

Quality of Life Among Patients with Breast Cancer: A Systematic Review

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Abstract: **Background:** The prevalence of breast cancer has been rising, making it crucial to understand the factors affecting the QOL of patients undergoing treatment and living with the disease. **Methodology:** The databases searched included the PubMed/MEDLINE, Embase, PsycINFO, CINAHL, and Science Direct yielding a total of 275 records. The stringent selection process, as outlined by the PRISMA guideline, ensured that the studies included in the review are of high quality and directly pertinent to the research objectives. **Results:** Of the 275 studies identified through database searching, only 5 studies were used in this systematic review. The 5 domains of the QOL in patients with breast cancer—physical, emotional, psychological, financial, and spiritual—provided an insightful overview of how different aspects of life are affected by this condition. **Conclusion:** The long-term physical impact and diverse emotional experiences of individuals through psychological interventions, while also performing a comprehensive financial analysis and investigating the outcomes of various spiritual practices were necessary to achieve the 5 QOL domains for breast cancer patients.

Keywords: breast cancer, QOL on breast cancer, quality of life for breast cancer.

1. Introduction

The review analyzes the domains of the quality of life (QOL) among patients with breast cancer. Breast cancer is a significant public health concern globally, impacting millions of women each year (Nageeti et al., 2019; Ribeiro et al., 2023). The prevalence of breast cancer has been rising, making it crucial to understand the factors affecting the QOL of patients undergoing treatment and living with the disease (Katsura et al., 2022). This review focuses on the physical, emotional, psychological, financial, and spiritual aspects of the QOL.

A. Physical QOL

Patients often experience significant physical discomfort and pain due to the disease and its treatment (Hinze et al., 2022). Managing these physical symptoms is crucial for improving the overall QOL.

B. Emotional QOL

The emotional state of patients is heavily impacted by breast cancer (AlJaffar et al., 2023). Studies show varying levels of happiness, enthusiasm, and control over their lives, which are vital for maintaining a positive outlook and coping with the disease.

C. Psychological QOL

The ability to focus on personal and professional goals is often disrupted (Ribeiro et al., 2023). Psychological support and therapies can help patients regain their focus and improve their mental health.

D. Financial QOL

Breast cancer treatment can lead to substantial financial burdens, affecting patients' ability to maintain economic stability (Alghamdi et al., 2021). Addressing financial toxicity is essential for improving patients' QOL.

Spiritual QOL: Spiritual well-being, including religious beliefs and practices, plays a significant role in how patients cope with their illness (Al Eid et al., 2020). Providing spiritual support can enhance their overall QOL.

2. Methodology

The comprehensive search for relevant studies found on table 1, was conducted through an extensive review of multiple databases, each offering unique resources and indexing systems that ensure a broad and inclusive collection of literature (Polit & Beck, 2017). The databases searched included PubMed/MEDLINE, Embase, PsycINFO, CINAHL, and Science Direct (Blaizot et al., 2022). These databases were selected for their robust and diverse repositories of medical, psychological, nursing, and scientific research, which collectively provided a well-rounded scope of the available literature on the QOL in breast cancer patients.

PubMed/MEDLINE was renowned for its comprehensive

Table 1
Databases

	Key words	Number of hits
PubMed/MEDLINE	Breast+cancer	19
Embase	Breast-AND-cancer-AND-QOL	71
PsycINFO	QOL breast cancer	30
CINAHL	QOL+br*st+CA	59
Science Direct	Quality of life for breast cancer	96

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indexing of biomedical and life sciences literature, making it an indispensable resource for medical research (Sanyal *et al.*, 2021). The search term "Breast+cancer" was used, which yielded 19 relevant studies. This database offered access to a vast array of peer-reviewed articles, clinical trials, and review papers, ensuring that the search results are grounded in high-quality, evidence-based research. The specificity of the search term ensured that the studies retrieved are directly relevant to the physical, emotional, psychological, financial, and spiritual aspects of QOL in breast cancer patients.

Embase, known for its extensive coverage of biomedical and pharmacological research (Balakumar *et al.*, 2022), was searched using the term "Breast-AND-cancer-AND-QOL," resulting in 71 hits. Embase was particularly valuable for its detailed indexing and the inclusion of conference abstracts, which often provide the latest research findings and emerging trends. The use of Boolean operators in the search term allowed for a precise and focused retrieval of studies that specifically addressed the intersection of breast cancer and QOL.

PsycINFO, a premier database for psychology and related fields, was searched with the term "QOL breast cancer," yielding 30 studies (Goossen *et al.*, 2020). PsycINFO was crucial for understanding the psychological impacts of breast cancer, offering access to a wide range of articles, books, and dissertations that explored the mental health and emotional well-being of patients. The search term was chosen to capture studies that delved into the psychological and emotional dimensions of QOL, providing a nuanced understanding of how breast cancer affected patients' mental states.

CINAHL, the Cumulative Index to Nursing and Allied Health Literature (Behrend, 2020), was searched using "QOL+br*st+CA," which produced 59 hits. CINAHL was essential for accessing nursing and allied health literature, including studies on patient care, health promotion, and disease management. The search term utilized a wildcard character to ensure a comprehensive search that includes variations of the term "breast cancer." This approach ensured that the literature retrieved encompasses all relevant studies on the quality of life from a nursing and allied health perspective.

Finally, Science Direct, a leading full-text scientific database (Singh *et al.*, 2021), was searched with the phrase "Quality of life for breast cancer," resulting in 96 hits. Science Direct provided access to a vast collection of scientific and technical research articles, spanning numerous disciplines. The search term was designed to capture a wide array of studies that explore the QOL in breast cancer patients, ensured a broad and multidisciplinary perspective on the topic.

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guideline found on figure 1, was a structured framework designed to enhance the reporting quality of systematic reviews (Sarkis-Onofre *et al.*, 2021). It provided a comprehensive checklist and flow diagram that guide researchers through the process of identifying, screening, and including studies in a systematic review.

The initial phase of the systematic review involved a broad search across multiple databases, yielding a total of 275 records. These records encompassed a wide array of studies pertinent to

the research question, sourced from databases such as PubMed/MEDLINE, Embase, PsycINFO, CINAHL, and Science Direct. This initial pool of records represented the comprehensive and inclusive nature of the search strategy, ensuring that no potentially relevant study was overlooked at this stage.

Following the identification of these records, the next step involved the removal of duplicate entries. Duplicate records often arose when the same study was indexed in multiple databases. In this review, 75 duplicates were identified and removed, resulting in a refined total of 200 unique records. This step was crucial to prevent the redundancy of reviewing the same studies multiple times and ensures that each record was considered only once in the subsequent screening process.

The refined set of 200 unique records was then subjected to an initial screening based on their titles and abstracts. This step was designed to quickly filter out studies that were clearly irrelevant to the research question. As a result of this screening, 110 articles were excluded. The reasons for exclusion at this stage included unrelated sites or topics (95 articles), review articles or meta-analyses (9 articles), and articles in languages other than English (6 articles). This screening step ensured that only the most relevant and appropriate studies proceeded to the next stage of the review process.

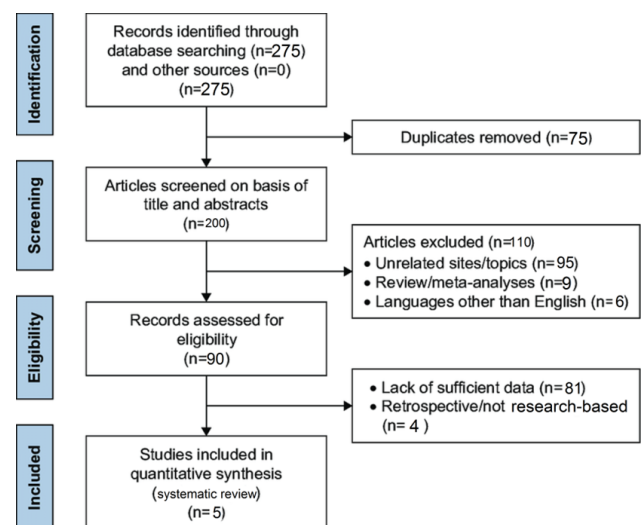


Fig. 1. PRISMA guideline

Following the initial screening, 90 records remained and were assessed for their eligibility. This assessment involved a more detailed examination of the full texts of the studies to determine their suitability for inclusion in the systematic review. During this eligibility assessment, 81 records were excluded due to a lack of sufficient data to address the research question. Additionally, 4 records were excluded because they were non-research based, meaning they did not present original research findings but rather opinion pieces, editorials, or other non-empirical content.

The meticulous screening and eligibility assessment processes culminated in the inclusion of 5 final studies in the systematic review. These studies were selected based on their adherence to the inclusion criteria and their ability to provide

robust and relevant data to answer the research question. The stringent selection process, as outlined by the PRISMA guideline, ensured that the studies included in the review are of high quality and directly pertinent to the research objectives (Parums, 2021).

3. Result

Of the 275 studies identified through database searching, only 5 studies were used in this systematic review. The rest of the 270 studies eliminated was used to support the findings and discussions of synthesis of new knowledge in this review. A conclusion was also offered

The systematic review encompassed the five domains of the QOL in patients with breast cancer: physical, emotional, psychological, financial, and spiritual. Each domain highlighted specific findings pertinent to understanding the comprehensive impact of breast cancer on patients.

In the physical domain, Ramadan *et al.* (2023) conducted a cross-sectional study to assess the risk of breast cancer progression after treatment in the Western Region of Saudi Arabia. This study primarily focused on physical ailments such as bodily pains, the ability to tolerate treatments, and the overall prognosis of the patients. The findings underscored the significant physical burdens that breast cancer patients endure, including chronic pain and discomfort, which could severely impact their daily lives and overall well-being. The study also revealed how the physical capacity to endure various treatments plays a crucial role in the prognosis, indicating that the ability to manage and mitigate physical symptoms was vital for improving patient outcomes.

Moving to the emotional domain, Li *et al.* (2023) utilized a cross-sectional design to develop an emotional lexicon for patients with breast cancer and analyze their sentiments. The study's findings highlight a range of emotional responses such as happiness, enthusiasm towards treatment, contentment, satisfaction, and the ability to control fear. These emotional aspects were critical as they directly influence the patient's motivation and adherence to treatment protocols. The study demonstrated that positive emotions and the ability to manage fear were essential for maintaining a hopeful outlook, which could significantly affect the recovery process and the overall emotional well-being of breast cancer patients.

In the psychological domain, Fortin *et al.* (2021) conducted a meta-analysis of cross-sectional studies to examine the mental health impacts of receiving a breast cancer diagnosis. The primary finding of this study was the patients' ability to focus on life goals despite their diagnosis. This aspect of psychological resilience was crucial, as it reflected the mental fortitude required to navigate the challenges posed by cancer. The study revealed that maintaining a focus on personal

aspirations and life goals could provide a sense of purpose and direction, helping patients cope with the psychological stress associated with their diagnosis and treatment.

The financial domain is addressed by Kuang *et al.* (2023), who explored financial toxicity among breast cancer patients through a cross-sectional study. The findings highlighted the patients' ability to generate income and the recognition of the economic dynamics and importance of financial stability. Financial toxicity, or the economic burden caused by cancer treatment, could be devastating, affecting the patient's ability to afford necessary treatments and maintain their standard of living. This study underscored the critical need for financial support and interventions to help breast cancer patients manage the economic impact of their illness, ensured they have the resources needed for effective treatment and recovery.

Lastly, in the spiritual domain, Park *et al.* (2020) conducted a cross-sectional study focusing on the effects of mindfulness-based cognitive therapy on various aspects of QOL, including spiritual well-being. The study's findings emphasized the importance of spiritual practices such as inspiration from deities, religious beliefs and customs, celestial meditations, and prayer time for divine inspirations. These spiritual activities provided a sense of comfort, hope, and meaning, which could be particularly significant for patients facing the existential challenges of a cancer diagnosis. The study highlighted that spiritual well-being is an integral part of QOL, offered patients a source of inner strength and peace that could positively influence their overall health and recovery.

These studies collectively provided a detailed understanding of the multifaceted impact of breast cancer on patients' QOL (Ilyas *et al.*, 2020; Imran *et al.*, 2019). The physical domain highlighted the significant bodily pains and treatment challenges (Qedair *et al.*, 2022), while the emotional domain emphasized the importance of positive emotions and fear management (Heena *et al.*, 2019), the psychological domain revealed the resilience required to maintain life goals (Abu-Helalah *et al.*, 2022), and the financial domain underscored the economic burdens and the need for financial stability (Kesici & Yilmaz, 2023), finally, the spiritual domain illustrated the profound role of spiritual practices in providing comfort and meaning (Alhousseini *et al.*, 2021). Together, these findings gave the necessity of a holistic approach to breast cancer care, addressed all aspects of a patient's life to improve their overall well-being and QOL (Mutebi *et al.*, 2020).

4. Discussion

This systematic review also evaluated the biases in the referenced articles across these domains provides a comprehensive understanding of the potential limitations and strengths inherent in the literature.

Table 2

Domains	Studies	Findings
Physical	(Ramadan <i>et al.</i> , 2023)	bodily pains, tolerate treatments, and prognosis
Emotional	(Li <i>et al.</i> , 2023)	happiness, enthusiasm towards treatment, contentment, satisfaction, and control fear
Psychological	(Fortin <i>et al.</i> , 2021)	ability to focus on life goals
Financial	(Kuang <i>et al.</i> , 2023)	ability to generate income, recognizes the economic dynamics and the importance of financial stability
Spiritual	(Park <i>et al.</i> , 2020)	focused on inspiration from deity(s), religious beliefs and customs, celestial meditations, prayer time for divine inspirations, and superstitious beliefs

The article by Ramadan *et al.* (2023) examined the risk of breast cancer progression after treatment in the Western Region of Saudi Arabia. A significant bias in this study arose from its regional focus, which limited the generalizability of the findings to other populations. The cultural, healthcare infrastructure, and genetic factors specific to Saudi Arabia had not represented broader populations. Additionally, the study underreported or overemphasized specific QOL aspects due to regional stigmas or cultural perceptions surrounding breast cancer and its treatment (Jin *et al.*, 2021).

Li *et al.* (2023) delved into the construction of an emotional lexicon for patients with breast cancer using sentiment analysis. This study may have carried biases related to the methodology used for sentiment analysis, including the selection of lexicon and algorithms, which could influence the interpretation of emotional states. There would have also had cultural biases, as emotional expressions and their interpretations could vary widely across different cultures. If the emotional lexicon was primarily developed based on one cultural context, it would not accurately reflect the emotional experiences of patients from diverse backgrounds (Chichua *et al.*, 2023).

Fortin *et al.* (2021) provided a meta-analysis on the mental health impacts of receiving a breast cancer diagnosis. Meta-analyses could be prone to publication bias, where studies with significant findings were more likely to be published than those with non-significant results. This could skew the overall understanding of the mental health impacts. Additionally, the included studies would vary in their methodological quality, and differences in diagnostic criteria, assessment tools, and patient populations could introduce heterogeneity and bias into the results (Breckenridge *et al.*, 2019).

Kuang *et al.* (2023) investigated financial toxicity among breast cancer patients. Financial toxicity could be influenced by numerous factors such as insurance coverage, socioeconomic status, and healthcare systems, which varied significantly across regions and populations. If the study predominantly included data from specific healthcare systems or socioeconomic groups, it would not accurately capture the financial burdens experienced by a more diverse patient population. Additionally, self-reported data on financial toxicity could be subject to recall bias and reporting inaccuracies (Offodile *et al.*, 2021).

Park *et al.* (2020) explored the effects of mindfulness-based cognitive therapy on various aspects of QOL, including psychological distress, fear of cancer recurrence, fatigue, spiritual well-being, and overall QOL. This randomized controlled trial, while robust in design, would still face biases related to participant selection and adherence to the intervention. Patients who volunteered for mindfulness-based interventions would have already had a greater interest in or predisposition towards the measurement of spiritual well-being that could be highly subjective and influenced by personal beliefs, potentially introducing bias into the findings (Brandão *et al.*, 2021).

These biases related to regional focuses, methodological approaches, cultural contexts, publication practices, and participant characteristics, needed to be carefully considered

when interpreting the findings and applying them to broader patient populations. Addressing these biases in future research through more diverse, representative sampling and robust methodological designs could help enhance the validity and applicability of the findings in improving the QOL for breast cancer patients globally.

In order to identify synthesis of new knowledge found on figure 1, the following points that would be missing or underexplored in the current literature were considered.

A. Long-term Physical Impact

While the review discusses physical discomfort and pain, it does not explore the long-term physical effects of breast cancer treatments and their impact on QOL (Kouwenberg *et al.*, 2020).

B. Diverse Emotional Experiences

The review mentions varying levels of happiness and enthusiasm but lacks details on how different demographic groups (e.g., age, race, socioeconomic status) might experience and manage emotional challenges differently (Ciria-Suarez *et al.*, 2021).

C. Psychological Interventions

It highlights the need for psychological support but does not specify which types of psychological therapies are most effective or how they can be personalized for different patients (Guarino *et al.*, 2020).

D. Comprehensive Financial Analysis

The financial burden is acknowledged, but there is no mention of specific financial support systems, insurance coverages, or cost-effective treatments that could alleviate this burden (Politi *et al.*, 2021).

E. Spiritual Practices and Outcomes

The role of spiritual well-being is noted, but the review does not detail which spiritual practices are most beneficial or how spiritual support can be systematically integrated into patient care (Toledo *et al.*, 2021).

The need for an interdisciplinary approach combining physical, emotional, psychological, financial, and spiritual support is therefore implied (Barrios *et al.*, 2022). These gaps found on figure 2, suggest areas where new knowledge and new analysis could provide a more comprehensive understanding of the multifaceted impact of breast cancer on patients' QOL.

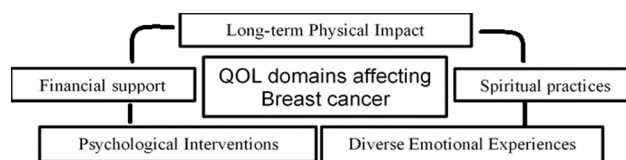


Fig. 2. Synthesis of new knowledge on the QOL for breast cancer

5. Conclusion

Breast cancer was profoundly impacted by a range of interconnected QOL domains across the physical, emotional, psychological, financial, and spiritual domains. This systematic review concluded on the new knowledge of the QOL for breast

cancer being the long-term physical impact and diverse emotional experiences of individuals through psychological interventions, while also performed a comprehensive financial analysis and investigating the outcomes of various spiritual practices.

Patients with breast cancer often endured significant physical discomfort and pain due to the disease and its treatments, making the management of these symptoms crucial for enhancing their overall QOL. Emotionally, breast cancer profoundly affected patients, impacting their happiness, enthusiasm, and sense of control, which were vital for maintaining a positive outlook and coping with the disease. Psychologically, the disease disrupts patients' ability to focus on personal and professional goals, necessitating psychological support and therapies to help them regain focus and improve mental health. Financially, breast cancer treatment could impose substantial burdens, challenging patients' ability to maintain economic stability, so addressing financial toxicity was essential for enhancing their QOL. Finally, spiritual well-being, encompassed religious beliefs and practices, played a significant role in patients' coping mechanisms, and providing spiritual support could significantly improve their overall QOL.

References

- [1] Abu-Helalah, M., Mustafa, H., Alshraideh, H., Alshuhail, A., Almousily, O., Al-Abdallah, R., Al Shehri, A., Al Qarni, A. A., & Al Bukhari, W. (2022). Quality of Life and Psychological Wellbeing of Breast Cancer Survivors in the Kingdom of Saudi Arabia. *Asian Pacific Journal of Cancer Prevention*, 23(7), 2291–2297.
- [2] Al Eid, N. A., Alqahtani, M. M., Marwa, K., Arnout, B. A., Alswailem, H. S., & Al Toaimi, A. A. (2020). Religiosity, Psychological Resilience, and Mental Health Among Breast Cancer Patients in Kingdom of Saudi Arabia. *Breast Cancer: Basic and Clinical Research*, 14, 117822342090305.
- [3] Alghamdi, A., Balkhi, B., Alqahtani, S., & Almotairi, H. (2021). The Economic Burden Associated with the Management of Different Stages of Breast Cancer: A Retrospective Cost of Illness Analysis in Saudi Arabia. *Healthcare*, 9(7), 907.
- [4] Alhussaini, N., Almustanyir, S., Hamdan, D., Ijazi, R., Aldhalaan, R., Alfattan, A., & Omair, D. (2021). Meditation and Mental Health (Depression, Anxiety, and Stress) in Saudi Arabia. *Journal of Complementary Medicine Research*, 12(2), 189.
- [5] Aljaffar, M. A., Enani, S. S., Almadani, A. H., Albuqami, F. H., Alsaleh, K. A., & Alosaimi, F. D. (2023). Determinants of quality of life of cancer patients at a tertiary care medical city in Riyadh, Saudi Arabia. *Frontiers in Psychiatry*, 14, 1098176.
- [6] Balakumar, P., Srikumar, B., Ramesh, B., & Jagadeesh, G. (2022). The critical phases of effective research planning, scientific writing, and communication. *Pharmacognosy Magazine*, 18(77), 1.
- [7] Barrios, C., Sánchez-Vanegas, G., Villarreal-Garza, C., Ossa, A., Lombana, M. A., Monterrosa-Blanco, A., Ferrigno, A. S., & Castro, C. A. (2022). Barriers and facilitators to provide multidisciplinary care for breast cancer patients in five Latin American countries: A descriptive-interpretative qualitative study. *The Lancet Regional Health - Americas*, 11, 100254.
- [8] Behrend, D. (2020). CINAHL Complete. *The Charleston Advisor*, 22(2), 26–29.
- [9] Blaizot, A., Veettil, S. K., Saidoung, P., Moreno-García, C. F., Wiratunga, N., Aceves-Martins, M., Lai, N. M., & Chaiyakunapruk, N. (2022). Using artificial intelligence methods for systematic review in health sciences: A systematic review. *Research Synthesis Methods*, 13(3), 353–362.
- [10] Brandão, M. L., Fritsch, T. Z., Toebe, T. R. P., & Rabin, E. G. (2021). Association between spirituality and quality of life of women with breast cancer undergoing radiotherapy. *Revista Da Escola de Enfermagem Da USP*, 55, 1–4.
- [11] Breckenridge, E. D., Kite, B., Wells, R., & Sunbury, T. M. (2019). Effect of Patient Care Coordination on Hospital Encounters and Related Costs. *Population Health Management*, 22(5), 406–414.
- [12] Chichua, M., Filippini, C., Mazzoni, D., & Pravettoni, G. (2023). The emotional side of taking part in a cancer clinical trial. *PLOS ONE*, 18(4), e0284268.
- [13] Ciria-Suarez, L., Jiménez-Fonseca, P., Palacín-Lois, M., Antoñanzas-Basa, M., Fernández-Montes, A., Manzano-Fernández, A., Castelo, B., Asensio-Martínez, E., Hernando-Polo, S., & Calderon, C. (2021). Breast cancer patient experiences through a journey map: A qualitative study. *PLOS ONE*, 16(9), e0257680.
- [14] Fortin, J., Leblanc, M., Elgbeili, G., Cordova, M. J., Marin, M.-F., & Brunet, A. (2021). The mental health impacts of receiving a breast cancer diagnosis: A meta-analysis. *British Journal of Cancer*, 125(11), 1582–1592.
- [15] Goossen, K., Hess, S., Lunny, C., & Pieper, D. (2020). Database combinations to retrieve systematic reviews in overviews of reviews: a methodological study. *BMC Medical Research Methodology*, 20(1), 138.
- [16] Guarino, A., Polini, C., Forte, G., Favieri, F., Boncompagni, I., & Casagrande, M. (2020). The Effectiveness of Psychological Treatments in Women with Breast Cancer: A Systematic Review and Meta-Analysis. *Journal of Clinical Medicine*, 9(1), 209.
- [17] Heena, H., Durrani, S., Riaz, M., AlFayyad, I., Tabasim, R., Parvez, G., & Abu-Shaheen, A. (2019). Knowledge, attitudes, and practices related to breast cancer screening among female health care professionals: a cross sectional study. *BMC Women's Health*, 19(1), 122.
- [18] Hinz, A., Zenger, M., Schmalbach, B., Brähler, E., Hofmeister, D., & Petrowski, K. (2022). Quality of Life Domains in Breast Cancer Survivors: The Relationship Between Importance and Satisfaction Ratings. *Frontiers in Psychology*, 13, 923537.
- [19] Ilyas, A. B., Bahaj, R. K., Shaikh, A. A., Khawandanah, B. S., Al-Foheidi, M., & Omer, T. Y. (2020). Breast Cancer Patients' Perceptions of Their Experience with Chemotherapy-Induced Nausea and Vomiting and Its Impact on Quality of Life in Jeddah, Saudi Arabia. *Cureus*, 12(12), e12038.
- [20] Imran, M., Al-Wassia, R., Alkhayyat, S. S., Baig, M., & Al-Saati, B. A. (2019). Assessment of quality of life (QoL) in breast cancer patients by using EORTC QLQ-C30 and BR-23 questionnaires: A tertiary care center survey in the western region of Saudi Arabia. *PLOS ONE*, 14(7), e0219093.
- [21] Jin, R., Xie, T., Zhang, L., Gong, N., & Zhang, J. (2021). Stigma and its influencing factors among breast cancer survivors in China: A cross-sectional study. *European Journal of Oncology Nursing*, 52, 101972.
- [22] Katsura, C., Ogunmwonyi, I., Kankam, H. K., & Saha, S. (2022). Breast cancer: presentation, investigation and management. *British Journal of Hospital Medicine*, 83(2), 1–7.
- [23] Kesici, Z., & Yilmaz, V. (2023). Insurance-based disparities in breast cancer treatment pathways in a universal healthcare system: a qualitative study. *BMC Health Services Research*, 23(1), 112.
- [24] Kouwenberg, C. A. E., de Ligst, K. M., Kranenburg, L. W., Rakhorst, H., de Leeuw, D., Siesling, S., Busschbach, J. J., & Mureau, M. A. M. (2020). Long-Term Health-Related Quality of Life after Four Common Surgical Treatment Options for Breast Cancer and the Effect of Complications: A Retrospective Patient-Reported Survey among 1871 Patients. *Plastic & Reconstructive Surgery*, 146(1), 1–13.
- [25] Kuang, Y., Yuan, X., Zhu, Z., & Xing, W. (2023). Financial Toxicity Among Breast Cancer Patients. *Cancer Nursing*, 10, 1097.
- [26] Li, C., Fu, J., Lai, J., Sun, L., Zhou, C., Li, W., Jian, B., Deng, S., Zhang, Y., Guo, Z., Liu, Y., Zhou, Y., Xie, S., Hou, M., Wang, R., Chen, Q., & Wu, Y. (2023). Construction of an Emotional Lexicon of Patients with Breast Cancer: Development and Sentiment Analysis. *Journal of Medical Internet Research*, 25, e44897.
- [27] Mutebi, M., Anderson, B. O., Duggan, C., Adebamowo, C., Agarwal, G., Ali, Z., Bird, P., Bourque, J., DeBoer, R., Gebirim, L. H., Masetti, R., Masood, S., Menon, M., Nakigudde, G., Ng'ang'a, A., Niyonzima, N., Rositch, A. F., Unger-Saldaña, K., Villarreal-Garza, C., ... Eniu, A. (2020). Breast cancer treatment: A phased approach to implementation. *Cancer*, 126(S10), 2365–2378.
- [28] Nageeti, T., Elzahrany, H., Gabra, A., Obaid, A., & Jastania, R. (2019). Quality of life assessment of breast cancer patients in Saudi Arabia. *Journal of Family and Community Medicine*, 26(2), 98.
- [29] Offodile, A. C., Asaad, M., Boukavalas, S., Bailey, C., Lin, Y.-L., Teshome, M., Greenup, R. A., & Butler, C. (2021). Financial Toxicity Following Surgical Treatment for Breast Cancer: A Cross-sectional Pilot Study. *Annals of Surgical Oncology*, 28(5), 2451–2462.

- [30] Park, S., Sato, Y., Takita, Y., Tamura, N., Ninomiya, A., Kosugi, T., Sado, M., Nakagawa, A., Takahashi, M., Hayashida, T., & Fujisawa, D. (2020). Mindfulness-Based Cognitive Therapy for Psychological Distress, Fear of Cancer Recurrence, Fatigue, Spiritual Well-Being, and Quality of Life in Patients With Breast Cancer—A Randomized Controlled Trial. *Journal of Pain and Symptom Management*, *60*(2), 381–389.
- [31] Parums, D. V. (2021). Editorial: Review Articles, Systematic Reviews, Meta-Analysis, and the Updated Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 Guidelines. *Medical Science Monitor*, *27*, e934475-1–e934475-3.
- [32] Polit, D. F., & Beck, C. T. (2017). *Nursing Research Generating and Assessing Evidence for Nursing Practice* (10th ed.). Wolters Kluwer Health.
- [33] Politi, M. C., Yen, R. W., Elwyn, G., O'Malley, A. J., Saunders, C. H., Schubbe, D., Forcino, R., & Durand, M.-A. (2021). Women Who Are Young, Non-White, and with Lower Socioeconomic Status Report Higher Financial Toxicity up to 1 Year After Breast Cancer Surgery: A Mixed-Effects Regression Analysis. *The Oncologist*, *26*(1), e142–e152.
- [34] Qedair, J. T., Al Qurashi, A. A., Alfayea, T., Mortada, H., Alsudais, A., Almunshiri, S., & Hakami, A. Y. (2022). Level and predictors of breast cancer awareness among Saudi women: A nationwide study. *Women's Health*, *18*, 174550572211338.
- [35] Ramadan, M., Alsiary, R., Alsaadoun, N., Alhusseini, N., Raihan Sajid, M., Mohamed Hamed, N., Ziad Arabi, T., & Nedab Sabbah, B. (2023). Risk of Breast Cancer Progression after Treatment in the Western Region of Saudi Arabia. *Breast Cancer: Basic and Clinical Research*, *17*, 117822342311582.
- [36] Ribeiro, F., Tebar, W., Ferrari, G., Palma, M., Fregonesi, C., Caldeira, D., Silva, G., Vanderlei, L., Beretta, V., & Christofaro, D. (2023). Comparison of Quality of Life in Breast Cancer Survivors with and without Persistent Depressive Symptoms: A 12-Month Follow-Up Study. *International Journal of Environmental Research and Public Health*, *20*(4), 3663.
- [37] Sanyal, D. K., Bhowmick, P. K., & Das, P. P. (2021). A review of author name disambiguation techniques for the PubMed bibliographic database. *Journal of Information Science*, *47*(2), 227–254.
- [38] Sarkis-Onofre, R., Catalá-López, F., Aromataris, E., & Lockwood, C. (2021). How to properly use the PRISMA Statement. *Systematic Reviews*, *10*(1), 117.
- [39] Singh, V. K., Singh, P., Karmakar, M., Leta, J., & Mayr, P. (2021). The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis. *Scientometrics*, *126*(6), 5113–5142.
- [40] Toledo, G., Ochoa, C. Y., & Farias, A. J. (2021). Religion and spirituality: their role in the psychosocial adjustment to breast cancer and subsequent symptom management of adjuvant endocrine therapy. *Supportive Care in Cancer*, *29*(6), 3017–3024.