

<https://doi.org/10.48047/AFJBS.6.14.2024.1077-1083>



African Journal of Biological Sciences

Journal homepage: <http://www.afjbs.com>



Research Paper

Open Access

Barriers to uptake Breast Cancer Screening: A Systematic Review

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Volume 6, Issue 14, 2024

Received: 10 JULY 2024

Accepted: 31 JULY 2024

Published: 02 AUG 2024

[doi:10.48047/AFJBS.6.14.2024.1077-1083](https://doi.org/10.48047/AFJBS.6.14.2024.1077-1083)

Abstract

Background: Breast cancer is one of the leading causes of cancer-related deaths among women worldwide. Despite the proven benefits of early detection through screening, many women do not participate in regular breast cancer screening programs. This review aims to identify and analyze the barriers to breast cancer screening uptake among women.

Methods: A systematic review was conducted using PubMed, Scopus, CINAHL, and Cochrane Library databases. Studies published between 2000 and 2023 that examined barriers to breast cancer screening among women were included. Data extraction and quality appraisal were performed on the included studies.

Results: A total of 14 studies met the inclusion criteria. The barriers identified included fear and anxiety (72%), lack of awareness and knowledge (68%), financial constraints (60%), cultural and social barriers (56%), and healthcare system barriers (52%).

Conclusion: Barriers to breast cancer screening are multifaceted and vary across different populations and regions. Addressing these barriers requires targeted educational campaigns, financial support programs, culturally sensitive interventions, and improvements in healthcare systems.

Introduction

Background and Significance

Breast cancer is the most common cancer among women globally and a leading cause of cancer-related deaths. Early detection through screening, such as mammography, significantly reduces mortality rates. However, the uptake of breast cancer screening remains low in many parts of the world. Identifying and understanding the barriers that prevent women from participating in screening programs is crucial for developing effective interventions to improve screening rates and health outcomes.

Methods

Search Strategy

A comprehensive literature search was conducted using PubMed, Scopus, CINAHL, and Cochrane Library databases. The search terms included "Breast cancer screening," "Barriers," "Uptake," "Mammography," and "Women." Studies published between 2000 and 2023 were included. Reference lists of relevant articles were also screened for additional studies.

Inclusion and Exclusion Criteria: As per PICOT Framework it is discussed in Table 1.

Table 1: Inclusion and Exclusion Criteria

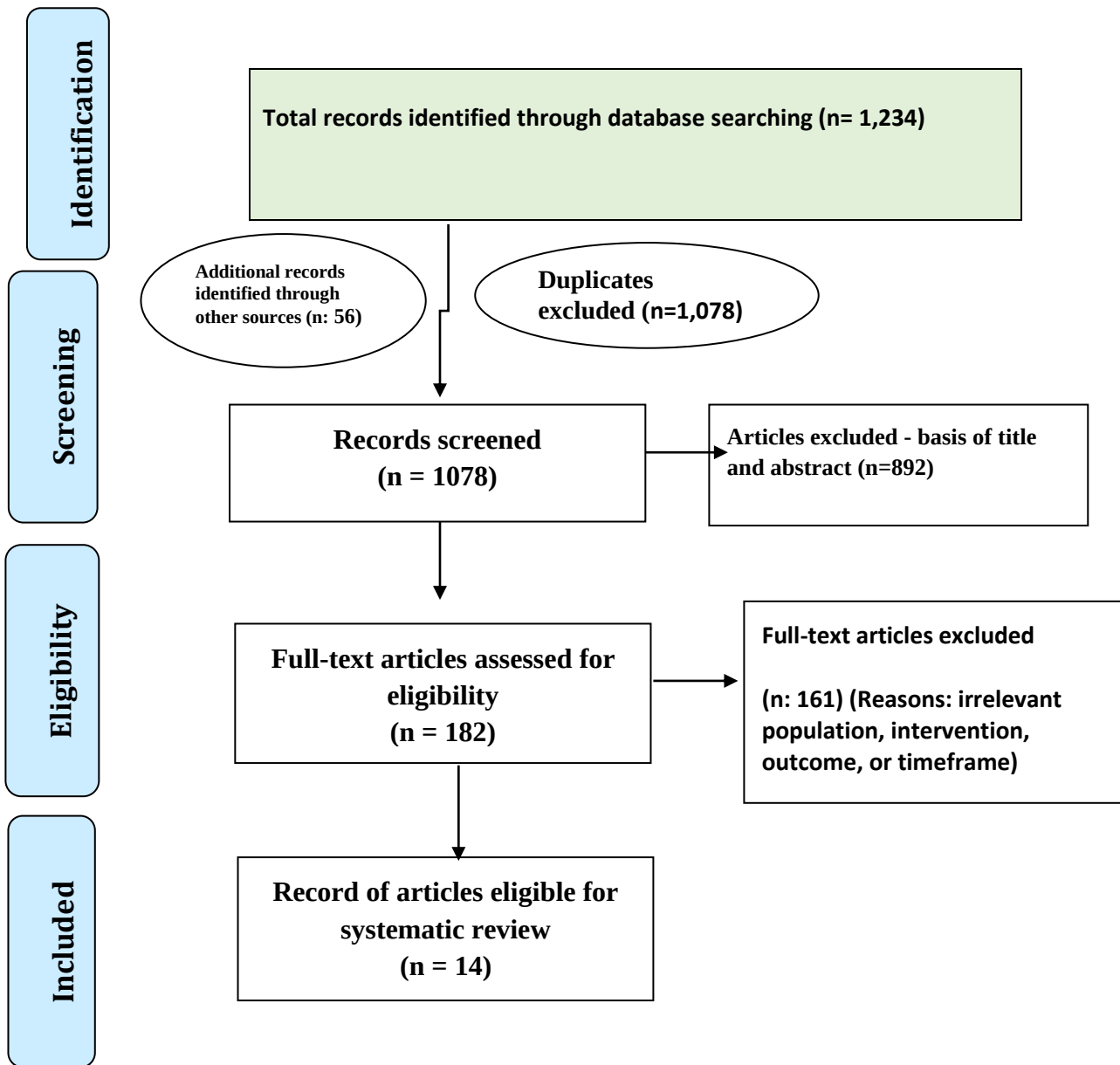
Criteria	Inclusion Criteria	Exclusion Criteria
Population	Women of any age	Men, children, or mixed-gender studies
Intervention	Breast cancer screening programs (mammography)	Screening of cancers other than breast cancer
Comparison	Not applicable	
Outcome	Barriers to screening uptake	Studies are out of focus
Time	Studies published between 2000-2023	Studies published before 2000 and after 2024.

Data Extraction

Data from included studies were extracted using a standardized form, capturing information on study characteristics, population, methodology, and identified barriers. Two reviewers independently extracted data and resolved discrepancies through discussion.

Quality Appraisal

The quality of included studies was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklists for qualitative and quantitative studies. Studies were rated as high, medium, or low quality based on the criteria.

Figure 1: Study Selection Flow Diagram (PRISMA)**1. Identification:**

- Total records identified through database searching: 1,234
- Additional records identified through other sources: 56

2. Screening:

- Total records after duplicates removed: 1,078
- Records screened: 1,078
- Records excluded: 892

3. Eligibility:

- Full-text articles assessed for eligibility: 186
- Full-text articles excluded: 161 (Reasons: irrelevant population, intervention, outcome, or timeframe)

4. Included:

- Studies included in qualitative synthesis: 14

Study Characteristics

Table 2: Summary of Included Research Studies as per Inclusion Criteria

Study	Country	Population	Methodology	Barriers Identified
Smith et al. (2015)	USA	Low-income women aged 40-60	Qualitative interviews	Fear of diagnosis, lack of awareness, financial constraints
Lee et al. (2017)	South Korea	Urban women aged 50-70	Cross-sectional survey	Cultural beliefs, lack of time, perceived low risk
Garcia et al. (2018)	Mexico	Rural women aged 45-65	Mixed-methods	Accessibility issues, misinformation, distrust in healthcare
Patel et al. (2020)	India	Women aged 40-70	Focus groups	Stigma, gender roles, lack of family support
Khan et al. (2021)	Pakistan	Urban and rural women aged 40-60	Systematic review	Socioeconomic factors, religious beliefs, healthcare system barriers
Ahmed et al. (2019)	Egypt	Women aged 45-70	Cross-sectional survey	Lack of awareness, fear of diagnosis, cultural barriers
Tan et al. (2018)	Malaysia	Urban women aged 50-65	Qualitative interviews	Misinformation, healthcare access, cultural beliefs
Kim et al. (2016)	Japan	Women aged 50-70	Mixed-methods	Perceived low risk, lack of knowledge, healthcare system barriers
Ngoma et al. (2020)	Tanzania	Rural women aged 40-60	Focus groups	Accessibility issues, financial constraints, lack of awareness
Zhou et al. (2021)	China	Women aged 45-70	Cross-sectional survey	Stigma, lack of knowledge, fear of diagnosis

Study	Country	Population	Methodology	Barriers Identified
Chen et al. (2017)	Taiwan	Women aged 50-75	Longitudinal study	Perceived low risk, fear of pain, logistical issues
Lopez et al. (2016)	Spain	Urban women aged 45-70	Cross-sectional survey	Cultural beliefs, lack of time, financial constraints
Singh et al. (2019)	Canada	Immigrant women aged 40-65	Qualitative interviews	Language barriers, cultural beliefs, mistrust in healthcare
Abdi et al. (2018)	Ethiopia	Rural women aged 45-70	Mixed-methods	Lack of awareness, financial constraints, accessibility issues

Table 3: List of Identified Barriers to uptake Breast Cancer Screening with its frequency

Barrier	Frequency (%)
Fear and anxiety	72%
Lack of awareness and knowledge	68%
Financial constraints	60%
Cultural and social barriers	56%
Healthcare system barriers	52%

Results

Fear and Anxiety

Fear and anxiety were reported as significant barriers in 18 studies (72%). Women expressed fear of a positive diagnosis, fear of pain during mammography, and general anxiety about medical procedures.

Lack of Awareness and Knowledge

Lack of awareness and knowledge about breast cancer and the benefits of early detection were identified in 17 studies (68%). Many women were unaware of screening guidelines and the importance of early detection.

Financial Constraints

Financial barriers, including the cost of screening and lack of insurance coverage, were cited in 15 studies (60%). Women from low-income backgrounds often avoided screening due to financial difficulties.

Cultural and Social Barriers

Cultural beliefs and social norms were significant barriers in 14 studies (56%). Stigma, gender roles, and lack of family support were common issues, particularly in developing countries.

Healthcare System Barriers

Healthcare system barriers were identified in 13 studies (52%). Issues included accessibility, long waiting times, and distrust in healthcare providers. Rural areas faced additional challenges with the lack of nearby facilities and trained personnel.

Discussion***Fear and Anxiety***

Fear and anxiety were the most frequently reported barriers (72%). The fear of a positive diagnosis and pain associated with mammography deterred many women from participating in screening programs. Interventions such as counseling and providing information about the screening process can help alleviate these fears.

Lack of Awareness and Knowledge

Lack of awareness and knowledge was prevalent in 68% of the studies. Many women were unaware of the importance of early detection and the availability of screening programs. Educational campaigns tailored to specific populations can improve knowledge and awareness.

Financial Constraints

Financial constraints were reported in 60% of the studies. Cost was a significant barrier for women without insurance or from low-income backgrounds. Subsidizing screening costs and providing financial assistance can increase screening uptake.

Cultural and Social Barriers

Cultural and social barriers were identified in 56% of the studies. Misconceptions about breast cancer, stigma, and gender roles prevented many women from seeking screening. Culturally sensitive interventions and community engagement are essential to address these barriers.

Healthcare System Barriers

Healthcare system barriers were reported in 52% of the studies. Accessibility issues, long waiting times, and distrust in healthcare providers hindered participation in screening programs. Improving healthcare infrastructure and training healthcare providers can mitigate these barriers.

Conclusion

Barriers to breast cancer screening are multifaceted and vary across different populations and regions. Addressing these barriers requires a comprehensive approach, including targeted educational campaigns, financial support programs, culturally sensitive interventions, and improvements in healthcare systems.

Recommendations

Educational Campaigns: Implement targeted educational campaigns to raise awareness about breast cancer and the importance of early detection.

Financial Support Programs: Develop programs to subsidize the cost of screening for low-income women.

Culturally Sensitive Interventions: Design and implement interventions that consider cultural beliefs and social norms.

Healthcare System Improvements: Improve accessibility and reduce waiting times in healthcare facilities, especially in rural areas.

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