles from around the world because breast cancer concerns the whole world and women struggle with the disease regardless of the geographic location. Data for analysis were qualitative. (Appendix 1).

In the search for articles, there were some exclusion criteria that limited the material for the study. Non-English articles, quantitative articles, articles older than 10 years and articles irrelevant to the topic of study were all excluded from the articles used for the analysis.

### **5.4 Ethical considerations**

Research is essential for the advancement of nursing and evidence based care. This has led to the high standards and improvement of care available. However research has also done major damage and harm to research targets when ethical standards and regulations are not been fulfilled. (Goodman & Moule, 2009, 38-39).

The accountability as a nurse is emphasized in qualitative research, as the nurse is most likely to have contact personally to the participants. A nurse is a promoter of good health, and this should be applied in care as much as in research. (Kiikkala & Krause, 1996, 65).

As stated by Goodman and Moule, (2009, 38-39) ethical considerations should be present from the very beginning of any study or research. The basic intention of all types of research should be to increase knowledge and no research should be done if there already is an obvious answer to the research question. When setting the research question it was clear that more information in this area is needed to ensure better care for breast cancer survivors.

According to Räsänen (2016, 2), the Finnish advisory board on research integrity declares that a responsible conduct of research should not include the following: Falsification, plagiarism, fabrication or misappropriation. Falsification refers to deliberate editing and changing of the original observations to suit personal purposes. Plagiarism refers to taking credit for another's work without proper citation or without giving credit where it is due. Fabrication means to present invented results or observations as real results, while Misappropriation indicates the use of other researchers results in an unauthorized way, such as taking credit or altering results.

This study is a literature review, and there was no direct contact with the participants. Instead existing research literature was utilized. The authors' duty to ensure that the literatures used were ethically executed, respectfully cited, and to give credit to the original authors were observed. The literatures used in this study were from reliable sources, peer reviewed, and published in scientific journals. Recent materials were used so as to have a current result, therefore materials older than 10 years were excluded for the analysis segment.

## **6 Results**

Qualitative content analysis was used to analyze the final articles chosen. In total, eight articles were picked for this study. The articles were read through thoroughly and similarities in all articles in relation to the aim and research questions were pointed out. Through the analysis of the articles, four main categories emerged: Support system, Selflessness, Resilience and Appreciation of life.

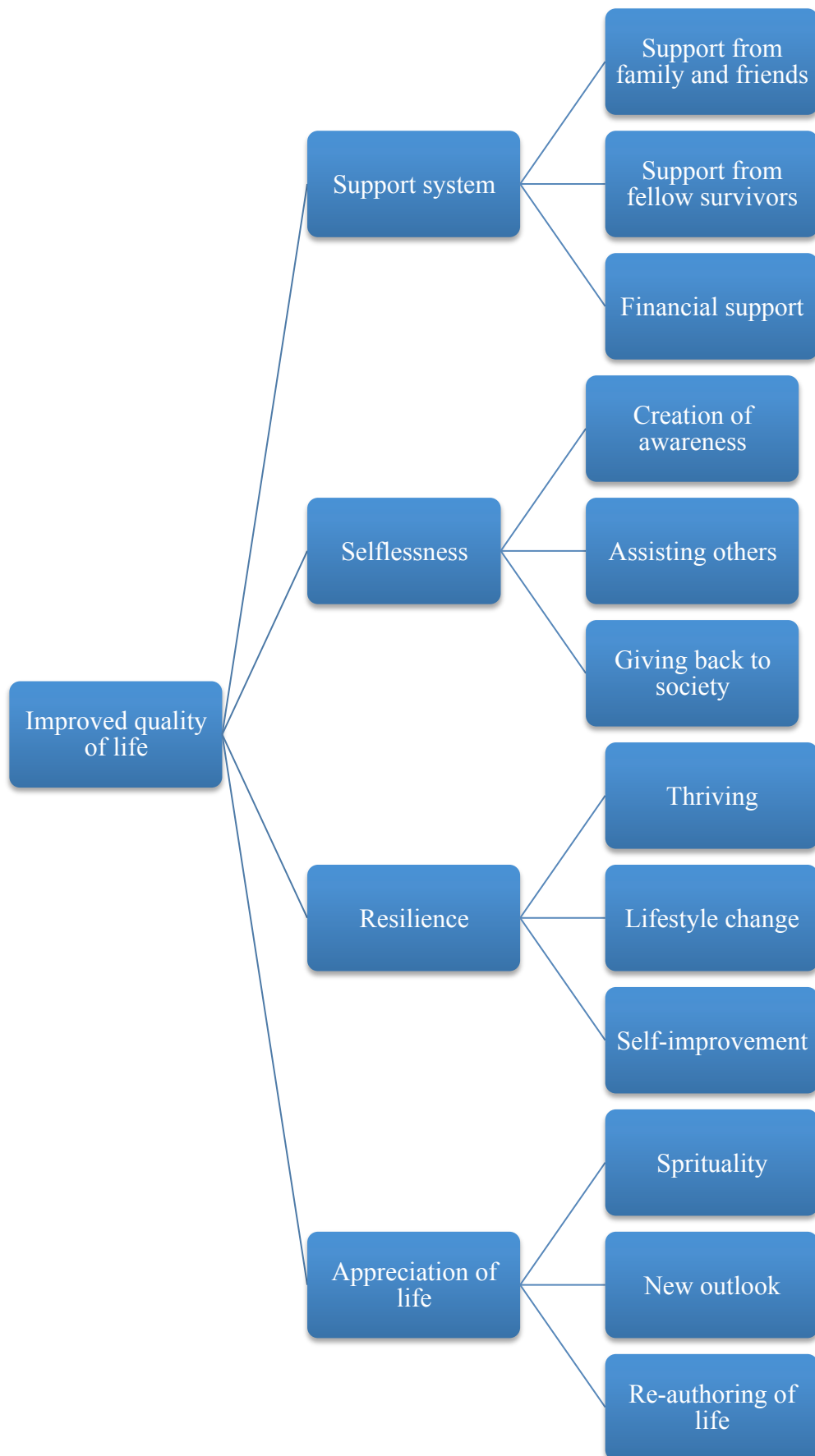


Figure 5: Abstraction process of categories and sub-categories.

## 6.1 Support system

Many of the breast cancer survivors noted that support was an important and crucial part of improved quality of life for them. According to Williams and Jeanetta (2015, 636) support was vital in the physical and mental well being of breast cancer survivors. The following sub-categories emerged under support system; support from family and friends, support from fellow survivors, financial support.

### 6.1.1 Support from family and friends

Breast cancer survivors noted that support from family and friends was the key to improving their strength and gave them courage to move on with treatment when they still had cancer and even long after they had been cancer free.

*“....My husband was very supportive the whole time.”* (Williams & Jeanetta, 2015, 636).

*“....Yeah, my support system is my partner. [She] has been there from the day when I heard—had the phone call....She’s my number one support person, fan, the whole nine yards....She supports just everything. I can’t even begin to tell you everything she supports.”* (White & Boehmer, 2012, 212).

*“I was supported by my friends [with BC] in the hospital. I really appreciated their support and....”* (Tsuchiya et al., 2013, 111).

*“My husband was very supportive....he just treated it like I had cold. I am fortunate to have my family support....It’s your immediate family that help you through the physical, through your condition, and also, believe it or not through your mental condition.”* (Tsuchiya et al., 2013, 111).

During difficult times, most of the survivors declared that they relied on their families as a means of coping. Such times included when they experience fear of re-occurrences, fear of side effects of treatment or fears that were induced by body changes. (White & Boehmer, 2012, 212).

In one article, the survivors revealed that they were very grateful for all the support they received from their family and friends, through all the stages of their battle with cancer,

recovery phases and life beyond. This has greatly improved their life positively. (Tsuchiya et al., 2013, 111).

### **6.1.2 Support from fellow survivors**

Most of the breast cancer survivors said that support from fellow survivors was very important to them and it made them stronger. This they attributed to having a friend going through the same circumstances as they were and providing mutual support all along the way from breast cancer and beyond. (Williams & Jeanetta, 2015, 637).

*“...not just friends, but friends going through the same thing.”* (Williams & Jeanetta, 2015, 637).

*“I had a girlfriend that was diagnosed two weeks before me and another girlfriend diagnosed two weeks after me. So it was the three of us. So if you got to feeling really down, you could call one of them....”* (Williams & Jeanetta, 2015, 637).

Rust and Davis (2013, E31) observed that peer support was an essential part of coping strategies breast cancer survivors declared. They considered social support from fellow survivors as a contributing factor to improve quality of life.

*“I think it is healthy for us to be able to come together and to share with each other. And that is the way we see it—sisters coming together. We’ve got one common thing.”* (Rust & Davis, 2013, E31).

In another article, it could be seen that breast cancer survivors attributed their survivorship to being around other survivors, discussing issues and sharing their various experiences with each other. (Davis et al., 2014, 6).

By joining a group of women with similar circumstances, many survivors noted that it influenced their feelings and perception about everything they had to do positively.

*“Because it made me feel real, being around a bunch of women, of great women.”* (Documet et al., 2012, 312).

Survivorship was viewed from breast cancer survivors as being part of a 'sisterhood'. That is, being part of a larger group of survivors who have all had related experiences. (Documet et al., 2012, 312).

### **6.1.3 Financial support**

The intense mode of cancer treatment makes it a very expensive kind of treatment. In one study, all the breast cancer survivors felt that they would not have been able to sustain a decent quality of life if they had not had health insurance to help pay for the cancer treatment. Most breast cancer survivors credited good financial support to help maintain a strong quality of life. Having a full time job was another financial means that has assisted breast cancer survivors raise their quality of life. (Williams & Jeanetta, 2015, 635).

*"My life would have been very terrible. I think it makes it harder to make the same decision."* (Williams & Jeanetta, 2015, 635).

Without financial support, survivors felt their lives would have been much difficult.

## **6.2 Selflessness**

It could be deduced from all the articles analyzed that the breast cancer survivors reported selflessness as a major part of life after breast cancer. After going through all their experiences, all survivors felt the need to be selfless and show altruism towards others. It made them feel stronger to show great concern for others after their diagnosis, through treatment and life after.

The following sub-categories emerged under the main category of selflessness; Creation of awareness, Giving back to the society and Assisting others.

### **6.2.1 Creation of awareness**

Many of the survivors in the articles shared that creating awareness of breast cancer was very important to them. Most noted that breast cancer is a disease that every woman should be made aware of regardless of color, age, and education. They believe that if many women were made aware of the disease, then it will be detected earlier and mortality can be reduced. (Williams & Jeanetta, 2015, 637).



Tsuchiya et al (2013, 112) noted that most survivors felt compassion towards other women and they took actions to educate people around them about the disease. They encouraged women to perform self-examinations regularly and to also attend breast cancer screening.

*“I hadn’t been to a hospital immediately [after the lump had been found in screening], and then it had advanced. I told my friends to go to screening and further examination immediately after test results come.”* (Tsuchiya et al., 2013, 112).

Most of the survivors reflected that they view being a survivor as creating cancer outreach to others and spreading the word out. . (Davis et al., 2014, 5).

*“At my church, we meet once a month. Whatever information I find out, I share with my church and I leave information for other churches, so the other churches know the information as well. This is the way I communicate the information.”* (Rust & Davis, 2013, E31).

Being able to inform others about the disease in form of awareness creation, gave a sense of purpose to many breast cancer survivors.

### **6.2.2 Giving back to society**

Most survivors felt that they were obliged to give back to the society because they received lots of support from people around them. Some want to leave their bodies to science as a tool for research while some chose to help newly diagnosed breast cancer women. (Tsuchiya et al., 2013, 112).

*“Well, I had received much advice and support [from self-help groups]. Now I am thinking of returning something back to the group. For example, if there are women who are concerned about types of surgery or those who don’t know about where to ask for help, I can probably offer help to them.”* (Tsuchiya et al., 2013, 112).

*“I will probably go back to university to take a degree in counseling, say, next year. Being a qualified counselor, I will listen to patients. I may not be able to give very good advice, but I want to be there to listen their concerns.”* (Tsuchiya et al., 2013, 112).

By contributing to the society, many survivors felt it will benefit a lot of women and it was seen as part of their survivorship experience. (Tsuchiya et al., 2013, 112).

### **6.2.3 Assisting others**

Most of the breast cancer survivors revealed that having survived breast cancer, they felt an urgent need to help others. They quoted their ability to share their experiences to the help of others as being a survivor. By caring and sharing information, they felt they had achieved a strong sense of purpose. (Davis et al., 2014, 5).

Many of the women from the articles were involved in one foundation or the other. (Williams & Jeanetta, 2015, 637). Most of them defined survivorship as helping others in which they described that they had interest and showed behaviors towards assisting others, most especially other cancer survivors in their various journeys. (Documet et al., 2012, 313). Said one survivor,

*“I need to be available to whoever would need me.”* (Documet et al., 2012, 313).

Several of the women felt an increased drive to help others, which they attributed to their survivorship experience. They saw assisting others as a personal responsibility and a chance to share their own experiences with other people fighting with breast cancer. (Documet et al., 2012, 313).

## **6.3 Resilience**

Merriam Webster defined resilience as the ability to recover quickly or adjust easily from difficulties such as depression, adversity or illness. (Merriam Webster, 2017). Through this definition, it was seen in many of the articles that most of the breast cancer survivors exhibited resilience as a factor that assisted them in improving their lives. It felt more like a battle to the survivors in which they described it as emerging victorious through the fight against cancer and living through it. (Davis et al., 2014, 5).

Without giving up or feeling defeated, many survivors proclaimed that resilience led them to changing their lifestyle, thriving and self-improvement, which are sub-categories of this section.

### 6.3.1 Thriving

Despite the ordeal passed through by the breast cancer survivors, many of them felt that they had to keep going on, coping with life, thriving and living happily. This was more of a mindset imaging that the survivors reported, in that ‘when all is said and done, life must continue’. They had to have hope, be joyful, grateful for every single breathe and move on with life in other words, “thriving”. (Davis et al., 2014, 5).

*“...Walking through the experience of a dangerous illness with as much hope, faith, determination I can have while keeping ear at a minimum [and] experiencing each day with as much joy as I can.”* (Davis et al., 2014, 5).

*“There are challenging times and may be rough times, but keep on.”* (Davis et al., 2014, 5).

Having a positive attitude and a strong sense of moral strength rather than physical strength tended to improve the positive thriving factor in many breast cancer survivors. Through the analyzed articles, it could also be deduced that many of the survivors additionally felt thriving meant they could help as much as they can in a joyous way.

*“A positive attitude has helped me overcome an invasion in my body”* (Documet et al., 2012, 312).

*“It is very important that I do all I can for my family...like getting the laundry done, keeping the kitchen clean, helping my daughter with her homework...”* (Mosher et al., 2013, 288).

Many of the women attributed thriving to flourishing, endurance, perseverance, not giving up, dealing with hardship in a positive way and having a winning attitude in helping improve the quality of their lives after breast cancer treatment.

### 6.3.2 Lifestyle change

Surviving breast cancer led many of the survivors to increased lifestyle changes after treatment was over. They paid more attention towards their eating habits, general wellness and exercise pattern; hence total body health. (Documet et al., 2012, 313). The lifestyle changes were in part due to fear of re-occurrence of breast cancer. Many of the survivors

reported frequent exercising and eating healthy as a means of improved body changes, which they felt increased their total well-being. (Tsuchiya et al., 2013, 112).

*“ I take better care of myself... ”*(Documet et al., 2012, 313).

*“My diet has changed. I thought if I continued the same lifestyle, as before I got BC, I would develop cancer again.... ”*(Tsuchiya et al., 2013, 112).

Many of the survivors regarded surviving cancer as an opportunity to develop personal wellness that allowed them to thrive, change habits and improve the quality of their lives after treatment was over. It was described like a second chance to recover and increase positive bodily changes and live abundantly. (Davis et al., 2014, 5).

*“Having been diagnosed with a life threatening disease and then beginning the process of healing in every way, mind, body, and spirit as well as coping with the challenges that the illness brings.”* (Davis et al., 2014, 5).

*“ I view health as more important because if you don't have health, you really don't have anything ”* (Documet et al., 2012, 313).

*“I have cut down the salt, and limited my calorie intake and started avoiding some bad foods for BC described in a book. ”* (Tsuchiya et al., 2013, 112).

According to many of the breast cancer survivors, waking up every morning, eating a proper diet, exercising and a positive mindset help them improve their lives daily.

### **6.3.3 Self-improvement**

Many breast cancer survivors reported how much they had developed and matured since treatment was over and how they tended to improve their daily lives for the better. Self-development was a way for most survivors to move towards their future and start a new beginning. (Tsuchiya et al., 2013,111).

Taking actions such as starting a new professional career, having confidence in the ability to successfully perform activities and self-efficacy were seen as methods of coping with life after breast cancer. (Sabo & Thibeault, 2012, 205; Rust & Davis, 2013, E32).

*“Without such experiences, living happily and having confidence in my health and life without concerns, I think I wouldn’t be a person who would be thankful about those things...”* (Tsuchiya et al., 2013,111).

Through self-improvement, survivors were able to keep proceeding forward with life, not sit and wait to see if the breast cancer came back. Questions such as “where am I going next? What is my next plan and move?” arose. These questions helped survivors develop themselves and in turn improved the quality of their lives as they had different activities at hand to fill up the vacuum they felt were missing. (White & Boehmer, 2012, 214).

*“And I would say my partner prods me to keep on getting through life. Not to sit and wait to see if it comes back....”* (White & Boehmer, 2012, 214).

Factors such as changing for the better, being more calm, feeling stronger, developing new skills, increasing emotional controls and being able to achieve aims that were thought impossible helped in improving quality of life. (Documet et al, 2012, 313).

## **6.4 Appreciation of life**

According to Williams and Jeanetta (2015, 637), after passing through breast cancer and surviving, life was more appreciated by the survivors. Diagnosis with breast cancer made many of the breast cancer survivors re-evaluate their lives and realize how precious it is. Many survivors changed the way they look at life after what they described as perceived death. The awareness of life and death led them to appreciate life more. (Tsuchiya et al., 2013, 110). Through the appreciation of life, the following sub-categories emerged from the analyzed articles, which led to improved quality of life in breast cancer survivors: Spirituality, new outlook and re-authoring of life.

### **6.4.1 Spirituality**

Most of the breast cancer survivors attributed an improved quality of life to a renewed sense of spirituality. They felt a deeper sense of faith and connection with God, which drove them closer to him. (Documet et al., 2012, 313).

*“It has led me to God. I learned a lot about myself, my life, and letting go of all those problems I was dealing with and looking at them in a different way.”* (Documet et al., 2012, 313).

In one of the articles, it was noted that almost all the survivors described spirituality as critical to improved quality of life. They felt this was central to life after breast cancer and it was personal for each survivor that they believe in God throughout their journey from diagnosis, treatment and after treatment. (Davis et al., 2014, 5).

*“Survivorship involves being diagnosed, going through surgery, going through treatments, surviving, maintaining contact with your doctor, taking medications, believing in God.”* (Davis et al., 2014, 5).

During difficult times, reliance on God and a deep sense of faith brought forth improved outcomes. Spirituality was a positive factor in improving changes that had occurred in lives of breast cancer survivors during treatment and after. These changes, seen through a renewed sense of faith, were attributed to an improved quality of life.

*“God loved me enough that he gave me another chance.”* (Rust & Davis, 2013, E32).

*“I made it through by the grace of God! I’m still here.”* (Davis et al., 2014, 5).

*“I thank God that I am still here testifying.”* (Rust & Davis, 2013, E32).

Spirituality, which encompasses gratefulness to God, thankfulness for being alive and surviving cancer and praising God led many of the breast cancer survivors to a better sense of well-being and improved quality of life. (Williams & Jeanetta, 2015, 637).

#### **6.4.2 New outlook**

A new outlook to life as expressed by survivors gave rise to being aware of one’s mortality, recently discovered activities and values and thankfulness to the value of time. Many survivors noted that after treatment, their outlook towards life and everything around them changed. (Documet et al., 2012, 312).

*“We are all here for a limited amount of time, and cancer patients got advanced notice of our timeline.”* (Mosher et al., 2013, 289).

*“I had to take a better look at what life is about. It also taught me that you can’t really know what’s going to happen from day to day.”* (Documet et al., 2012, 312).

Many had developed open communications and tried to express themselves more as compared to before diagnosis.

*“I now have realistic conversations with my husband. He doesn’t like these conversations but he is becoming more open to them.”* (Mosher et al., 2013, 289).

Issues that wouldn’t be talked about were now being openly discussed and this led to a form of freedom of the mind. Most survivors started to think that life was short and they had to make the most of it. Constant awareness of time led them to go for achievements that will improve the quality of their lives.

### **6.4.3 Re-authoring of life**

After breast cancer treatment, many of the survivors felt they needed to re-author their life. They had to accept the difference in their body and know that it is the new norm. Acceptance of a new body came through a decision making process. Many breast cancer survivors saw themselves as been freed from the burden of a socially fashioned notion of how a female should be or look like.

*“My breasts never made me who I was. They were a part of me but they never, ever made me who I was. They are what made me look female to the outside world but to me, I’m still who I was....”* (Sabo & Thibeault, 2012, 206).

*“For me it was as simple as showing other people because you don’t look like the mainstream. It is okay to look different. It is okay to be different. I always looked like everybody else; now I don’t and I am perfectly fine with that... If we can raise awareness that this is what happens to people, and they can survive it, go through it and come out the other end; be happy, be proud of who they are and proud of what they look like...”* (Sabo & Thibeault, 2012, 208).

From the analyzed articles, it was seen that many of the breast cancer survivors felt surviving breast cancer restored their lives. Having an identity as a breast cancer survivor and a positive attitude through all the challenges made their quality of life improved. (Davis et al., 2014, 4-5).

*“The ability to know that life is to be lived one day at a time. To have overcome the associated fears and myths associated with a disease such as cancer, by grieving each loss and embracing the new me of priorities and relevance.” (Davis et al., 2014, 4).*

Most of the breast cancer survivors attributed re-authoring of their lives with factors such as acceptance of a new body, acknowledgment of ‘a new me’, liberation from social norms and recognition of the difference they are experiencing after breast cancer treatment as having contributed positively to life after breast cancer. (Sabo & Thibeault, 2012, 208).

## **7 Discussion**

In this section of the study, findings from the background, previous research and framework will be mirrored with the results derived from the analysis of the selected articles. The aim of this study earlier stated, is to determine factors that have contributed to improve quality of life in breast cancer survivors. This aim was achieved through the critical analysis and examination of existing literature. The problem definition of the study is; **what are the factors that have assisted breast cancer survivors improve quality of life?**

The findings in this study shows that factors such as Support system, Selflessness, Resilience and a renewed appreciation of life assisted breast cancer survivors improve quality of life.

Many of the breast cancer survivors reported that having a strong support system improved their quality of life. The support system included support from their family, which they saw as the most essential, support from friends and not surprisingly, support from fellow cancer survivors. This finding is consistent with Williams and Jeanetta (2015) in which they found that support from family and friends was critical to successful improved quality of life in breast cancer survivors after treatment. As reported in Antonovsky’s research, people that have gone through stressful events can resort to get resources to improve their health from sources such as ‘a friend’. (Antonovsky, 1996).

Support was seen as vital to breast cancer survivors as coping mechanisms and this was a greatly appreciated resource made available through various sources (family, friends, fellow survivors, financial,) after breast cancer treatment was over. Mirroring from the



background of this study, WHO similarly reports that support presented to breast cancer survivors improved their quality of life significantly. (WHO, 2008).

Additional findings from this study showed that being selfless was a contributing factor to improved quality of life in breast cancer survivors. Breast cancer survivors felt showing altruism to others assumed the role of achieving an aim and giving back to society after treatment. Most of the survivors acknowledged how much they have developed, being empathic towards others and being humanistic in their daily lives. These findings can be compared with previous researches (Tsuchiya et al., 2013) about Japanese breast cancer survivors, and (Williams & Jeanetta, 2015) about breast cancer survivors, which revealed that breast cancer survivors tend to show altruism and empathy towards others and took action by educating their people about the disease.

General outreach to others was seen as a responsibility, which could be achieved through factors such as selflessness and awareness creation, thereby giving rise to a platform for breast cancer survivors to be able to reach other people and educate them about breast cancer.

Resilience was another factor found in this study, which was exhibited by breast cancer survivors that helped improve quality of life. Through having resilience, many breast cancer survivors were able to improve their own selves, have a positive change of lifestyle and thrive in their daily lives after treatment. Regaining and improving life after surviving cancer felt like a battle in which they developed a way to fight through to become victorious. Recovering and the will to continue living were seen as essential to happiness and fulfillment. These findings are consistent with the third component of Antonovsky's (1987) sense of coherence, which revealed that if a person believes that there is a reason to survive, persist, confront challenges, and have a sense of meaning, they will have the motivation to comprehend and manage events. People with a strong sense of coherence, talk about areas that are important and have meaning to them and this led to increase in life changes.

Many breast cancer survivors felt the need to move towards a healthy habit mostly due to fear of re-occurrence of breast cancer. Through previous studies, Tsuchiya et al, (2013) had a similar finding, which declared that breast cancer survivors took immediate responsibility of their bodies by adopting improved eating habits, regular exercise, and positive health behaviors since unhealthy lifestyle tends to increase risks of cancer. Being able to take

steps toward self development and performing tasks that otherwise seem impossible to do were seen as forms of achievements in the eyes of many survivors. The will to thrive led breast cancer survivors towards the direction of a healthy improved quality of life with many adopting ways to improve their lives such as self-efficacy, learning a new skill, and getting a professional degree.

Increased appreciation of life, which encompasses spirituality, new outlook, and re-authoring of life as found in this study, played a contributing factor to improved quality of life in breast cancer survivors. Renewed appreciation of life and attitudinal changes towards life provided breast cancer survivors an opportunity to see life with a 'new set of eyes' that led to the re-assessment of life as a whole. Having a new outlook towards life and spirituality was seen as a critical component to positive outcomes.

Spirituality was documented as being an integral part of many breast cancer survivors' lives. It was reported as being a source of strength and part of their daily living. Many breast cancer survivors reported a renewed sense of faith in a 'spiritual being' (God) and felt they were not alone. This was attributed to a perceived sense of well-being among most survivors as found in this study. This finding can be closely mirrored with previous studies from (Davis et al., 2014; Documet et al., 2012; Rust & Davis, 2013) which asserted that spirituality and faith are crucial and central components in lives of many breast cancer survivors. In contrast however, no category was found related to spirituality in Tsuchiya et al (2013) study.

Many breast cancer survivors emphasized increased appreciation of time and being aware of own mortality as assisting them not to waste any precious moment in life thereby leading to re-authoring of life in a positive way.

## **8 Critical review**

In this section, the study will be critically reviewed by using Lincoln and Guba's guidelines to critical evaluation of qualitative studies as explained by Polit and Beck. Evaluation categories mentioned and described are transferability, dependability, confirmability and credibility. All these categories helped the authors in evaluating their work towards a trustworthy qualitative study. According to Polit and Beck, all the researchers agree on the importance of high quality in qualitative research. (Polit & beck, 2012, 582).

Transferability refers to the ability to use the results in other contexts and settings. (Lincoln & Guba, 1985; Polit & Beck, 2012). The results of this study could also be used with patients surviving other cancers and recommendations could be made based on the categories raised from the study. Polit & Beck states that it is the author's responsibility to state the results in details, and therefore provide enough information for the reader to evaluate whether the result is applicable to other situations. (Polit & Beck, 2012, 585). The results of this study could be utilized as the reader perceives, and further impacts on improvement on quality of life can be detected from other researches as well. The results in this study cannot be generalized due to qualitative methods, small-scale study and limited resources used. Qualitative methods give broader and comprehensive information about a few participants, but the results cannot be generalized. (Patton, 2002, 14).

Dependability refers to if the results could be repeated with similar participants at another time and place (Polit & Beck, 2012, 585). The study used existing literature as data and evidence based theory as framework. Antonovsky's salutogenesis is well known, researched and evidence based, therefore a suitable choice as theoretical framework for this study.

Credibility criteria were also met by excluding unsuitable materials during data search by carefully reading through all articles. The authors were active in this process to ensure high quality outcome of the data chosen. The process towards creating a credible study is two-phased: to use data that is trustworthy and to use them accurately. Second phase is to indicate their trustworthiness. (Polit & Beck, 2012, 584). Credibility standards were met during the search of literature for the study by applying exclusion criteria to those materials that did not fulfill the inclusion standards. Eight articles met the inclusion criteria and were analyzed for results. Antonovsky's framework sense of coherence can be considered aged, originally presented in 1970's, but certainly not outdated.

With confirmability, Polit and Beck clarifies that the results is relevant, accurate and has meaning (Polit & Beck, 2012, 584). Confirmability was achieved through analyzing the materials, discussion and exclusion of unfit categories.

## 9 Conclusion

Stating that quality of life is a multidimensional and an individual concept can conclude this study. Quality of life is also not a culture bound concept. A breast cancer survivor will define quality of life as she considers it to be.

Through Antonovsky's salutogenic framework, it was gathered in this study that life experiences can lead to a strong sense of coherence, which further enables one to reach out in any circumstances and apply available resources to improve quality of life. The Aaron Antonovsky's salutogenic model of health promotion was an excellent choice to use for this study because it deals with health, stress and coping mechanisms of people that have gone through stressful events in life and how to move towards the direction of health.

Many cancer survivors reported that having experienced and survived breast cancer contributed to increase in strengthening their mental and physical well being which led to improved quality of life. Having a duty to care for and promote health for patients, nurses can be of great assistance to breast cancer survivors if provision of resources necessary to facilitate their quality of life is established. Even though the results from this study could be a basis of recommendation for cancer survivors, the study is far too small to enable generalization of all findings and further studies are needed on a larger scale to have a wider view of large groups of breast cancer survivors.

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## Appendices

### Appendix 1: Summary of articles for used for analysis

Title	Aim	Method	Result
Positive changes in Japanese breast cancer survivors: A qualitative study  Tsuchiyaa et al. 2012	To explore the positive changes in Japanese breast cancer survivors	10 women diagnosed with breast cancer were interviewed. The interviews were conducted in groups and questions used were semi structured.	Participants experienced seven types of positive changes.
Long-Term Breast Cancer Survivors' Perceptions of Support From Female Partners: An Exploratory Study  White & Boehmer, 2012	“To describe the social support experiences of long-term breast cancer survivors who have female partners, from the perspective of survivors.”	Individual phone calls with a sample group of 15 women. Interviews were semi-structured,	“Female partners play a central and comprehensive support role as well as experience ongoing stress and burden related to survivors' cancer.”
Living with Metastatic Breast Cancer: A Qualitative Analysis of Physical, Psychological, and Social Sequelae  Mosher et al, 2013	To examine the concerns and distress among metastatic breast cancer patients, both physical and emotional distress, social functioning and existential issues.	Fourty-four women were asked to write their deepest thoughts regarding the illness. Esseys were analysed for the effects on quality of life.	Three themes were revealed that related to quality of life, social constraints and increased awareness of life and searching for meaning in cancer experience

<p>Lived experiences of breast cancer survivors after diagnosis, treatment and beyond: qualitative study</p> <p>Williams &amp; Jeanetta, 2014</p>	<p>Understanding the experience of those that have survived cancer</p>	<p>15 participants were individually interviewed in-depth.</p>	<p>Three themes were found; factors from diagnosis and treatment impacting survivorship, relationship and support system and implication of survivorship</p>
<p>Chemobrain in Underserved African American Breast Cancer Survivors: A qualitative study</p> <p>Rust &amp; Davis, 2012</p>	<p>To present the findings emerged from two focus groups of underserved African American breast cancer survivor</p>	<p>24 participants divided into two separate focus groups. Open ended questions were asked. Sessions were recorded and transcribed.</p>	<p>Four themes emerged; concept of chemobrain, variability of individuals, the stigma of chemobrain and methods of coping,</p>
<p>“I’m still who I was” creating meaning through engagement in art: The experiences of two breast cancer survivors</p> <p>Sabo &amp; Thibeault, 2011</p>	<p>To develop art pieces of two breast cancer survivor and to shed light on the meaning women give to experience of breast cancer after viewing the art</p>	<p>Observation, interview and personal encounter with the participants.</p>	<p>Four themes emerged: reclaiming of self, the landscape of breast in cancer, scars and liberation. Engagement in art can open doors to healing, generation of meaning and reaffirmation of self</p>
<p>Breast Cancer Survivors’ Perception of Survivorship</p> <p>Documet et al., 2012</p>	<p>To determine how women diagnosed with breast cancer define themselves as survivors.</p>	<p>Telephone interviews with 112 breast cancer survivors. Open ended questions.</p>	<p>Being a survivor is an active process... All participants found at least one positive outcome from breast</p>

	To determine the benefits of the experience.		cancer.
The meaning of Survivorship as defined by African American Breast Cancer Survivors  Davis & Myers 2014	Understanding the meaning of survivorship within the African American breast cancer survivors.	115 women taking part in a questionnaire with open ended questions.	Being a survivor meant having strong spiritual base, thriving, being resilient and altruistic