

Influence of culture on breast cancer screening:

A systematic literature review

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# BACHELOR'S THESIS

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## **Abstract/Summary**

**Background:** Breast cancer is a global health concern, and early diagnosis is crucial to reduce its impact. This study examines cultural factors influencing breast cancer screening adherence, emphasizing the need to understand cultural nuances for effective screening methods. It applies Social Cognitive Theory and Leininger's Transcultural Nursing Theory to explore cultural implications in healthcare delivery.

**Aim:** The aim is to contribute to knowledge about cultural factors that hinder cancer screening initiatives and encourage breast cancer screening as an early detection strategy to reduce the incidence of cancers and deaths related, leading to improvement in health as well as general wellbeing of people at risk of breast cancer.

**Methodology:** The methodology combines qualitative research with extensive literature analysis, encompassing diverse geographical locations to gain a global perspective on cultural influences. Key themes identified include cultural beliefs, women's empowerment, language barriers, lack of awareness, and mistrust of healthcare systems.

**Result:** The results underscore how cultural values affect screening practices, while language barriers impede resource access. Socioeconomic factors shape women's empowerment and screening decisions. Insufficient knowledge, mistrust, and stigma discourage early detection

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Language: English    Key words: Breast cancer, screening, cultural influence, beliefs, health decision making, early detection strategies

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## **1 Introduction**

The National Cancer Institute describes cancer as “a disease in which some of the body’s cells grow uncontrollably and spread to other parts of the body” (National Cancer Institute, 2021). Cancer has been identified as the second leading cause of death globally and there are various kind of cancer including breast, colorectal, lung, cervical and thyroid cancer which are the most common among women (World Health Organization, 2022). According to World Health Organization (WHO), there were 2.3 million women diagnosed with breast cancer and 685 000 deaths globally in 2020 and as of the end of 2020, there were 7.8 million women who were diagnosed with breast cancer in the past half-decade, making breast cancer the world’s most prevalent cancer (World Health Organization, 2021). Every country in the globe experiences breast cancer in women after puberty at any age, even though the incidence rates rise as people age. This makes every age group susceptible for breast cancer. Although female gender has been identified as the biggest risk factor for developing breast cancer, between 0.5 and 1% of cases involve men (World Health Organization, 2021).

During the 1930s until the 1970s, there was no significant change in the mortality of breast cancer globally. Gains in survival began in the 1980s in countries with early detection systems along with alternative modalities of therapy to eradicate invasive disease. In contrast to several cancers that have infection-related origins, breast cancer is not an infectious or contagious illness such as cervical cancer and human papillomavirus. Although, just gender and age, the only known risk factors for breast cancer in women, account for almost half of all cases of women over 40 years worldwide currently, obesity, drinking too much alcohol, reproductive history, radiation exposure history, smoking, family history of breast cancer, reproductive history, postmenopausal hormone therapy and ageing have been identified as some variables that raise the risk of breast cancer.

Statistics reveals that more than 90% of patients with breast cancer survive for at least 5 years following diagnosis in high-income nations, compared to 40% in sub-Saharan Africa with low-income level (World Health Organization, 2022). In high-income nations, early detection and treatment have shown to be successful. However, in nations with limited resources, it is advisable to use them when a good infrastructure is available. The majority of breast cancer cases are diagnosed at an early stage in nations with consistent mortality reductions. This highlights the

importance of early detection programs for improving breast cancer outcomes (World Health Organization, 2022). According to the Finnish Cancer Registry, In Finland, approximately 5000 women are given a breast cancer diagnosis each year. Almost half of them fall within the 50 to 69-year-old screening age range. Individuals who received screening between 1992 and 2003 experienced mortality that was 28% lower than would have been anticipated in the absence of screening, and that this pattern has persisted up to the present (Finnish Cancer Registry, 2021). This assertion is in line with international studies which have revealed that early detection reduces breast cancer mortality even in those who are 70 to 74 years old.

According to National Health Services (NHS) in England, screening is essential and effective for detecting breast cancers early in their development and that by breast screening program between 2021 and 2022, 20,152 incidences of cancer in women were found in England that might not have been discovered and treated until later (National Health Service in England, 2023). Several health publications, including those from the Cancer Society of Finland, highlight the need of breast cancer screening. The Cancer Society of Finland described breast cancer screening as the methodical detection and treatment of precancerous breast lesions or early-stage breast malignancies in the population. According to them, the major goal is to lower mortality brought on by breast cancer; hence early detection of precancerous lesions or cancer in the breast decreases the need for demanding therapies, shortens treatment times, and lowers treatment costs (Cancer Society of Finland, 2016).

The motivation for my choice of "Influence of culture on breast cancer screening" as a topic for this study is therefore rooted in several factors that influence my interest for my future career as a healthcare professional. I hold the view that one of the fundamentals of healthcare is to addressing health disparities as much as possible. Breast cancer screening rates and outcomes vary among different cultural and ethnic groups. By exploring the influence of culture on screening behaviors, I aim to understand the underlying factors contributing to these disparities. My study intends to shed light on cultural barriers that hinder screening participation and identify strategies to overcome them, ultimately contributing to reducing health disparities in breast cancer outcomes. It is also my view that intervention in healthcare should be culturally tailored. As well, I have the view that cultural beliefs, norms, and practices can significantly impact individuals' attitudes and behaviors towards breast cancer screening. By examining the influence of culture, the study would

contribute to the development of culturally tailored interventions that resonate with specific cultural groups. This can lead to more effective educational campaigns, communication strategies, and screening programs that address cultural needs and increase screening rates.

Additionally, the importance of enhancing cultural competence as a nurse cannot be underestimated. As a nursing student, I understand the importance of providing culturally sensitive care. By studying the influence of culture on breast cancer screening, I aim to enhance healthcare professionals' cultural competence. My findings can inform educational programs and training initiatives, helping healthcare providers understand and navigate cultural factors that influence screening decisions. This can lead to improved communication, patient engagement, and overall quality of care for diverse populations.

This research has also been conceived to building on existing research. My study can contribute to the existing body of knowledge on breast cancer screening and cultural influences. By conducting a systematic review or original research, I would analyze and synthesize existing evidence, identify gaps, and propose new avenues for future research. This can guide researchers and policymakers in addressing cultural barriers, developing effective interventions, and formulating evidence-based guidelines to improve breast cancer screening practices.

Above all, promoting patient-centered care is essential in healthcare. Understanding the influence of culture on breast cancer screening empowers healthcare professionals to provide patient-centered care. By considering cultural perspectives, values, and preferences, providers can engage in shared decision-making and develop personalized screening plans that respect individual cultural backgrounds. My study can contribute to the promotion of patient-centered care and the improvement of healthcare experiences for diverse populations.

## **2 Background of the study**

Breast cancer is a complex disease that affects millions of women worldwide, with significant social, economic, and health impacts. This chapter discuss the pathology of breast cancer and its development as an abnormal growth and proliferation of cells in the breast tissue, leading to the formation of tumors. It also discusses breast cancer as a heterogeneous disease with diverse features. The chapter also includes breast cancer viewed from epidemiological point of view,

where studies have shown that the incidence and mortality rates of breast cancer vary significantly among different cultures and ethnic groups. The chapter further provides valuable insights into the social, cultural, and economic effects of breast cancer screening on individuals as well as the society in general.

## **2.1 Pathology of breast cancer**

Breast cancer is a complicated condition marked by uncontrollable cell growth, invasion, and metastasis. As mentioned in the preceding chapter, it primarily affects women, while it can also happen to men (Siegel et al., 2022). There are various phases in the pathological development of breast cancer.

Breast cancer cells divide and replicate uncontrollably during the first phase of cell proliferation, which results in the growth of a tumor (Yersal & Barutca, 2014). This abnormal proliferation is driven by genetic and molecular alterations in the cells, which disrupt the normal regulatory mechanisms of cell growth and division. Breast cancer cells develop the ability to penetrate nearby tissues as the disease worsens. Cancer cells infiltrate the surrounding breast tissue, lymph nodes, blood arteries, and occasionally even other organs during this invasive stage (Schmadeka et al., 2014). Different biological pathways, such as the breakdown of the extracellular matrix and the development of motility and invasiveness, aid breast cancer cells' invasive behavior.

Cancer cells separate from the primary tumor during the critical and advanced stage of breast cancer known as metastasis (Chaffer & Weinberg, 2011). The circulation or lymphatic system can be used by metastatic breast cancer cells to spread to distant organs such as the lungs, liver, bones, or brain. The spread of cancer cells makes the diagnosis and prognosis of breast cancer substantially more difficult. This makes breast cancer a multifaceted disease that encompasses various types based on the characteristics of the tumor and the cells involved. Ductal carcinoma in situ (DCIS) is a non-invasive breast cancer that originates in the milk ducts of the breast (National Cancer Institute [NCI], 2021). Invasive ductal carcinoma (IDC) is the most common type, accounting for approximately 80% of all breast cancer cases. It begins in the milk ducts but has the ability to invade surrounding tissue (NCI, 2021). Invasive lobular carcinoma (ILC) is a less common type, comprising approximately 10-15% of cases, and it originates in the milk-producing lobules of the breast, with the potential to invade nearby tissue (NCI, 2021).



Less than 5% of breast cancer cases are of the uncommon and dangerous type known as inflammatory breast cancer (IBC). It is distinguished by the breast being heated, puffy, and red, and it often spreads quickly (Dawood et al., 2011). Another subtype of breast cancer is triple-negative breast cancer (TNBC) characterized by the absence of estrogen receptor, progesterone receptor, and HER2/neu expression. It tends to exhibit more aggressive behavior and poses challenges in treatment options (Foulkes et al., 2010).

## **2.2 Features of breast cancer**

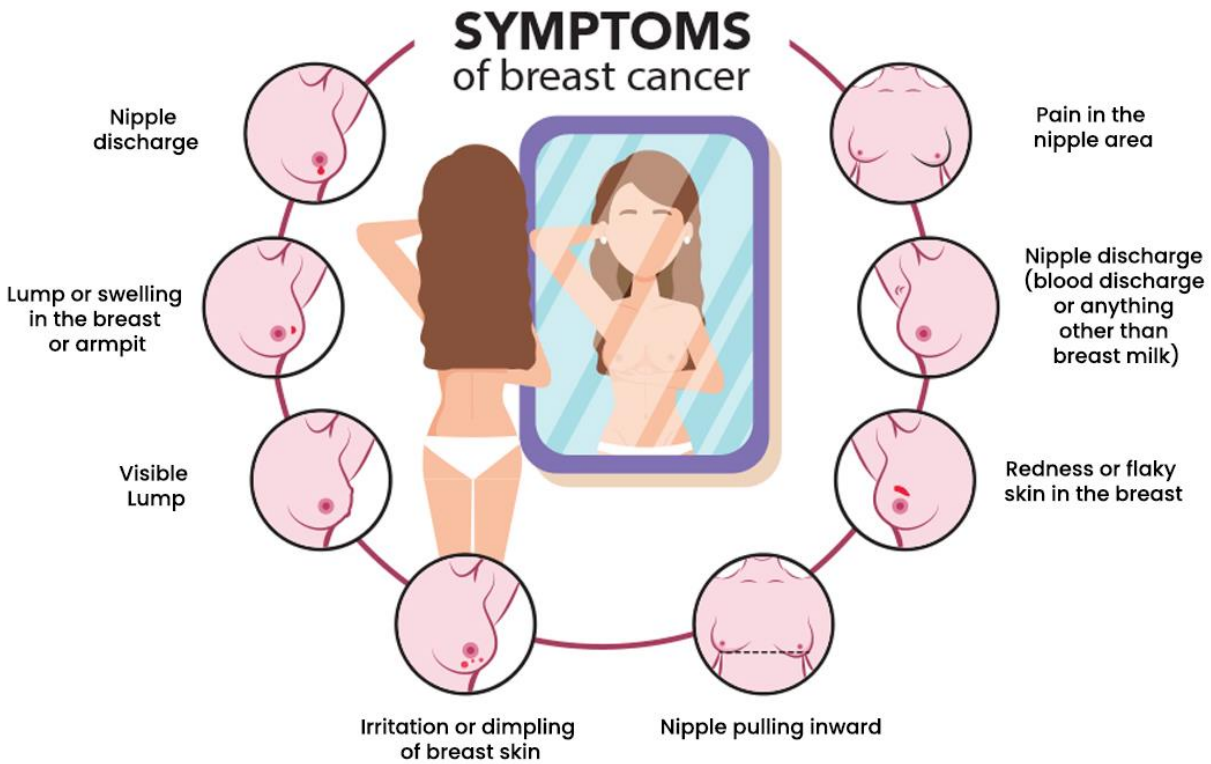
As discussed above, breast cancer is a heterogeneous disease with various pathological features that play a crucial role in determining diagnosis, treatment options, and patient outcomes. The key pathological features of breast cancer include histological type, tumor grade, tumor stage, hormone receptor status, HER2 status, and molecular subtype.

The histological type of breast cancer is determined by the type of cell involved and can include ductal carcinoma, lobular carcinoma, and mixed ductal-lobular carcinoma (Lakhani et al., 2012). Tumor grade, based on the degree of cell differentiation, provides important prognostic information, with higher-grade tumors associated with a poorer prognosis (Elston & Ellis, 1991). The size of the cancer in the breast and whether it has progressed to the lymph nodes or other parts of the body is referred to as the tumor stage, and it is a crucial element in determining the prognosis and available treatments (Edge et al., 2010). Treatment choices and patient outcomes are influenced by hormone receptor status, including estrogen receptor (ER) and progesterone receptor (PR) status, with hormone receptor-positive cancers having unique targeted therapeutic options (Hammond et al., 2010).

Another crucial clinical characteristic is the presence of the human epidermal growth factor receptor 2 (HER2). There are specific targeted medicines for HER2-positive breast tumors, which are characterized by overexpression or amplification of the HER2 protein and are linked to a more aggressive phenotype (Wolff et al., 2018). Additional knowledge about tumor behavior and treatment response is provided by the molecular subtyping of breast cancer based on gene expression profiles. Luminal A, luminal B, HER2-enriched, and basal-like are typical molecular subtypes (Perou et al., 2000). The prognosis and choice of treatment are affected by these

subgroups. A chart of breast cancer symptoms can be found below. It must however be noted that many people have no symptoms.

**Figure 1: Symptoms of breast cancer**



Source: (Pharma Solutions, 2021)

### **2.3 Breast cancer screening strategies and their effectiveness**

Breast cancer screening strategies play a crucial role in the early detection and treatment of breast cancer. Several screening methods are available, each with its own effectiveness and applicability to different populations. Here is an overview of the various screening methods and their effectiveness:

Mammography is the most common and effective breast cancer screening method. It has been shown to reduce breast cancer mortality by 15-30% in women aged 50-69 (Myers et al., 2018).

Regular mammograms, recommended every 1-2 years for women aged 50-74, can detect breast cancer before symptoms appear (Oeffinger et al., 2017).

Clinical breast exams, conducted by healthcare providers, involve the examination of the breasts for lumps or abnormalities. While not as effective as mammography, clinical breast exams can be useful for symptomatic women or those at high risk of breast cancer (Yasmeen et al., 2017). They are often performed in conjunction with mammography or breast self-exams.

Breast self-exams allow women to check their own breasts for changes or abnormalities. Although less effective than mammography, self-exams can be useful in detecting changes between mammograms (Salas et al., 2017).

Breast MRI is recommended for high-risk women, such as those with a family history or genetic mutations (Oeffinger et al., 2017). MRI has shown promise in detecting breast cancer earlier than mammography (Mann et al., 2018).

Ultrasound is frequently used alongside mammography for women with dense breast tissue or increased risk. While not as effective as mammography, ultrasound can detect abnormalities that may not be visible on a mammogram (Weigert et al., 2017).

Among these screening methods, mammography is considered the most effective and widely recommended for women aged 50-74 (Oeffinger et al., 2017). However, individual risk factors and preferences should be considered when choosing a screening strategy, and discussions with healthcare providers are crucial to determine the most appropriate approach for each individual (Pace et al., 2019).

#### **2. 4 Breast cancer from epidemiological point of view**

Breast cancer is clinically viewed as age-related. Its prevalence does not seem to be particularly unique; even when the same ethnic group is taken into account, it may differ from one social situation to another. Although the death rates of women living in Africa are lower than those in high-income nations, a study done in Nigeria found that breast cancer is more common in younger, premenopausal women in Nigeria than it is in Black women in high-income nations (Elewonibi, B. & BeLue, R., 2019).

As one of the most common types of cancer among women worldwide, breast cancer is a significant public health concern that affects millions of women and in some few cases, men globally. According to the World Health Organization (WHO), 2.3 million new cases are expected to be diagnosed by 2020 (International Agency for Research on Cancer, 2022). It has been observed that the incidence rates of breast cancer vary greatly between countries and regions, with developed countries experiencing higher rates than developing countries. It has been found that developed countries in North America and Europe have the greatest incidence rates, whereas developing countries, most of which are in Asia and Africa have lower rates. Nevertheless, incidence rates are rising in several nations, including countries like Japan and South Korea. Fortunately, due to recent breakthroughs in early identification and treatment, breast cancer death rates have decreased in many nations during the last several decades. However, breast cancer is still considered as the leading cause of cancer mortality among women worldwide and breast cancer is expected to kill 685,000 people worldwide by 2020 (Arnold et al., 2022:16).

The risks factors of breast cancer can vary from biologic to social setting and behaviours: age, gender, family history, genetic mutations, reproductive variables, lifestyle factors such as nutrition and physical exercise, and environmental factors such as exposure to radiation and certain chemicals are all risk factors for breast cancer. Although health problems associated with breast cancer are usually dire, the understanding breast cancer epidemiology is critical for creating effective preventative and treatment options. Studies have showed that breast cancer screening, early detection, and treatment are crucial in minimizing morbidity and death from the disease (American Cancer Society, 2022:11). Screening procedures that are usually utilized include mammography, clinical breast examination, and breast self-examination, and these can vary depending on country policies and resource availability (Kashyap et al., 2022:9).

Breast cancer in males is an uncommon health condition that accounts for fewer than 1% of all incidences of breast cancer. The WHO reports that the incidence of male breast cancer exist and varies by country, with greater rates recorded in industrialized countries. This evidence comes to underscore the physical environment as a risk factor for breast cancer. The American Cancer Society predicts that roughly 2,650 new instances of invasive breast cancer in males will be detected in 2021, with approximately 530 men dying from the disease (American Cancer Society, 2022:10-11).

Some risk factors for breast cancer in males are comparable to those for women such as growing age, a family history of breast cancer, and genetic abnormalities, radiation exposure, hormonal imbalances, liver illness, obesity, and high alcohol intake are all risk factors for breast cancer in males. Similarly, men's breast cancer symptoms and treatments are comparable to that of women and include a lump or swelling in the breast tissue, nipple retraction or discharge, and changes in the skin surrounding the breast. Treatment options include surgery, radiation therapy, chemotherapy, hormone therapy, and targeted therapy. In spite of the low frequency of breast cancer in men, it is important that men be aware of the signs and symptoms of the disease and seek medical assistance if they observe any changes in their breast tissue (Potter, et al., 2023).

## **2.5 Socio-economic effect of breast cancer on individual and society**

As a health condition, breast cancer can have serious socioeconomic consequences for both individuals and society as a whole. Some of these implications may include emotional and psychological impact, social impact, financial impact, etc. (Warmoth et al., 2020).

This means that breast cancer can create a lot of worry, anxiety, and sadness in people who are diagnosed with it. These emotions can have an impact on one's career, relationships, and general quality of life and therefore impacting negatively on the emotional and psychological wellbeing of individual. Since these individuals do not live in isolation but rather in a society, breast cancer can have a social impact on society since it affects the lives of family members and caregivers who may need to miss work to care for their loved ones. This can lead to lost wages and a strain on the healthcare system (Tracy et al., 2020).

Similarly, breast cancer and its treatment can cause tiredness, nausea, hair loss, and changes in body image. These adverse effects can also disrupt job and social activities and have a long-term influence on a person's general health (Iddrisu et al., 2020). This situation can lead to public health concern as it affects women of all ages and races and therefore putting more pressure on health workers, the infrastructure as well as the health system. To assist reduce the incidence of breast cancer and improve outcomes for those who are diagnosed, society must invest in research, education, and preventative initiatives (Blum-Barnett et al., 2019) which is the goal of this research.

Additionally, like any other disease, the effect of breast cancer on individual and society is not limited to only the socioeconomic consequences. It involves also financial impact on both individual and society (Gazzillo et al., 2019:462). This is due to the fact that breast cancer treatment can be costly, with treatment cost varying depending on the stage of the disease and the type of therapy required. Some people may have to miss work, resulting in lost income, while others may suffer additional expenditures such as transportation to and from medical visits or child care. It is also important to point out that the prevention measures can also pose a cost on individual and public institution although this may be much lower than that of treatment therapies. Breast cancer can have a large societal economic impact to the extent that the expense of medical treatment and lost productivity as a result of illness can result in considerable financial loss and a pressure on the healthcare system (Blum-Barnett et al., 2019).

It is not a doubt that breast cancer can have severe socioeconomic consequences for both individuals and society as a whole. Therefore, to improve outcomes for persons impacted by breast cancer, it is critical to address these implications via research, education, and support services (Koenig et al., 2018).

## **2.6 Understanding the effects of breast cancer on healthcare system**

Breast cancer may place tremendous strain on hospital infrastructure and people in a variety of ways. However, the impact may also vary from country to country depending on the availability of resources (Afaya et al., 2022).

The breast cancer strain on hospital infrastructure and people can be felt even at the screening and diagnosis level where there is not sign of cancer. This may be due to the fact that day by day, people are becoming more appreciative of the benefit of screening and diagnosis initiatives as compared to treatment which outcome they cannot guaranteed. As a result, the increased demand for breast cancer screening and diagnosis exerts a substantial strain on hospital facilities and employees. Mammography equipment, imaging specialists, pathologists, and radiologists are all included (Afaya et al., 2022).

As stated in the introduction that breast cancer is a complicated health condition, the breast cancer therapy can be said to be equally difficult and time-consuming, necessitating the collaboration of

a multidisciplinary team of healthcare specialists including surgeons, oncologists, radiologists, nurses, and support personnel. Surgery, chemotherapy, radiation treatment, and follow-up care. The demand for this chain of health personnel eventually put a drain on hospital human resources as well as the physical infrastructure. In many cases, especially in settings there is already a deficit of infrastructure, hospital bed occupancy become a challenge (Wilkinson and Gathani, 2021:3). Breast cancer therapy may necessitate hospitalization, especially if surgery is required. This may boost demand for hospital beds and put a strain on hospital occupancy rates. In a situation of outpatient clinics, patients with breast cancer may require visits to outpatient clinics for monitoring and treatment. This can tax clinic resources and lengthen wait times for other patients. A strain on facilities may also have a negative impact on follow-up care as patients with breast cancer require continued monitoring and follow-up care, such as frequent mammograms and check-ups. This may raise the burden of hospital employees and need the use of additional resources (Mishra et al., 2021).

Because of the complicated and interdisciplinary nature of therapy as discussed above, the need for screening and diagnosis, and the requirement for continued follow-up care, breast cancer may impose tremendous strain on hospital infrastructure and people. To ensure that all patients receive the treatment they require, hospitals must carefully manage their resources (Mishra et al., 2021).

## **2.7 Breast cancer and stigma**

Like some other health condition such as AIDS and infections related to sexual behaviour, individual diagnosed with cancer are also subjects of stigma in their respective social environment although the degree of occurrence may differ from community to community. Breast cancer stigma can refer to the unfavorable attitudes, beliefs, and preconceptions that might accompany a breast cancer diagnosis. This includes emotions of guilt, blame, and isolation, as well as misunderstandings about the disease's origins and treatments (Steiness et al., 2018).

Breast cancer stigma may manifest itself in a variety of ways, ranging from the notion that the disease is entirely caused by lifestyle factors or personal decisions to the perception that it is a "women's issue" that only affects specific sorts of individuals. These attitudes can make it more difficult for persons with breast cancer to come out and receive the necessary support and care, as

well as creating hurdles to research and financing for breast cancer prevention and treatment (Warmoth et al., 2020).

To battle breast cancer stigma, sensitization for both breast cancer patient and the general community is necessary. It is critical to educate people about the disease's facts and reality, as well as to confront negative assumptions and beliefs. Raising awareness about the numerous risk factors for breast cancer, encouraging early diagnosis and screening, and pushing for legislation and programs that support breast cancer research, treatment, and support. It is also critical to show compassion, empathy, and support to persons with breast cancer and their families, as well as to acknowledge the different experiences and needs of those affected by the disease. Therefore, one can contribute to create a more inclusive and supportive society for all by working together to remove breast cancer stigma.

### **3. Aim and research questions**

In pursuit of understanding the cultural factors influencing breast cancer screening and fostering its uptake, this study seeks to illuminate the nuances of cultural differences that impact screening adherence by setting out the aim and questions that leads to the achieving the former.

#### **3.1 Aim of the study**

The research intends to shed light on the significance of elements of cultural differences that have an impact on breast cancer screening adherence and offer recommendations for how to encourage it. The study's findings are intended to help policy makers, health workers as well as individuals (both women and men) understand specific communities' cultural needs for breast cancer screening. The aim therefore is to contribute to knowledge about cultural factors that hinder cancer screening initiatives and encourage breast cancer screening as an early detection strategy to reduce the incidence of cancers and deaths related, leading to improvement in health as well as general wellbeing of people at risk of breast cancer.



### **3.2 Research questions**

1. What are the cultural factors affecting breast cancer screening?
2. How can breast cancer screening be encouraged?

## **4 Theoretical framework**

As discussed in the introduction, breast cancer is a significant public health concern worldwide, with a high incidence and mortality rate. Breast cancer screening has been shown to be effective in reducing mortality rates associated with breast cancer, yet disparities in breast cancer screening exist among women from different cultural backgrounds (Ambinder et al., 2021). Therefore, this theoretical framework will be based on social cognitive theory (SCT), a psychological theory of learning and behavior developed by Albert Bandura in the late 1970s, and Leininger's Transcultural Nursing Theory aims to address the cultural influences on healthcare and to promote effective healthcare delivery across diverse populations

### **4.1 The fundamentals of social cognitive theory (SCT)**

Social Cognitive Theory (SCT) proposed by Albert Bandura provides a comprehensive framework for understanding how individuals learn and change their behavior through observation, social interaction, and personal factors. This theoretical framework will be used to explore the influence of culture on breast cancer screening behavior among women. The chapter will discuss the key concepts of SCT, and how they can be applied to understand factors that influence breast cancer screening behavior among women from different cultural backgrounds.

SCT posits that behavior is the result of an individual's interactions with their environment, which includes both physical and social elements. It is further believed that an individual's behavior is a product of their own thoughts, feelings, and beliefs, as well as the influence of their social environment (Bandura, 1986:18-19). The purpose of this theoretical framework is to examine the influence of culture on breast cancer screening. This framework will explore how culture, including values, beliefs, and norms, shape the attitudes and behaviors of individuals regarding breast cancer screening. This framework will also consider how cultural influences, such as language, religion, and socioeconomic status, may affect the effectiveness of breast cancer

screening practices. SCT consists of three key concepts; namely observational learning, personal factors, and self-regulation concepts.

#### **4.1.1 Self-regulation concept**

In order to understand the influence of culture on breast cancer screening, this framework will draw upon SCT's concept of self-efficacy. Self-regulation refers to an individual's ability to control their behavior and emotions to achieve their goals (Luszczynska, 2015:129). In the context of breast cancer screening, self-regulation can influence an individual's decision to participate in screening. According to SCT, an individual's self-efficacy is greatly influenced by their past experiences, the opinions of others, and their own expectations. "In learning solely through response consequences, people must depend on the information conveyed by the effects of their actions" (Bandura, 1986:106). Thus, this framework will explore how an individual's cultural background may influence their self-efficacy and, ultimately, their behavior regarding breast cancer screening. For instance, women who have a high level of self-regulation may be more likely to participate in breast cancer screening, as they are better able to control their emotions and behaviors in response to the fear or anxiety associated with screening.

#### **4.1.2 Observational learning concept**

This framework will also explore the concept of social learning. This concept is based on the idea that an individual's behavior is shaped by their observation and imitation of others. According to SCT, an individual's cultural background may influence their behavior by influencing the behavior of others in their social environment "... most human behavior is learned by observation through modeling. By observing others, one forms rules of behavior, and on future occasions this coded information serves as a guide for action" (Bandura, 1986:47). Thus, this framework will explore how the attitudes and behaviors of individuals within a given culture may shape the attitudes and behaviors of individuals regarding breast cancer screening. In the context of breast cancer screening, observational learning can influence an individual's decision to participate in breast cancer screening. Women from certain cultural backgrounds may not have access to information about breast cancer screening, and therefore may not be aware of the importance of screening. Observing other women from their culture participate in breast cancer screening can increase their awareness and motivation to participate in screening.

### **4.1.3 Personal factors concept**

This framework will explore how an individual's cultural values and beliefs may shape their attitude and behavior towards breast cancer screening (Bandura, 1989). The concept is based on the assumption that "each culture contains a vast storehouse of concepts and rules which are transmitted to its members in codified form by social, educational, and legal agencies" (Bandura, 1986:183) and posits that individuals are more likely to engage in a behavior if they believe that it is in line with their values and beliefs. Therefore, personal factors refer to an individual's cognitive and affective characteristics that influence their behavior. "Humans do not simply react to stimulus events. They interpret the events and organize the information derived from them into beliefs about what leads to what" (Bandura, 1986:183). These personal factors include beliefs, values, and attitudes. In the context of breast cancer screening, personal factors such as cultural beliefs, attitudes towards cancer, and beliefs about the effectiveness of breast cancer screening can influence an individual's decision to participate in screening. For example, women from certain cultural backgrounds may have cultural beliefs that prioritize modesty and privacy, making them uncomfortable with the idea of breast cancer screening. Additionally, some cultural beliefs may promote fatalistic attitudes towards cancer, leading women to believe that there is no point in participating in screening.

### **4.2 Leininger's transcultural nursing theory**

While Social cognitive theory proposed by Albert Bandura provides a comprehensive framework for understanding how factors related to culture can influence health decision, Madeleine Leininger's Transcultural Nursing Theory is a comprehensive framework that focuses on providing culturally congruent care to individuals and groups. Leininger, a pioneer in transcultural nursing, developed this theory to address the cultural influences on healthcare and to promote effective healthcare delivery across diverse populations.

As discussed earlier in the introduction, breast cancer is a significant global health concern, affecting women of diverse cultural backgrounds. As healthcare providers strive to promote early detection through breast cancer screening programs, it becomes imperative to consider the role of culture in shaping individuals' perceptions, beliefs, and behaviors surrounding healthcare practices. Madeleine Leininger's Transcultural Nursing Theory provides a valuable framework for

understanding how cultural factors can impact breast cancer screening behaviors among various communities. Leininger's Transcultural Nursing Theory, developed in the 1950s, underscores the importance of cultural competence and sensitivity in healthcare delivery. The theory emphasizes that culture significantly influences individuals' health beliefs, practices, and decisions. According to Leininger, providing culturally congruent care involves understanding the cultural context of patients and integrating this knowledge into healthcare interventions (Leininger, 1991). Some of the key concepts of Leininger's Transcultural Nursing Theory used in this study include:

#### **4.2.1 Culture**

Leininger defines culture as the collective set of learned, shared, and transmitted values, beliefs, norms, and practices that guide individuals' lives within their social structures (Leininger, 1991). This definition goes beyond surface-level characteristics and delves into the intricate web of meanings and symbolism that culture holds for individuals and communities. Culture encompasses everything from language and religious beliefs to dietary preferences and health behaviors, creating a rich tapestry of influences on individuals' health and well-being.

In Leininger's theory, culture is a central determinant of health-seeking behaviors, coping mechanisms, and responses to illness (Leininger & McFarland, 2006). Cultural beliefs and practices play a significant role in how individuals perceive health, approach illness, and make healthcare decisions. For instance, cultural norms can shape attitudes toward body image, affect preferences for healthcare providers, and influence acceptance or rejection of medical interventions.

#### **4.2.2 Cultural care diversity and universality**

This concept underscores the recognition that while certain aspects of nursing care are shared universally, the expressions and meanings of these aspects vary across different cultures (Leininger & McFarland, 2002). In essence, it emphasizes the balance between acknowledging common human care needs and respecting the unique cultural contexts that influence individuals' health beliefs and practices.

Leininger (1991) defines cultural care diversity and universality as the comparative study and analysis of cultural care behaviors, beliefs, and practices among different cultures (Leininger,

1991). It acknowledges the presence of both shared care patterns that are universally applicable and distinctive care patterns that are specific to particular cultural groups. This concept moves beyond a one-size-fits-all approach to healthcare and embraces the rich tapestry of cultural diversity in healthcare practices.

#### **4.2.3 Cultural competence concept**

Cultural competence is a core concept within Madeleine Leininger's Transcultural Nursing Theory, highlighting the essential skill set and approach that healthcare professionals should adopt to provide effective and respectful care to individuals from diverse cultural backgrounds (Leininger, 1995). This concept recognizes that understanding and integrating cultural factors into healthcare practices are critical for improving patient outcomes and reducing disparities in care. Cultural competence, as defined by Leininger (1995), refers to the ability of healthcare providers to understand and effectively interact with individuals from cultures different from their own. It involves developing awareness, knowledge, and skills to navigate cross-cultural interactions sensitively and proficiently. Cultural competence goes beyond mere awareness of diversity; it necessitates actively adapting care strategies to align with patients' cultural values, beliefs, and preferences.

#### **4.2.4 Cultural assessment concept**

Cultural assessment is a fundamental concept within Madeleine Leininger's Transcultural Nursing Theory, underscoring the significance of understanding individuals' cultural beliefs, values, practices, and preferences as an integral part of delivering effective and culturally congruent healthcare. This concept emphasizes that healthcare providers must actively engage in the process of gathering and integrating cultural information to tailor care plans that resonate with patients' unique cultural contexts (Leininger, 2006). Cultural assessment, as envisioned by Leininger (2006), involves the systematic and comprehensive exploration of patients' cultural backgrounds to identify their healthcare beliefs, practices, and needs. This assessment aims to uncover how culture shapes individuals' health perceptions, decision-making processes, and interactions with the healthcare system. By understanding these cultural nuances, healthcare providers can deliver care that respects patients' values and contributes to optimal health outcomes.

#### **4.2.5 Cultural care preservation and/or maintenance concept**

The concept of "Cultural Care Preservation and/or Maintenance" is a fundamental principle within Madeleine Leininger's Transcultural Nursing Theory. This concept recognizes the importance of upholding and safeguarding patients' cultural beliefs, values, practices, and rituals related to health and well-being (Leininger & McFarland, 2006). It underscores the need for healthcare providers to respect and integrate cultural traditions to ensure that patients' cultural identities are preserved and respected throughout their healthcare journey. Cultural care preservation and/or maintenance, as defined by Leininger and McFarland (2006), involves supporting and facilitating the continuation of patients' cultural practices and beliefs that promote health and well-being. It requires understanding and honoring the significance of these cultural elements in patients' lives and weaving them into the fabric of their healthcare experiences.

#### **4.2.6 Cultural care accommodation and/or negotiation**

The concept of "Cultural Care Accommodation and/or Negotiation" is a key principle within Madeleine Leininger's Transcultural Nursing Theory. This concept recognizes that healthcare providers often encounter situations where patients' cultural practices may conflict with established healthcare norms or recommendations. In such cases, healthcare providers must find a balance between respecting patients' cultural beliefs and ensuring that health outcomes are not compromised (Leininger & McFarland, 2006). Cultural care accommodation and/or negotiation, as outlined by Leininger and McFarland (2006), involves strategies that healthcare providers employ when patients' cultural practices may impact their health but also conflict with medical guidelines. It requires a collaborative approach where healthcare providers and patients work together to find solutions that respect cultural values while promoting positive health outcomes.

#### **4.2.7 Cultural care repatterning and/or restructuring**

The concept of "Cultural Care Repatterning and/or Restructuring" is a significant aspect of Madeleine Leininger's Transcultural Nursing Theory. This concept acknowledges that there are instances where cultural practices may negatively impact health outcomes. In such cases, healthcare providers play a crucial role in collaborating with patients to modify or adapt these practices in ways that align with both cultural values and health goals (Leininger & McFarland, 2006). Cultural care repatterning and/or restructuring, as defined by Leininger and McFarland

(2006), involves working with patients to assess and modify cultural practices that are detrimental to health. It requires a collaborative approach where healthcare providers and patients co-create strategies to adapt or transform these practices while still respecting cultural identity.

## **5 Methodology**

This research employs a systematic literature review approach to explore the influence of cultural factors on breast cancer screening behaviors. By synthesizing existing qualitative studies, this research aims to gain a comprehensive understanding of the cultural elements that shape individuals' attitudes, beliefs, and actions regarding breast cancer screening. The study investigates how cultural barriers, beliefs, and practices affect participation in breast cancer screening, with a focus on diverse cultural and regional contexts. Additionally, it examines the strategies and interventions proposed in the reviewed articles to address these cultural influences and enhance screening rates. The following sections provide an overview of the research methods and ethical considerations, as well as an exploration of the limitations inherent in this systematic literature review

### **5.1 Qualitative research**

The study uses qualitative research approach as an effective method for investigating people's breast cancer screening experiences, attitudes, and actions. This technique contributes to a better understanding of the cultural elements that impact screening habits, the hurdles to screening, and how screening might be enhanced by overcoming these barriers.

According to Polit and Berk (2010), qualitative research is an interpretative technique that aims to understand social phenomena by studying individuals in their natural environments. Qualitative research methods also entail gathering and evaluating non-numerical data, such as interview transcripts, field notes, and observational data (Polit & Beck, 2010:222-223). Although no fieldwork or observation were conducted during the course of this study, and no direct contact was made with individuals whose perspectives were represented in the study, evidence from the reviewed articles would aid in gaining a thorough understanding of the experiences, perspectives, and meanings that people attached to their social world during the course of these previous studies.

One of the most important characteristics of qualitative research is that it is context-bound, which means that it aims to explain social phenomena within the unique cultural, historical, and social settings in which they occur. Furthermore, qualitative research is iterative in the sense that the research process comprises continual cycles of data collection, analysis, and interpretation, with I, the researcher, revising my study questions and methodologies as needed depending on new discoveries. This allows me to be more flexible with my views, which would otherwise be impacted by the quantitative approach's relative rigidity. Another distinguishing element of qualitative research is that it allows the researcher to be subjective in the sense that my personal perspective and experiences are acknowledged as impacting the research process and interpretation of findings (Polit & Beck, 2010:222-223). Because of the independence of thought that distinguishes qualitative research, it may be utilized effectively for a wide range of goals, including investigating novel phenomena, creating hypotheses, building theories, and assessing programs or interventions. These features of scientific research are critical in this study because they contribute to a better understanding and knowledge of circumstances involving health and well-being.

## **5.2 Systematic literature review**

A systematic literature review is a thorough process of discovering, analyzing, and synthesizing existing literature on a given research issue or topic (Xiao and Watson, 2019:93-94). It is worth noting that the goal of these studies is to uncover cultural factors on breast cancer screening and measures to increase it. This method entails doing a comprehensive search of different databases and sources, followed by screening and selecting relevant articles based on preset inclusion and exclusion criteria, as stated in the data collecting section.

After the scientific articles are chosen, they are critically evaluated for quality and relevance, and data is retrieved and synthesized to answer the research topic. To accommodate the nature of the research topic and the data provided, this synthesis takes the shape of a thematic content analysis. It is crucial to note, however, that the above considerations were developed with the reasoning that the systematic literature review process must be transparent and repeatable, with clearly defined methodology and criteria that are extensively stated (Xiao and Watson, 2019:93-94).

This helps to assure the review's rigor and credibility, and it allows other researchers to reproduce and assess the process's validity. Simply said, systematic literature review is seen and used as a



significant tool in the study for synthesizing and integrating existing research on breast cancer screening and finding gaps in knowledge for future research.

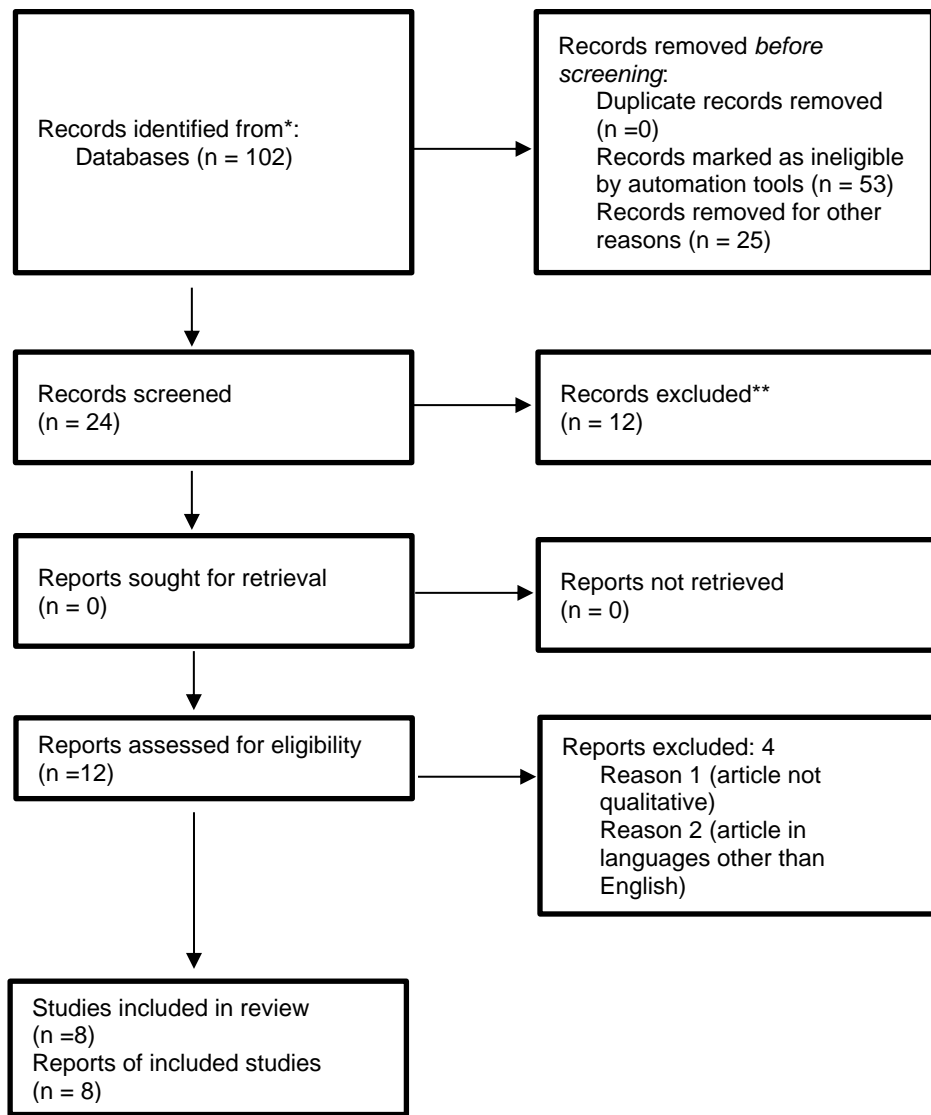
#### **5.4 Data collection strategy**

The study uses systematic review as data collection and analysis tool. After the formulation of specific and well-defined questions which are relevant to the research area, inclusion and exclusion criteria has been developed leading to the selection of 12 studies; mainly peer reviewed scientific articles, which are included in the review. The selection criteria are based on the research questions to ensure that they relevant as well as of high quality. These studies were searched from “Tritonia” database and from reliable sources such as EBSCO, PubMed, Scopus, and CINAHL after they have been identified as meeting the inclusion and exclusion criteria.

Inclusion criteria include: articles not more than 5 years old (from 2017 to date), only articles in English, only full text articles, only peer reviewed articles. Inclusion criteria. The final search by including ‘influence of cultural differences’ on breast cancer screening. This gives 7896 hits. The final selection was done by identifying and selecting the best abstracts that can help answer my research questions. However, the study is not limited to the use of only these articles. References are hence made to other relevant sources to prove a point when the need arises.

The 12 studies identified in the search were then screened based on their titles and abstracts. Four of them did not meet the inclusion criteria and they were excluded. The full texts of the remaining 8 studies have then reviewed to determine their eligibility for inclusion in the review. Relevant data will then be extracted from the 8 studies by identifying the common themes that dominate discussions in the studies. The findings of the studies will then be synthesized using a narrative approach, depending on the nature of the data. The results of the systematic review will be reported in a clear and transparent manner, including any limitations or biases that may have affected the review. Below is a figure 2, PRISMA 2020 flow diagram which depict how articles for data collection were selected.

**Figure 2: PRISMA 2020 flow diagram**



Source : (Page et al., 2021)

### **5.3 Ethical consideration**

The notion of ethics is always important in every research project, and this study is no different. The ethical consideration in the context of this research encompasses all stages of the research as well as potential implications and my position as a researcher.

My ethics idea investigates what is considered good, right, or virtuous behavior throughout research procedures or endeavors (Kvale, 2015:89-90). In order to achieve a condition of harmony amongst people, ethics demands me to behave as a transformational healer with duties to others in accordance with the procedures and outcomes of the research. In other words, as a researcher, I choose and interpret the viewpoints represented in the article used for data collecting in such a way that no harm of any type is caused to any group or individual who is associated with the data obtained. In accordance with this, throughout my interpretation and analysis, I observe not only institutional norms but also individual and collective rights, community protocols, people's power relations, customs and traditions.

I am also guided by the NOVIA University of Applied Sciences' ethical principles and criteria, as well as the guidelines of the Finnish National Board on Research Integrity (TENK). To protect the toward privacy and confidentiality of individuals linked directly or indirectly, I have ensured that personal information of study participants, such as names and identifying characteristics that may have appeared in the reviewed articles, is kept confidential and that participants' privacy is protected.

Although one cannot ignore the effect of own perceptions and orientations, I attempted to avoid prejudice a certain thought that represents an individual or cultural predilection. As a result, my review was completed objectively and impartially, and I have not met any circumstance that offers a risk of potential conflicts of interest in any form. Equally essential, I paid respect for intellectual property by acknowledging and respecting the intellectual property of others whose research and intellectual property I used by correctly referencing their sources and requesting permission where necessary. The publishing and distribution of the same is and will be done in an ethical, transparent, and courteous way toward the authors and their individual research participants.

## **5.4 Limitations**

The research solely relies on existing literature and does not involve primary data collection methods such as interviews or observations. While systematic literature review is a valuable method for synthesizing existing research, it has inherent limitations in terms of the breadth and depth of data that can be obtained. The findings are however dependent on the quality, availability, and relevance of the selected studies.

The systematic literature review process involves selecting studies based on specific inclusion and exclusion criteria. This may introduce selection bias, as certain studies may be inadvertently excluded or overlooked, potentially impacting the comprehensiveness of the findings. Additionally, the reliance on published articles may introduce publication bias, where studies with positive or significant findings are more likely to be included, while studies with null or non-significant results may be underrepresented. However, the awareness of this factor helped to mitigate the impact.

The included studies may vary in terms of their methodological rigor, sample sizes, data collection methods, and analysis techniques. This heterogeneity makes it challenging to compare and synthesize the findings across studies. The varying quality of the studies can also affect the reliability and validity of the overall conclusions drawn from the review.

Qualitative research and systematic literature reviews are not designed for generalizability to the entire population. The findings of this research may be context-bound and specific to the cultural and social settings represented in the selected studies. Caution should be exercised when applying the findings to other populations or settings.

The review is limited to studies published in a specific language (English), potentially excluding relevant research conducted in other languages. This language bias may result in incomplete coverage of the available literature and restrict the diversity of perspectives included in the review. Qualitative research involves interpretation and subjective analysis by me, the researcher. My own biases, perspectives, and experiences may influence the interpretation of the data and the conclusions drawn from the review. This and all the limitations have been taken into account throughout the conduct of the research to mitigate its impact on the findings.

## 6 Results

The reviewed articles provided a comprehensive perspective on the influence of culture on breast cancer screening, incorporating a diverse range of geographical locations, study designs, and cultural contexts. These studies spanned multiple countries, including the United States, Australia, India, and the Middle East, offering a global outlook on the impact of culture on breast cancer screening. The study's findings were derived from a thematic analysis of selected articles, revealing two major themes. The first theme, "Culture and Language Barriers," consisted of two subthemes: "Cultural Beliefs and Religious Practices" and "Language Barriers." The second theme, "Lack of Empowerment and Awareness," encompassed two subthemes: "Women's Empowerment and Socioeconomic Conditions" and "Lack of Awareness and Mistrust of Healthcare Systems and Stigma." These themes explored various cultural and regional contexts within the context of breast cancer screening as examined in the selected articles. Figure 3 illustrates the results of the study.

**Figure 3: Representation of the results**

<b>Themes</b>	<b>Subthemes</b>
Culture and language barriers	Cultural beliefs and religious practices
	language barriers
Lack of empowerment and awareness	Women's empowerment and socioeconomic conditions
	Lack of awareness and mistrust of healthcare systems and stigma

### 6.1 Culture and language barriers

Cultural beliefs and language barriers play significant roles in shaping breast cancer screening behaviors across diverse populations. This discussion explores how cultural factors, including beliefs and religious practices, as well as language barriers, influence individuals' willingness to undergo breast cancer screening. By examining several studies conducted in various cultural contexts, the study gains valuable insights into the complexities of addressing these cultural nuances in healthcare delivery.

### **6.1.1 Cultural beliefs and religious practices**

All the eight of the selected articles demonstrate the significant impact of cultural beliefs and religious practices on breast cancer screening behaviors among diverse populations.

Van Hemelrijck et al. (2019) explored the cultural beliefs of Moroccan migrant women in Brussels regarding breast cancer screening. The study found that cultural beliefs related to modesty and body privacy significantly influenced these women's willingness to undergo screening. Many of these women expressed concerns about the invasive nature of breast cancer screening procedures and the need to expose their bodies “The most convincing I think it’s the doctor... the doctor, it has to be a woman” (Van Hemelrijck et al., 2019, p.935). This highlights the importance of culturally sensitive messaging and interventions to address these beliefs and increase screening rates among this population.

Pilkington et al. (2017) focused on the cultural beliefs of Aboriginal women in Australia regarding mammographic screening. The study identified several cultural perspectives that affected their participation in screening. One significant factor was the fear of the screening process itself, which was often associated with pain and discomfort. Additionally, some Aboriginal women perceived healthcare providers as culturally insensitive, which contributed to their reluctance to undergo screening “their titties out in front of strangers.” (Pilkington et al., 2017, p.7) For this reason, the prefer someone with their cultural orientation “aboriginal people talking to them ... someone that has had breast cancer or something, sitting and talking to people, just sharing, yarning...” (Pilkington et al., 2017, p.7) These findings underscore the importance of culturally competent healthcare services and the need to address cultural perceptions and fears when designing screening programs.

Christie et al. (2023) examined the views of Australian Indigenous women on breast cancer screening and treatment services. The study revealed that cultural beliefs and community support played a crucial role in shaping these women's attitudes toward screening. Cultural beliefs influenced their perceptions of health and illness, impacting their willingness to engage with healthcare systems “Aboriginal women would be reluctant to use those services for lack of a better word that they’re run by white women traditionally and I guess it’s about that cultural sensitivity and how those things are handled” (Christie et al., 2023, p.4). Community support networks also played a significant role in encouraging or discouraging participation in screening “When you see

other Aboriginal women it just makes you feel more at ease, or comfortable, about the procedure happening” (Christie et al., 2023, p.4). The study emphasized the necessity of culturally appropriate services that respect and integrate Indigenous cultural values and practices.

Savabi-Esfahani et al. (2018) delved into the role of personality factors related to cultural beliefs in breast cancer screening behavior. The study found that cultural influences, such as collectivism and cultural norms, could impact personality factors related to screening. For instance, individuals from collectivist cultures may prioritize the well-being of the family over personal health, affecting their motivation to undergo screening. “When one of the children has a headache, I should take them to the doctor. These tasks prevent me from paying attention to myself... Women, such as my mom, have learned from their mothers and sisters that one’s children and husband, as well as other people, have priority.” (Savabi-Esfahani et al., 2018, p.94) This study highlights the need for tailoring interventions and messages to individuals' cultural backgrounds to address personality factors that can either facilitate or hinder screening behavior.

### **6.1.2 Language barriers**

Two of the articles highlight the significant role that language barriers play in influencing breast cancer screening behaviors, albeit in different cultural contexts. Van Hemelrijck et al. (2019) focused on Moroccan migrant women in Brussels. They identified language barriers as a major challenge for these women when it came to accessing information about breast cancer screening. Many of the participants faced difficulties in understanding the information provided due to language differences ‘When we see Arabic... it warms the heart. It shows you thought of us anyway. But I think it’s not the majority that read Arabic either, written Arabic is different than Arabic in life” (Van Hemelrijck et al., 2019, p.937) This made it challenging for them to comprehend the importance of screening, the procedures involved, and where to access screening services.

The study emphasized the crucial need for healthcare providers and organizations to address these language barriers by providing information in multiple languages. Culturally sensitive and multilingual messaging can enhance access to breast cancer screening information and services among migrant populations. This approach ensures that individuals with limited proficiency in the

local language can still receive vital information about screening and make informed decisions about their health.

Donnelly et al. (2017) investigated the perceptions of Arab men in the Middle East regarding female breast cancer screening. They also identified language and communication barriers as factors affecting access to information about screening. In this context, language barriers can not only affect women's understanding of screening but also limit their ability to discuss and seek support from family members, including male relatives. There was a need to make screening information available in the language that people (women) can understand “a website, built in Arabic and English, which could include detailed, gender-appropriate information about breast cancer” (Donnelly et al., 2017, p.16). In societies where cultural norms and gender roles may restrict open conversations about sensitive health topics, language barriers can exacerbate the challenges women face in accessing information and support for breast cancer screening. Addressing these language barriers is not only about providing information but also creating an environment where women can have meaningful conversations with their families and communities about screening.

## **6.2 Lack of empowerment and awareness**

This section delves into the intricate interplay of cultural beliefs, religious practices, women's empowerment, socioeconomic conditions, language barriers, lack of awareness, mistrust of healthcare systems, and stigma in shaping breast cancer screening behaviors within diverse cultural and regional contexts. Drawing from a range of studies conducted worldwide, we explore how these multifaceted factors influence individuals' decisions regarding breast cancer screening.

### **6.2.1 Women's empowerment and socioeconomic conditions**

The studies conducted by Pilkington et al. (2017) and Christie et al. (2023) delve into the complex relationship between women's empowerment, socioeconomic conditions, and cultural factors in shaping breast cancer screening behaviors among Indigenous women.

Pilkington et al (2017) examined how cultural factors influenced the empowerment and socioeconomic conditions of Aboriginal women in Australia concerning mammographic screening. They found that cultural beliefs and gender roles played a significant role in shaping



these women's empowerment and socioeconomic conditions. The study highlighted that, cultural beliefs, including concepts of modesty and the perceived sacredness of the body, influenced women's views on mammographic screening. These cultural beliefs intersected with socioeconomic conditions, as women who held stronger cultural beliefs were more likely to prioritize them over screening “Some research participants expressed the view that many Aboriginal women think that they are just too busy or have other priorities (for example young children) which get in the way of them participating in breast screening.” (Pilkington et al., 2017, p.6). The interplay between cultural beliefs, gender roles, and socioeconomic conditions had a direct impact on women's participation in screening. Some women expressed discomfort with the idea of undergoing mammography, and their socioeconomic conditions often reinforced these views, as accessing screening services might entail costs and time away from work or family.

Christie et al. (2023) explored the role of empowerment and socioeconomic factors among Australian Indigenous women in the context of breast cancer screening and treatment services. Their findings emphasized that cultural factors intersected with socioeconomic conditions to affect screening decisions. Cultural factors, including community support and indigenous women's roles as caregivers, influenced women's empowerment in healthcare decision-making “Aunty (name of elder) ... (who) always used to encourage us to go and have a breast screen – in that van. And, like, all the time, you know, she had (breast cancer) too, and ... she was sharing some stuff ... about it... and she kept encouraging me to go and all that. And, she said, “It’s going to be all right, Sister ...”, “You know, she was there.” (Christie et al., 2023, p.6). Some women were empowered to seek screening due to the support of their communities and families. Socioeconomic factors, such as financial stability and access to transportation, also played a role. In the absence of this, they turn to prioritize family basic needs “family’s always important, first and foremost, over our own health.” (Christie et al., 2023, p.6). Women with better socioeconomic conditions were more likely to participate in screening, as they could overcome practical barriers that hindered others.

### **6.2.2 Lack of awareness and mistrust of healthcare systems and stigma**

Four of the studies shed light on the crucial issues of lack of awareness and mistrust of healthcare systems in relation to breast cancer screening behaviors in different cultural and regional contexts.

Donnelly et al. (2017) investigated the perceptions of Arab men in the Middle East regarding female breast cancer screening. One of the significant barriers identified was a lack of awareness among men about the importance of breast cancer screening. “No, I have no idea about them and I don't ask about them because if I do and I am a man, they would say: why are you interested in this issue?” (Donnelly et al., 2017, p.14). This lack of awareness extended to the broader community. The study also highlighted mistrust of healthcare systems as a significant factor affecting access to breast cancer screening. Mistrust can arise from concerns about the quality of care, confidentiality, and the overall healthcare experience. On the other hand, Pratt et al. (2017) explored the views of Somali women and men on the use of faith-based messages for cancer screening. Similar to Donnelly et al., this study emphasized the presence of mistrust in healthcare systems among the Somali community. Participants expressed the need for culturally appropriate information and trusted messengers when it came to cancer screening. They were more likely to trust faith-based organizations and community leaders “Many described feeling that the faith-based messages had influenced how they viewed screening” (Pratt et al., 2017, p.7).

Nyblade et al. (2017) explored cervical and breast cancer stigma in Karnataka, India. The study revealed that lack of awareness about breast cancer and stigma associated with the disease contributed to low screening rates. “Life is finished nothing is there after getting cancer...There is a belief among people that people will die if they get cancer. They don't know there are many types in cancer and cancers are curable.” (Nyblade et al., 2017, p.7). Stigma and fear of being labeled with a cancer diagnosis were major deterrents to seeking screening. Dewi et al. (2021) also examined determinants of early breast cancer presentation among female survivors in Indonesia. The study highlighted the role of awareness and trust in healthcare systems. Women who were aware of breast cancer and trusted healthcare providers were more likely to present early with symptoms "the respondents reported that part of their decision to have a medical examination following their symptom presentation was related to the healthcare provider status, which according to them it made them feel reassured and safe, e.g., being familiar, female, or known for their competence" (Dewi et al., 2021, p.1434).

## **7 Discussion**

Qualitative research and systematic literature review methods have been employed to provide a comprehensive exploration of the impact of cultural factors on breast cancer screening. The following sections discuss the profound influence of cultural beliefs and practices on breast cancer screening behaviors, including how these factors shape knowledge, perceptions, and decision-making processes. It also examines the interplay between women's empowerment, socioeconomic conditions, and screening participation, emphasizing the pivotal role of self-efficacy, cultural competence and access to resources.

### **7.1 Discussion of the method**

The methodology employed in this study consisted of qualitative research and a systematic literature review. The use of these methods aimed to comprehensively explore the impact of cultural factors on breast cancer screening and identify measures to enhance screening practices.

Qualitative research was utilized to investigate individuals' experiences, attitudes, and actions related to breast cancer screening. This approach allowed for a deeper understanding of the cultural elements that influence screening habits and the barriers that hinder screening. According to Polit and Reck (2010), qualitative research is an interpretative technique that seeks to comprehend social phenomena by studying individuals in their natural environments. It involves the collection and analysis of non-numerical data, such as interview transcripts, field notes, and observational data (Polit & Beck, 2010:222-223). Although this study did not involve fieldwork or direct contact with individuals, insights from previously conducted studies were utilized to gain a comprehensive understanding of people's experiences and perspectives.

One of the key characteristics of qualitative research is its context-bound nature, which means it aims to explain social phenomena within the unique cultural, historical, and social settings in which they occur. The iterative nature of qualitative research, involving continuous cycles of data collection, analysis, and interpretation, allows for flexibility in adapting study questions and methodologies based on new discoveries. This flexibility is in contrast to the relative rigidity of quantitative approaches. Additionally, qualitative research acknowledges the researcher's subjectivity, recognizing that their personal perspective and experiences can influence the research process and interpretation of findings (Polit & Beck, 2010:222-223).

In the context of this study, qualitative research provided valuable insights into the cultural factors influencing breast cancer screening. It facilitated the exploration of novel phenomena, the generation of hypotheses, the development of theories, and the evaluation of programs or interventions, all of which are critical in enhancing understanding and knowledge of health and well-being issues.

In addition to qualitative research, a systematic literature review was conducted to synthesize existing research on cultural factors and breast cancer screening. A systematic literature review involves a comprehensive search, analysis, and synthesis of relevant literature on a specific research topic (Xiao and Watson, 2019:93-94). The goal of this review was to identify studies that examined cultural factors related to breast cancer screening and interventions aimed at increasing screening rates. The review process followed preset inclusion and exclusion criteria and involved searching databases such as EBSCO, PubMed, Scopus, and CINAH to identify peer-reviewed scientific articles.

The selected articles underwent critical evaluation for quality and relevance. Data was extracted and synthesized using a thematic content analysis approach, aligning with the nature of the research topic and the data provided. It is worth noting that transparency, repeatability, and clearly defined methodology and criteria are essential elements of a systematic literature review (Xiao and Watson, 2019:93-94). This ensures the rigor and credibility of the review, allowing other researchers to reproduce and assess the validity of the process.

The systematic literature review served as a tool for integrating and synthesizing existing research on breast cancer screening and identifying gaps in knowledge for future research. By analyzing and summarizing the findings of the included studies, the review provided a comprehensive understanding of the impact of cultural factors on screening practices and identified potential strategies to address disparities and enhance participation.

The chosen data collection strategy for this study was a systematic review, which involved the identification, selection, and analysis of relevant scientific articles. The process began with the formulation of specific research questions that were relevant to the study's focus. Inclusion and exclusion criteria were then developed to guide the selection of articles that met the research objectives. The search for studies was conducted in databases such as "Tritonia," as well as reputable sources like EBSCO, PubMed, Scopus, and CINAH.

A total of twelve (12) studies, primarily peer-reviewed scientific articles, were included in the review based on their alignment with the research questions and their quality. It is important to note that the entire study was not limited to these articles alone, and references to other relevant sources were made when necessary to support key points or fill gaps in knowledge. The selected studies underwent a screening process based on their titles and abstracts. Four studies were excluded as they did not meet the inclusion criteria. The full texts of the remaining eight (8) studies were reviewed to determine their eligibility for inclusion in the systematic review.

During the data extraction phase, common themes that emerged from the selected studies were identified, and relevant data related to these themes were extracted. The synthesis of findings was carried out using a narrative approach, taking into consideration the nature of the data and the research objectives. The results of the systematic review will be reported in a clear and transparent manner, including any limitations or biases that may have influenced the review process. The study adheres to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, ensuring the transparency and reproducibility of the review process.

Regarding ethical considerations, the researcher acknowledges the importance of ethics throughout the research project. The ethical aspects encompass all stages of the study and potential implications. The researcher abides by ethical principles, ensuring that no harm is caused to any individual or group associated with the data obtained. Respecting privacy and confidentiality are a crucial aspect of ethical practice. Personal information of study participants, as well as any identifying characteristics found in the reviewed articles, is kept confidential to protect individuals directly or indirectly linked to the data. The researcher follows the ethical principles and criteria outlined by the NOVIA University of Applied Sciences and the guidelines of the Finnish National Board on Research Integrity (TENK).

The approach to this review is objective and impartial, avoiding personal biases or prejudice. Conflicts of interest have been identified and addressed appropriately to maintain the integrity of the study. Proper acknowledgement and referencing of intellectual property are ensured to respect the work of others and protect their rights. The publishing and distribution of the study's findings will be conducted in an ethical, transparent, and courteous manner, respecting the authors and their research participants. Overall, the researcher upholds ethical standards and considers the well-being and rights of all individuals involved in the research process

## **7.2 Discussion of the result**

This part aims to provide a deeper understanding of the intricate factors that influence breast cancer screening decisions. This knowledge serves as a foundation for the development of culturally sensitive and targeted interventions, ultimately working towards improved breast cancer screening rates and better health outcomes for all individuals, regardless of their cultural or socioeconomic background.

Cultural factors, such as beliefs, values, norms, and traditions, have a significant impact on how people perceive health, illness, and preventive care. These cultural beliefs influence various aspects of breast cancer screening, including awareness, acceptance, utilization, and adherence to screening guidelines (Freund, Cohen & Azaiza, 2019). However, the extent of this impact can vary from one society to another based on cultural orientations and aspirations. One of the ways cultural beliefs affect breast cancer screening is by shaping the level of knowledge and awareness within a community. Different cultural groups may have different understandings of breast cancer risk, symptoms, and the importance of early detection. When there is limited knowledge or misconceptions about breast cancer, it can lead to reduced awareness of available screening options and lower participation in screening programs. To address these knowledge gaps, it's crucial to provide culturally sensitive education and awareness campaigns to ensure that accurate information is available, and the benefits of early detection are understood.

Cultural beliefs also influence how people perceive their susceptibility to breast cancer. Some cultural groups may view breast cancer as a taboo topic or believe that it only affects specific populations, leading to a false sense of invulnerability. On the other hand, cultural fears and beliefs related to cancer can lead to avoidance or fear of screening procedures, such as mammography or clinical examinations. Overcoming these cultural barriers requires targeted interventions that address these specific beliefs, correct misconceptions, and emphasize the importance of screening for everyone, regardless of their cultural background. Cultural norms related to modesty and privacy can affect women's willingness to undergo breast cancer screening. In some cultures, there may be specific requirements for healthcare providers or preferences for female healthcare professionals (Donnelly et al., 2017). These considerations can impact the acceptability and accessibility of certain screening methods, particularly when conducted by healthcare providers

from different cultural backgrounds. Respecting and accommodating these cultural preferences is essential to ensure that screening services are culturally sensitive, respectful, and tailored to individual needs (Ambinder et al., 2021).

Furthermore, cultural beliefs and values related to family and community can significantly influence individual decisions about breast cancer screening. Family support, opinions, and collective decision-making play a crucial role in whether a woman seeks or adheres to screening recommendations. In cultures that prioritize the well-being of the community over individual health, screening decisions may be influenced by broader social dynamics and expectations. Involving family and community members in educational initiatives can foster support and encourage positive attitudes toward screening. Additionally, cultural beliefs may lead individuals to prefer traditional or alternative medicine for health concerns, including breast cancer. Herbal remedies, spiritual healing, or cultural rituals may be preferred over conventional medical approaches. These beliefs and practices can result in delayed or alternative approaches to seeking medical diagnosis and treatment, potentially affecting timely screening or early intervention. Integrating traditional healing practices with evidence-based medicine and providing culturally sensitive guidance can help individuals navigate between cultural beliefs and recommended screening practices (Roux et al., 2022).

To address the influence of cultural beliefs on breast cancer screening, it's essential to recognize and address these cultural factors. Healthcare providers should be culturally sensitive, respectful, and aware of diverse cultural perspectives when delivering breast cancer education, counseling, and screening services. Tailoring interventions to specific cultural contexts, involving community leaders, and utilizing culturally appropriate communication channels can enhance awareness, acceptance, and uptake of breast cancer screening among diverse populations. Embracing cultural diversity in healthcare can bridge gaps in knowledge, perceptions, and practices, leading to improved early detection and better health outcomes for all.

The Social Foundations of Thought and Action Theory, proposed by Albert Bandura, asserts that individuals' behaviors and decisions are influenced by both personal cognitive processes and the social environment in which they operate. When examining the cultural factors affecting breast cancer screening, it becomes evident that these factors are intricately tied to the theory's concepts.

Cultural beliefs and practices, as discussed in the context of breast cancer screening, shape individuals' cognitive processes and decision-making, and are deeply influenced by the social environment they are part of. Moreover, cultural beliefs related to health, illness, and body image can impact the perceived necessity of screenings. Leininger's theory suggests that healthcare interventions should align with individuals' cultural values and beliefs to enhance their acceptance and compliance. For example, a culture that places high value on natural healing remedies may respond more positively to education about holistic approaches to cancer prevention alongside conventional screening methods.

Women's empowerment and socioeconomic status have cultural foundation and can have a significant impact on breast cancer screening. These factors influence screening behaviors by affecting knowledge, decision-making, and access to healthcare services. Empowered women, those with access to education and information, tend to be more knowledgeable about breast cancer and screening. They understand the benefits and risks of screening and are more likely to seek preventive healthcare, including breast cancer screening. They take ownership of their health and make informed decisions about participating in screening programs (Roux et al., 2022). In contrast, women from disadvantaged socioeconomic backgrounds may face barriers like lack of health insurance, financial constraints, transportation issues, and limited access to screening facilities. These obstacles hinder their ability to access and use screening services. Empowered women also tend to have better navigation skills within the healthcare system. They know about available screening services, how to access them, and have the resources to overcome logistical challenges. Women facing socioeconomic disadvantages may struggle to navigate the healthcare system, leading to lower screening rates (Roux et al., 2022).

Socioeconomic conditions can intersect with cultural and social norms, further influencing screening behaviors. Some societal norms prioritize family responsibilities over women's health, making it challenging for women from disadvantaged backgrounds to prioritize their health and participate in screening programs. Empowered women often have strong social support networks, which encourage them to undergo breast cancer screening. The Social Foundations of Thought and Action Theory helps us understand how women's empowerment and socioeconomic factors influence breast cancer screening behaviors. Empowered women have a higher sense of self-efficacy, believing in their ability to make informed decisions and take proactive steps for their



health, including screening. This theory also emphasizes that people's behaviors are influenced by their perceived ability to navigate their environment. Furthermore, empowered women often serve as role models within their communities, promoting positive health behaviors and advocating for breast cancer screening. Their actions can influence others to prioritize their health. The theory highlights the importance of social support networks, which empower women to engage in healthy behaviors. Empowered women are better equipped to challenge and reshape cultural and societal norms that may discourage women's health prioritization. Their self-efficacy helps them navigate the complex interplay between cultural expectations and individual health choices. By challenging these norms, empowered women foster environments where breast cancer screening is seen as essential for overall well-being (Roux et al., 2022).

Language barriers, which can be rooted in cultural differences, play a crucial role in breast cancer screening. When people from different cultures communicate, these differences can lead to misunderstandings and challenges in bridging the language gap. These phenomena can have a significant impact on breast cancer screening because they hinder effective communication between healthcare providers and patients (Van Hemelrijck et al., 2019). Patients who don't speak the same language as their healthcare providers may struggle to understand essential information about screening, such as its purpose, the procedure involved, and its potential benefits and risks. This lack of understanding can result in confusion, misinformation, and reluctance to undergo screening. Furthermore, language barriers can limit access to information about breast cancer screening. Materials like brochures, websites, and educational resources related to screening may not be available in the patient's native language. As a result, individuals may have limited knowledge about why screening is important, how to prepare for it, and where to go for screening services.

Language barriers can also restrict the choice of healthcare providers for individuals. Patients may prefer healthcare providers who speak their language fluently or have access to interpreters. However, in some settings, such providers may be scarce, leading to reduced access to culturally and linguistically appropriate care. Even when interpreters are used, nuances, cultural context, and specific medical terminology can get lost or misunderstood, potentially leading to inaccuracies in conveying screening-related information (Van Hemelrijck et al., 2019). In some cases, individuals facing language barriers may rely on family members or friends who are bilingual to communicate

with healthcare providers. While this can help bridge the communication gap, it can also result in limited privacy and confidentiality during discussions about personal health issues, including breast cancer screening (Oh et al., 2017).

The Social Foundations of Thought and Action Theory helps us understand how language barriers intersect with cultural factors and affect breast cancer screening behaviors. Within this framework, language barriers are seen as a part of the social environment that significantly influences individual behaviors and decision-making. Language is not just a means of communication; it also carries cultural nuances and concepts that shape how people perceive and understand the world. In the context of breast cancer screening, language barriers hinder effective communication and, consequently, individuals' understanding, perception, and participation. The theory emphasizes the importance of communication in conveying information and knowledge. When language barriers exist between healthcare providers and patients, effective communication breaks down, making it difficult for patients to grasp the importance of breast cancer screening and the details of the procedure. Additionally, the theory highlights the role of self-regulation, which refers to individuals' ability to monitor and adjust their behaviors based on their goals and internal standards. Language barriers can hinder self-regulation by limiting access to accurate and comprehensive information about breast cancer screening. This inadequate understanding can lead to confusion, misinformation, and a lack of confidence in making informed decisions. To address these challenges, healthcare providers must strive for cultural competence. This means equipping themselves with cultural knowledge and communication skills that enable effective interactions with diverse patient populations. Respect for cultural diversity, active listening, and tailoring information to align with cultural norms are crucial aspects of providing culturally sensitive care.

Lack of awareness and mistrust of healthcare systems are significant factors that can affect breast cancer screening. When people are not aware of breast cancer and the importance of screening, they are less likely to participate in screening programs (Ambinder et al., 2021). Limited access to health education, cultural beliefs, and socioeconomic disparities can contribute to this lack of awareness. Without proper knowledge about breast cancer and screening, individuals may not prioritize preventive measures or seek timely medical attention. Mistrust of healthcare systems is another barrier to breast cancer screening. Historical experiences of discrimination, mistreatment, or limited access to healthcare can lead to deep-seated mistrust of healthcare providers and systems

(Huhmann, 2020). This mistrust can result in reluctance to seek medical care, including breast cancer screening. Concerns about privacy, confidentiality, cultural sensitivity, and discriminatory practices can reinforce this mistrust and deter individuals from getting screened. Both lack of awareness and mistrust can lead to fear and misconceptions about breast cancer screening. Misinformation or misunderstandings about the screening process, potential discomfort, side effects, or concerns about the accuracy of results can discourage individuals from undergoing screening. Fear of receiving a cancer diagnosis and worries about treatment options, financial implications, or social stigma can also impact screening participation.

Applying the Social Foundations of Thought and Action Theory to these concepts helps us understand how lack of awareness and mistrust influence breast cancer screening behaviors. Lack of awareness can be seen as a lack of information, which hinders informed decision-making. When individuals lack awareness of breast cancer and screening benefits, it affects their ability to set health-related goals, such as participating in regular screening. Mistrust of healthcare systems is linked to the concept of self-efficacy within the theory. Self-efficacy refers to individuals' beliefs in their ability to engage in behaviors to achieve desired outcomes. When mistrust exists, individuals' confidence in navigating the healthcare system is reduced. Historical experiences and systemic issues have shaped their beliefs in the healthcare system's effectiveness, leading to doubts about screening procedures and treatment options. This reduced self-efficacy can prevent individuals from seeking preventive healthcare services, including breast cancer screening. Observational learning is another aspect highlighted by the theory. Individuals may observe others who share similar sentiments of mistrust or lack of awareness, reinforcing the perception that screening is unnecessary or ineffective. These factors affect individuals' cognitive processes, self-regulation, self-efficacy, and observational learning.

In Leininger's theory, cultural factors are at the forefront of understanding health-related behaviors. Different cultures have their own unique beliefs, values, and practices that shape individuals' perceptions and decisions regarding healthcare. Lack of awareness about breast cancer and screening can be seen as a result of gaps in cultural care knowledge within certain communities. When individuals from particular cultural backgrounds lack access to culturally relevant health education and information, they may remain unaware of the significance of breast cancer screening. This absence of culturally tailored knowledge can lead to individuals not prioritizing

preventive measures, as they may not fully comprehend the importance of early detection. Mistrust of healthcare systems, on the other hand, can be linked to the cultural care worldview within Leininger's theory. Historical experiences of discrimination, mistreatment, or disparities in healthcare access have a profound impact on the trust that individuals from marginalized or disadvantaged cultural groups place in healthcare providers and systems. These negative experiences shape their cultural care worldview, leading to skepticism and reluctance to engage with the healthcare system, including breast cancer screening. Concerns related to privacy, confidentiality, cultural insensitivity, and discriminatory practices further reinforce this mistrust and deter individuals from seeking screening services.

In the context of cultural factors, Leininger's theory plays a significant role in understanding attitudes and behaviors related to breast cancer screening. Different cultures may have varying views on modesty, privacy, and gender roles, which can influence screening decisions. For example, some cultures prioritize female privacy, which may affect their willingness to undergo screenings involving exposure.

To address these influences, healthcare interventions should focus on providing accurate and culturally sensitive information about breast cancer and screening benefits. Addressing historical and systemic issues contributing to mistrust is essential to rebuild confidence in the healthcare system. Comprehensive and culturally sensitive educational campaigns can raise awareness about breast cancer, screening guidelines, and the benefits of early detection. These campaigns should address specific concerns and dispel myths related to breast cancer screening. Using various communication channels, community outreach, and partnerships with trusted community leaders can help disseminate accurate information and address cultural beliefs and concerns.

As demonstrated above, the discussion of study results was based on two main assumptions. The first assumption, as emphasized by social cognitive theory, supports the fact that cultural factors such as beliefs, norms, and values shape an individual's understanding of health, illness, and cancer. These cultural beliefs can influence a person's perception of breast cancer screening, its importance, and its effectiveness. Additionally, cultural factors can influence a person's decision to participate in breast cancer screening. For example, some cultural beliefs may promote modesty and privacy, making women from certain cultural backgrounds uncomfortable with the idea of breast cancer screening. Additionally, some cultural beliefs may promote fatalistic attitudes

towards cancer, leading women to believe that there is no point in participating in screening. Understanding these cultural factors is essential in promoting breast cancer screening among women from different cultural backgrounds.

The second assumption as promoted by the transcultural nursing theory underscores the need for healthcare professionals to understand the cultural beliefs, values, and practices of diverse patient populations. The application of Leininger's Transcultural Nursing Theory to this research offers valuable insights into how cultural factors impact individuals' decisions and behaviors related to breast cancer screening. The theory provides a framework to guide the research process, enhance data interpretation, and inform interventions for culturally congruent breast cancer screening programs. Leininger's theory highlights the importance of cultural assessment. Researchers should include thorough cultural assessments in their study to understand participants' cultural perspectives on breast cancer, their perceptions of screening, and any cultural barriers they might encounter. The theory suggests that interventions should be culturally tailored. Therefore, research findings can guide the development of interventions that respect cultural practices and beliefs. For instance, educational materials can be designed to align with cultural norms, making them more effective in conveying information about breast cancer screening.

## **8 Conclusion**

This study conducted a systematic review to explore how cultural factors affect breast cancer screening. The research revealed that cultural beliefs, religious practices, language barriers, Lack of awareness, mistrust of healthcare systems, stigma, and women's empowerment and socioeconomic conditions with cultural foundation have a significant impact on whether people get screened for breast cancer. These factors act as barriers to screening for various cultural, ethnic, faith-based, and immigrant communities.

Cultural beliefs are crucial in shaping how individuals view breast cancer, screening methods, and their own risk of the disease. Lack of knowledge, misunderstandings, and fears related to cancer can make people unaware or hesitant about screening. Cultural values, like modesty and privacy concerns, as well as preferences for healthcare providers from specific cultural backgrounds, can also influence screening decisions. Additionally, cultural values that emphasize family and

community dynamics play a role in whether someone chooses to get screened. Some people may rely on traditional or alternative medicine, leading to delayed or different approaches to seeking medical care. Women's empowerment and their socioeconomic status are also important factors. Women who are empowered and have access to education and information are more likely to know about breast cancer and participate in screening. Having the ability to make decisions about their health and access healthcare services plays a role in their screening behavior.

To address these cultural barriers, it's essential to use culturally sensitive approaches and involve communities. Education and awareness campaigns should be tailored to specific cultural contexts and delivered in ways that make sense to those communities. Integrating traditional healing practices with evidence-based medicine can also help gain acceptance and support for screening. Healthcare providers are crucial in promoting effective screening programs. They need to be culturally sensitive, respectful, and aware of the diverse cultural perspectives of their patients. By recognizing and addressing these cultural influences, healthcare professionals can help bridge the gaps in knowledge, perceptions, and practices related to breast cancer screening. This, in turn, can lead to better early detection and health outcomes for everyone.

However, it's important to note that this study has some limitations. The findings are based on a systematic review of existing research, and they may not cover all possible cultural factors affecting breast cancer screening. The studies selected focused on specific cultural groups, so they might not represent the full range of cultural influences worldwide. Additionally, the review primarily looked at qualitative research, and quantitative studies could provide more insights into the relationships between cultural factors and screening behaviors. Further research is needed to explore specific cultural factors affecting breast cancer screening in underrepresented populations. Long-term studies can give us a deeper understanding of how cultural beliefs and socioeconomic conditions impact screening over time. Moreover, we should evaluate interventions to see if they effectively improve screening rates and reduce disparities among various cultural groups.

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## Appendices

**Figure 4: literature search**

Article name	Year	Author	Aim	Method	Result
Breast cancer screening and migrants: exploring targeted messages for Moroccan migrant women in Brussels	2019	Van Hemelrijck et al.	Explore targeted messages for Moroccan migrant women in Brussels regarding breast cancer screening.	Qualitative study: expert interview and focus groups	Printed communication delivered by post is not the most effective or culturally suitable method for encouraging breast cancer screening among Moroccan migrant women in Brussels. Additionally, it may not adequately address the unique barriers to screening identified in this study
Perspectives of Aboriginal women on participation in mammographic screening: a step towards improving services	2017	Pilkington et al.	Understand the perspectives of Aboriginal women on participation in mammographic screening.	Qualitative study: Semi-structured interviews, focus group discussions and yarning sessions	Barriers to participation identified included lack of education about or understanding of screening, inadequacies in cultural appropriateness in the screening program, cultural beliefs around cancer in general and breast cancer in particular, and competing health and life priorities
“Everyone needs a Deb”: what Australian indigenous women say about breast	2023	Christie et al.	Investigate Australian Indigenous women's views on breast cancer	Qualitative study: Semi-structured, in-depth	Screening participation is influenced by factors such as access, awareness, community and family dynamics, lack of control, negative emotions and associations, and the role of healthcare services. To effectively increase access and participation

cancer screening and treatment services			screening and treatment services	interviews and focus group discussions	among Indigenous women and ultimately decrease mortality rates, breast cancer services should take proactive measures to address the specific cultural and community needs of this population
A qualitative exploration of personality factors in breast cancer screening behavior	2018	Savabi-Esfahani et al.	Explore personality factors influencing breast cancer screening behavior	Qualitative study: Descriptive exploratory qualitative approach using two discussion groups	Personality factors can act as both barriers and enablers of participation in breast cancer screening. While some women prioritize the well-being of their family and children over their own self-care, others prioritize their health and view self-care as a significant concern
Perceptions of Arab men regarding female breast cancer screening examinations— Findings from a Middle East study	2017	Donnelly et al.	Examine perceptions of Arab men regarding female breast cancer screening examinations in the Middle East	Qualitative study: Individual in-depth interviews with open-ended questions	The majority of men recognized the significance of regular breast cancer screening for early detection. They believed they played a vital role in motivating the women in their lives to engage in breast cancer screening activities but were firm in their stance that such examinations should be conducted by female healthcare professionals
Views of Somali women and men	2017	Pratt et al.	Investigate the views of Somali	Qualitative study: A total of	Somali women and men displayed a highly favorable reaction to faith-based messages



on the use of faith-based messages promoting breast and cervical cancer screening for Somali women: a focus-group study			women and men on faith-based messages promoting breast and cervical cancer screening for Somali women	five focus groups were convened, with 34 Somali women (three groups) and 20 Somali men (two groups).	promoting breast and cervical cancer screening. These messages seemed to strengthen the positive attitudes of those already inclined toward screening. Even among individuals initially hesitant about screening, the faith-based messages had a meaningful impact on their perspectives, leading to increased openness to the idea of screening.
A qualitative exploration of cervical and breast cancer stigma in Karnataka, India	2017	Nyblade et al.	Explore cervical and breast cancer stigma in Karnataka, India.	Qualitative study: In-depth interviews and focus group discussions	Cancer stigma was evident in both data sets and permeated the transcripts. It encompassed descriptions of how women diagnosed with breast or cervical cancer were perceived and discussed within their families and communities, reflecting the manifestations of stigma. The transcripts also shed light on the underlying reasons driving such behavior
Determinants of early breast cancer presentation: a qualitative exploration among	2021	Dewi et al.	Determine the factors influencing early breast cancer presentation among	Qualitative study: Face-to-face semi-structured interviews	The women's responses highlighted nine factors that influence early presentation in breast cancer cases: knowledge (or lack thereof), perceived control over behavior, past health experiences and risk perceptions, personal attitudes and beliefs,

female survivors in Indonesia			female survivors in Indonesia		cultural and community norms, competing priorities in life, financial considerations, practical and logistical factors, aspects related to healthcare providers.
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