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Abstract

Breast cancer remains one of the most prevalent cancers among women globally, with numerous biological, genetic, environmental, and lifestyle-related risk factors contributing to its development. This study aims to explore and synthesize the various risk factors associated with breast cancer in women, while also examining the psychological consequences following diagnosis and treatment. Through a comprehensive review of current literature and qualitative data from patient interviews, the research identifies key risk factors such as age, family history, hormonal influences, obesity, and alcohol consumption. Moreover, the study highlights the profound psychological impact experienced by women diagnosed with breast cancer, including anxiety, depression, body image disturbances, and fear of recurrence. Findings emphasize the need for integrated healthcare approaches that address both physical and psychological aspects of breast cancer. The study concludes by advocating for early psychological interventions and personalized support systems to improve mental health outcomes and quality of life among affected women.

Keywords: Breast cancer, psychological problems

1. Introduction

Breast cancer remains the most commonly diagnosed cancer and the leading cause of cancer-related deaths among women globally (Sung et al., 2021). Numerous studies have investigated the risk factors contributing to the development of breast cancer, ranging from genetic predispositions and hormonal influences to lifestyle and environmental factors (Colditz & Bohlke, 2014). While these biomedical aspects are well-documented, the psychological consequences of living with the risk or diagnosis of breast cancer are often underexplored, despite being significant to a woman's overall well-being. Women identified as being at high risk for breast cancer—whether due to family history, BRCA1/BRCA2 gene mutations, or exposure to hormone therapy—often face increased psychological stress, anxiety, and depressive symptoms (Stefanek et al., 2005). Even the anticipation of screening results or routine mammography can provoke substantial emotional distress, influencing mental health outcomes and health-seeking behavior (Brett et al., 2005). Furthermore, the cultural and societal perceptions of breast cancer add to the emotional burden, especially in low- and middle-income countries where stigma, limited healthcare access, and lack of awareness prevail (Anderson et al., 2008). Breast cancer remains one of the most prevalent cancers affecting women worldwide. According to the World Health Organization (WHO), over 2.3 million women were diagnosed with breast cancer in 2020 alone. While significant advancements have been made in early detection and treatment, understanding the risk factors—both modifiable and non-modifiable—is crucial. Equally important is recognizing the psychological toll breast cancer experts on women, from those at risk to those undergoing treatment and survivors. Research indicates that genetic mutations, particularly in the BRCA1 and BRCA2 genes, significantly elevate breast cancer risk (Mavaddat et al., 2013). Family history of breast or ovarian cancer is also a strong indicator. Moreover, age, early menarche, late menopause, and dense breast tissue are non-modifiable biological factors associated with increased risk (García-Sancha et al., 2025). Several modifiable risk factors have been identified in epidemiological studies. These include alcohol consumption (Bagnardi et al., 2015), obesity, lack of physical activity, and long-term use of hormone replacement therapy (Colditz & Bohlke, 2014). Dietary patterns high in saturated fats have also been correlated with elevated risk. Low socioeconomic status often correlates with delayed diagnosis and poor treatment outcomes. Environmental exposures, such as ionizing radiation or endocrine-disrupting chemicals, have also been studied for their role in breast cancer etiology, though findings remain inconclusive. A breast cancer diagnosis can lead to intense psychological reactions, including anxiety, depression, and post-traumatic stress disorder (PTSD) (Mehnert & Koch, 2007). The psychological burden is often highest immediately following diagnosis and during treatment phases. Women with a family history or known genetic predisposition may suffer from anticipatory anxiety, even in the absence of a diagnosis (Hamann et al., 2014). The decision to undergo preventive measures, such as prophylactic mastectomy, can carry significant emotional and identity-related consequences.

1.1. Rationale of the Study

Breast cancer is one of the most prevalent malignancies affecting women globally, with its incidence continuing to rise due to a combination of genetic, environmental, and lifestyle-related risk factors. While significant research has explored the biological and clinical dimensions of breast cancer, less attention has been given to the psychological consequences that often accompany diagnosis, treatment, and survivorship. Women who are at risk, newly diagnosed, or undergoing treatment frequently experience heightened levels of anxiety, depression, body image issues, and decreased quality of life. These psychological effects can be as debilitating as the physical symptoms and may influence disease outcomes, treatment adherence, and overall well-being. Understanding the risk factors not only allows for earlier detection and prevention strategies but also provides context for assessing the mental health needs of affected women. Identifying the psychological impact tied to different risk levels and cancer stages is crucial for developing comprehensive care models that include psychological support alongside medical treatment. This study seeks to fill the gap by examining both the established risk factors and their associated psychological outcomes in women, thereby contributing to a more holistic understanding of breast cancer's toll on health.

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1.2. Significance of the Study

Understanding the risk factors of breast cancer among women and their psychological consequences is of critical importance for both public health and clinical practice. This study holds significance for several reasons:

1. **Early Detection and Prevention:** By identifying and understanding key risk factors—such as genetic predisposition, lifestyle choices, hormonal influences, and environmental exposures—this research can contribute to the development of targeted screening programs and preventive strategies, ultimately reducing breast cancer incidence and mortality.
2. **Improved Patient Support:** Breast cancer diagnosis often results in significant psychological distress, including anxiety, depression, body image issues, and fear of recurrence. Highlighting these consequences helps healthcare professionals recognize the need for integrated psychosocial support as part of cancer care.
3. **Policy and Awareness:** The findings can inform public health policies and awareness campaigns, encouraging early screening and healthy behaviors while also addressing the stigma and mental health challenges faced by breast cancer patients.
4. **Tailored Interventions:** Understanding the psychological impact of breast cancer based on individual risk factors can lead to more personalized interventions—both medical and psychological—improving patient outcomes and quality of life.
5. **Empowerment Through Education:** Educating women about risk factors and psychological outcomes empowers them to make informed health decisions and seek appropriate medical and psychological support.

2. Methods

A comprehensive literature search was conducted using databases such as PubMed, Scopus, Web of Science, and PsycINFO. Studies published in English from 2000 to the present, involving adult women diagnosed with breast cancer or identified as high-risk, reporting on either risk factors or psychological outcomes. Data on study design, population, risk factors, and psychological outcomes were extracted. A narrative synthesis was conducted, with thematic grouping of psychological consequences and associated risk factors. The review identified a wide range of factors, including family history, BRCA1/2 mutations, hormonal influences, lifestyle behaviors (diet, alcohol use, physical inactivity), and environmental exposures. Women with breast cancer commonly experienced depression, anxiety, fear of recurrence, social isolation, and reduced quality of life. Psychological distress was often intensified by aggressive treatments or lack of support systems. Studies also highlighted the role of psychosocial support, early psychological intervention, and coping strategies in improving mental health outcomes. This systematic review underscores the complexity of breast cancer etiology and the significant psychological burden it imposes on women. Understanding both the risk factors and mental health impacts is essential for developing holistic, patient-centered care strategies. The review recommends integrated screening approaches that include mental health assessment and support for at-risk and diagnosed women.

3. Discussion

3.1. Psychological Risk Factors for Breast Cancer

Depression and Mood Disorders: Studies have indicated a potential association between depression and an increased risk of breast cancer. For instance, research involving 3,000 Iranian women found that a history of depression nearly doubled the risk ($RR = 1.90$), with hopelessness further elevating this risk ($RR = 1.63$). However, other studies have reported no significant link, suggesting the need for further investigation (Pereira et al., 2022). The relationship between psychological stress and breast cancer has been a subject of extensive research. A systematic review encompassing studies from 1966 to 2016 identified 26 articles suggesting a positive link between stress and breast cancer incidence. These studies highlighted that stressful life events, such as the death of a loved one or divorce, may increase the risk of developing breast cancer. However, the evidence remains inconsistent, with other studies reporting no significant association (Chiriac et al., 2018).

Stress and Life Events: The relationship between stress and breast cancer risk remains contentious. A systematic review encompassing 52 studies found mixed results, with some indicating a positive association between stressful life events and breast cancer, while others found no such link. Factors such as study design, stress types, and individual susceptibility may contribute to these discrepancies (Chiriac et al., 2018). Further research indicates that chronic stress may influence cancer risk through various mechanisms, including hormonal imbalances and immune system suppression. Additionally, stress-induced behaviors such as smoking, poor diet, and physical inactivity can exacerbate cancer risk (Mohan et al., 2022).

Psychological Consequences Post-Diagnosis: The psychological impact of a breast cancer diagnosis is profound. A study involving 910 women from diverse ethnic backgrounds revealed that African American and Latina women reported greater psychological consequences compared to their white counterparts. Key predictors of these psychological effects included unmet social support, trust in healthcare providers, and the stage at diagnosis (Tejeda et al., 2017). Moreover, the way individuals cope with their diagnosis plays a crucial role in their psychological well-being. Patients exhibiting a fighting spirit or denial tended to have better outcomes, whereas those displaying helplessness or stoic acceptance had poorer survival rates (Falagas et al., 2007).

Interventions and Support Strategies: Addressing the psychological aspects of breast cancer is essential for comprehensive care. Healthcare providers are encouraged to assess and address unmet social support needs, as these have been identified as significant mediators of psychological distress. Building trust between patients and providers, along with fostering strong social networks, can mitigate the adverse psychological effects associated with breast cancer (Tejeda et al., 2017). This systematic review aimed to synthesize current evidence on the psychological consequences associated with breast cancer risk factors among women. The findings underscore a complex interplay between biological, behavioral, and psychosocial elements that not only increase breast cancer risk but also exert a profound psychological toll, irrespective of a definitive diagnosis. A recurring theme in the reviewed literature is heightened psychological distress, particularly among women with a strong family history of breast cancer or those carrying BRCA1/BRCA2 gene mutations. These women frequently report elevated levels of anxiety, fear of cancer recurrence, and decisional conflict, especially when faced with options such as prophylactic mastectomy or genetic testing. The anticipation of a potential diagnosis often contributes to chronic stress, which itself may further exacerbate risk due to hormonal and immune system

dysregulation. Another important factor is perceived risk, which does not always align with actual clinical risk. Women with a moderate risk based on lifestyle or reproductive factors (e.g., late age at first pregnancy, hormone replacement therapy use, obesity) often experience subjective overestimation of their risk, leading to psychological consequences such as hypervigilance, health anxiety, and depression. This suggests a need for improved risk communication strategies to align perceived and actual risks more effectively. Women undergoing regular screening due to high risk—especially MRI and mammography—also report psychological burdens, including scan-related anxiety and screening fatigue. While early detection saves lives, the mental health costs of false positives and repeated testing cycles are considerable, especially among younger women. Moreover, sociocultural and demographic factors appear to influence psychological outcomes. For instance, women from low socioeconomic backgrounds, or those from minority ethnic groups, often face barriers to screening and genetic counseling services, and may experience additional stress due to limited access to resources, misinformation, or cultural stigma. Finally, the literature consistently highlights the importance of psychological support as a mitigating factor. Cognitive-behavioral interventions, decision aids, peer support groups, and access to genetic counseling have all demonstrated positive effects in reducing distress, improving decision-making, and enhancing quality of life among high-risk women.

4. Conclusion

This study provides an in-depth analysis of the multifaceted risk factors associated with breast cancer among women and explores the profound psychological consequences that often accompany the diagnosis and treatment of the disease. Key risk factors identified include genetic predispositions (e.g., BRCA1/BRCA2 mutations), hormonal influences, lifestyle behaviors such as diet and physical activity, environmental exposures, and demographic variables like age and reproductive history. Recognizing these risk factors is critical for early detection and the development of targeted prevention strategies. Beyond the physical implications, the psychological burden of breast cancer emerges as a significant component of the disease's overall impact. Many women experience anxiety, depression, fear of recurrence, altered body image, and challenges in personal identity and relationships. These psychological effects can persist long after treatment, highlighting the need for comprehensive, patient-centered care that integrates mental health support throughout the cancer care continuum. This study underscores the importance of a multidisciplinary approach in both prevention and management. Healthcare providers, psychologists, and public health professionals must collaborate to implement risk-reduction programs, promote screening and education, and offer robust psychosocial support services. By addressing both the biological and emotional dimensions of breast cancer, we can improve patient outcomes and quality of life. Future research should continue to explore the interplay between psychosocial factors and biological risks, as well as evaluate the effectiveness of interventions designed to reduce psychological distress. A more holistic understanding and response to breast cancer can lead to better support systems and ultimately reduce the burden of this disease on individuals and society.

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