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Research Article

Facilitators for Access to Mammography and Characterization of Users. Breast Clinic, Northern Health Network ESE Cali 2023

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Summary

Introduction: Breast cancer is the most common cancer among women, especially in low- and middle-income countries, accounting for 45% of new cases and more than 55% of deaths. In Colombia, the incidence in 2020 was 15,509 cases (age-standardized rate: 48.3 per 100,000 women), with 4,411 deaths (age-standardized rate: 13.1 per 100,000 women). In Cali, breast cancer remains a public health priority, particularly among low-income women, with incidence rates increasing over the past two decades. Despite high health insurance coverage in Colombia, the use of mammography screening services is limited, reflecting systemic barriers and inequalities. This study aimed to identify the facilitators for accessing mammographic screening in women aged 50 to 69 who attend the Breast Clinic of the ESE Norte in Cali.

Methods: A mixed-methods design with a sequential explanatory approach was used. The quantitative component included a retrospective cross-sectional analysis of 2,859 mammograms performed in 2023, evaluating variables such as age, socioeconomic status, referral method, BI-RADS classification, and screening times. The qualitative component consisted of 28 in-depth interviews with women who completed the screening, analyzed using thematic network analysis.

Results: Quantitative findings showed that women aged 50–54 years had significantly greater access to timely mammograms ($p = 0.04$), as did residents of Commune 5 ($p = 0.03$). 98.6% of readings were performed within the standard timeframe, with an average of 3.3 days. Key facilitators identified qualitatively included medical recommendations and reminder systems, education on early detection, family and social support, an efficient screening process, modern equipment, and empathetic care from staff.

Discussion: The integration of administrative, clinical, and social strategies at the ESE Norte Breast Clinic has improved access to and adherence to mammographic screening. These results align with international literature highlighting the importance of social support, community outreach, and patient-centered services. The public nature of the program and its subsidized care also enhance accessibility for vulnerable populations.

Conclusions: This study highlights the effectiveness of a comprehensive approach to breast cancer screening. Strengthening these strategies can improve participation rates and health outcomes in resource-limited settings. Future research should explore the adaptability of this model in similar contexts.

Introduction

Breast cancer is the most common type of cancer in women and predominantly affects those in low- and middle-income countries, where 45% of new cases and more than 55% of deaths occur [1]. Furthermore, 50% of new cases occur in women with limited incomes [2,3]. In Colombia, in 2020, 15,509 incident cases (TEE: 48.3 per 100,000 women) and 4,411 deaths (TEE: 13.1 per 100,000 women) were reported, according to Globocan. [4] In Cali, between 2016 and 2020, 1,310 women died from

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this disease [5]. Although overall figures have improved since 1988, women between 30 and 44 years of age, excluded from screening strategies, maintain mortality rates similar to those of the late 1980s [6]. Between 2013 and 2017, the standardized average annual incidence was 45.9 per 100,000 person-years, affecting 3,546 women. During 2016-2020, the average annual mortality rate was 13.7 per 100,000 person-years (1,310 cases), which positions breast cancer as the leading cause of cancer death in women and a public health priority in Cali, especially among low-income women, whose incidence has increased in the last 20 years [7].

The literature reports that diagnostic delays occur at various intervals, but the period between mammography and biopsy to confirm the diagnosis is particularly noteworthy [8]. A study conducted in Canada describes, among other things, communication with healthcare providers, information seeking, how to cover expenses not covered by insurance, and maintaining other health issues; some women may feel ill-prepared to cope with the situation [9]. The same study mentions that family and work responsibilities conflict with women's time and priorities, especially when healthcare services are fragmented, and there is no designated or trusted physician.

A retrospective study in Colombia revealed limited access to mammography among women in the subsidized healthcare system and those who are illiterate [10], primarily affecting those residing in rural areas with lower levels of education compared to urban areas. National data on waiting times for breast cancer care are unavailable, highlighting a gap in measuring diagnostic delays. In Bogotá, a 2011 study reported a median of 91 days between the first consultation and diagnosis. Furthermore, 30% of women had to consult at least twice for symptoms before accessing diagnostic tests, and in 50.5% of cases, the diagnosis was delayed by more than three months [11].

Regarding equipment availability, most mammography units in Colombia are located in Bogotá, Medellín, and Cali, with more than 90 units in these regions. The average rate of mammography units per 10,000 women aged 50 to 69 is 5.4 nationally and 5 in Valle del Cauca [12]. In Cali, the screening strategy covered only 6.6% of women in the recommended age range in 2014, increasing to 24.7% in the subsidized healthcare system in 2021 [13]. This coverage falls far short of the 70% target set in the Ministry of Health and Social Protection's (MSPS) Ten-Year Cancer Control Plan 2012–2021. Despite achieving insurance coverage exceeding 95% of the population and having high levels of literacy (93%), barriers such as equipment availability, inadequate care pathways, and limitations in the ten-year plan strategies persist, which have prevented the reduction of breast cancer mortality in the country [14].

There are two strategies for identifying or diagnosing breast cancer. The first is the systematic application of screening tests in asymptomatic populations, aiming to identify women with abnormalities suggestive of cancer. The second is early detection or alerting to signs or symptoms in symptomatic populations to facilitate early diagnosis and treatment [1]. In 2012, the Ministry of Health and Social Protection (MSPS) approved the Ten-Year Public Health Plan, and simultaneously approved and published the Ten-Year Cancer Control Plan (2012). The latter is a guide for managing various types of cancer, including breast cancer [15], and establishes a screening and early detection strategy. The National Cancer Institute (INC) reaffirms in this Plan that mammography is the only technique adopted for screening and early detection of the disease, based on evidence generated by international and national studies conducted by the INC [16].

A woman's decision to undergo screening mammography is influenced by personal, social, and healthcare system factors, including recommendations from family members, friends, or healthcare professionals, and public campaigns targeting women over 50. However, the literature has focused primarily on barriers to this procedure, with less attention paid to the facilitators that promote its use [14,17-19]. This study addresses these facilitators, defined as personal, social, and economic factors, as well as characteristics of healthcare services that encourage the use of screening mammography [20].

In 2015, the Northern Health Network (ESE Norte) created the Breast Clinic (CM) program, focused on the early detection of breast cancer. This program integrates screening, specialized consultation, ultrasound, biopsies, basic pathology and immunohistochemistry, social support, and patient navigation [21]. Located in the Calima Health Center, Commune 4 of Cali, the CM primarily offers access to users of the subsidized regime of the General Social Security System in Health (SGSSS), as well as patients from other health networks or private providers.

In Colombia, there are no studies on identifying the factors that encourage women to undergo screening mammograms. While insurance coverage is high, the use of screening mammogram services does not match the availability of these services. Therefore, it is considered necessary to identify the factors or facilitators that women who participate in screening mammograms take into account.

This study seeks to identify what is useful and convenient for women between 50 and 69 years of age when attending mammograms for breast cancer screening or early detection. This will allow us to strengthen good practices and, conversely, overcome barriers to attending mammogram screening. Based on the above, the following research question is proposed:

What are the facilitators that favor the use of breast cancer screening by women who attend the Breast Clinic program of the ESE Norte?

Methodology

Studio design

Study design the study was developed using a mixed-methods approach with a sequential explanatory design, combining quantitative and qualitative methods to comprehensively analyze the facilitators of mammography service use at ESE Norte [22]. Initially, a quantitative analysis

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was performed to characterize the population and access times, followed by a qualitative phase based on in-depth interviews to explain the facilitators from the users' perspective.

The quantitative phase consisted of a retrospective cross-sectional analysis of the universe of mammograms performed by the Breast Clinic program between January and December 2023 (n = 2,859). No sampling technique was applied as the study included the entire population served during the period. The variables analyzed included age, health insurance provider, type of recruitment, BI-RADS classification, breast density, and processing times. Clinical variables were assessed using the American College of Radiology (ACR) Breast Imaging Reporting and Data System (BI-RADS, 5th edition) and standard breast density classifications, ensuring the standardization and international comparability of the findings. To ensure data reliability, a data cleaning process was conducted to identify and correct inconsistencies, and 10% of the records were randomly cross-checked against the electronic medical records to validate accuracy. The analysis was performed using absolute and relative frequencies, along with chi-square and Student's t-test for hypothesis testing, with a significance level of $p < 0.05$ and 95% confidence intervals.

The qualitative component sought to deepen the understanding of the facilitators perceived by users. A non-probabilistic purposive sampling strategy was employed to ensure representation from all five communes (districts) within the ESE Norte's area of influence. Data collection continued until theoretical saturation was reached, defined as the point of informational redundancy where subsequent interviews ceased to yield new codes or expand the properties of the existing thematic categories regarding access facilitators. This stability in the coding framework was achieved after 28 interviews. Participants were divided into two age groups (50-59 and 60-69 years). The analysis was conducted using Atlas. TI software, applying thematic network analysis [23]. Reliability was ensured through a rigorous investigator triangulation process. Following Attride-Stirling's framework, the initial coding was performed independently, followed by peer debriefing sessions where the research group reviewed the emerging codes and thematic networks. Discrepancies were discussed until consensus was reached, ensuring that the defined themes accurately reflected the participants' narratives rather than a single researcher's bias. Regarding frequency, qualitative descriptors (e.g., 'the majority,' 'some,' 'few') were used to indicate the prevalence of facilitators, prioritizing the interpretative depth of the thematic connections over strict numerical proportions.

The study focused on women belonging to the subsidized regime of the General Social Security System in Health. This focus is justified by the literature identifying this population as having the highest barriers to screening access, lower socioeconomic and educational levels, and being the primary target of the public healthcare network (ESE Norte). The inclusion criteria encompassed women aged 50 to 69 years, a range selected in strict adherence to the Colombian Ministry of Health and Social Protection's guidelines for population-based breast cancer screening (Resolution 3280). Women were required to be asymptomatic at the start of the process and to have undergone mammography in 2023. Exclusion criteria included cognitive or communication limitations preventing effective participation and foreign women with less than three months of residency. The study protocol was reviewed and approved by the Research Ethics Committee of ESE Norte.

Results

Quantitative component

During the period from January to December 2023, 2,859 mammograms were performed at the Breast Clinic of the Northern Health Network, with a median age of 59 years (range: 50-69 years). Fifty-five percent of the mammograms were performed on women under 60 years of age, with the 50-54 age group having the greatest opportunity for mammography, a statistically significant difference (p = 0.04) (Table 1).

As shown in Figure 1, spatial coverage was concentrated in the districts within the clinic's catchment area: districts 2, 4, 5, 6, and 7. Districts 6 (37%) and 7 (24%) registered the highest number of mammograms, while District 5 showed a significantly greater opportunity for mammograms (p = 0.03). On average, 84% of women were able to have their mammogram within 15 days, with districts 5, 6, and 7 standing out. Conversely, women from rural areas or outside of Cali faced longer waiting times, with statistically significant differences ($p < 0.05$).

The predominant breast density was category B (70%), followed by category C (19%). Both categories showed greater opportunity for mammograms to be performed within the first 15 days, with statistical significance (p = 0.04 and p = 0.01, respectively). Regarding the BI-RADS classification, most women presented BI-RADS 2 (54%) or BI-RADS 1 (37%), while patients classified as BI-RADS 3 showed statistical significance with respect to the timeliness of the examination (p = 0.00). (Table 2).

The average time between mammogram performance and reading was 3.3 days (95% CI: 3.23–3.47), with 50% of cases

Table 1: Sociodemographic characteristics according to the opportunity for mammography. Breast Clinic. North Health Network. 2023.

		Opportunity in mammography screening		
Variable	**Category**	**0 to 15 days**	**16 or more days**	***p****
Age Group (years)	50 to 54	598	131	0.04*
	55 to 60	716	114	0.07
	60 to 64	662	122	0.97
	65 to 69	437	79	0.84
Residence	Commune 2	98	20	0.68
	Commune 4	325	54	0.43
	Commune 5	168	19	0.03*
	Commune 6	911	155	0.22
	Commune 7	590	107	0.83
	Other	248	63	0.01*
	Rural	4	5	0.00*
	Outside of Cali	8	7	0.00*
** Chi-2,*				

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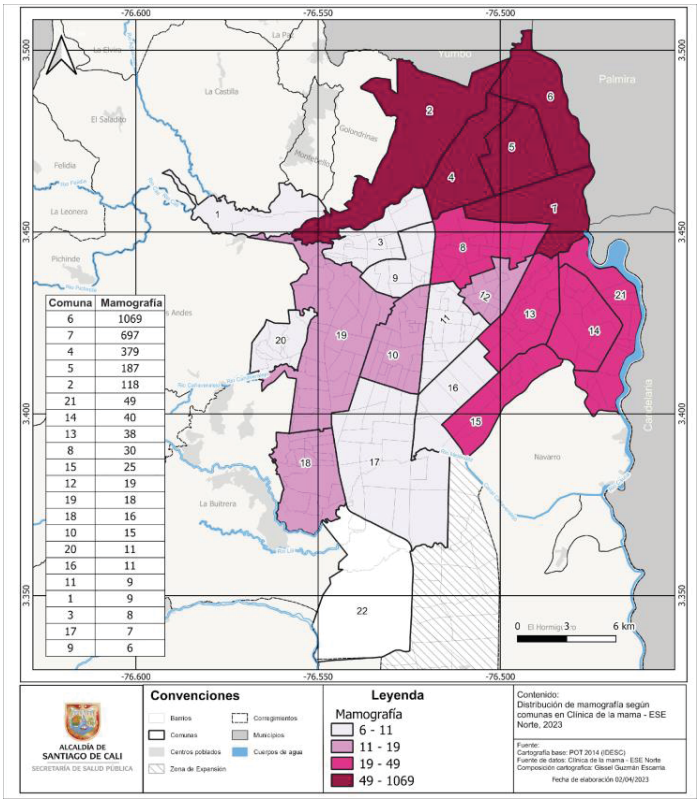

Figure 1: Spatial distribution of mammography appointments. Breast Clinic. North Health Network. 2023.

Table 2: Clinical characteristics according to the timing of mammography. Breast Clinic. North Health Network 2023.

		Opportunity in mammography screening		
Variable	**Category**	**from 0 to 15 days**	**16 or more days**	***p****
Catchment	Demanda inducida	1449	97	0.00*
Densidad Mamaria	A	126	20	0.51
	B	1730	299	0.04*
	C	545	125	0.01*
	D	12	2	0.8
BIRADS	0	158	27	0.69
	1	907	146	0.05
	2	1300	255	0.19
	3	32	18	0.00*
	4	14	0	0.10
	5	0	0	0
** Chi-2*				

processed in three days or less. 98.6% of mammograms were considered timely, meeting the Resolution 3280 standard (<15 days).

Facilitators in action: Results of the qualitative component

The qualitative component of this research was conducted through semi-structured interviews with 28 women who completed the screening process at the Breast Clinic. These interviews allowed for the identification of contextual, emotional, and organizational factors that influence the decision to access mammography services. The most relevant facilitators are detailed below.

1. Medical recommendation and induced demand

A healthcare professional's recommendation was identified as the primary factor that led women to consider getting a mammogram. Many interviewees stated that the guidance they received during their medical appointment was crucial, highlighting the trust they placed in their doctors as figures of authority and knowledge. Furthermore, the recommendations issued during the appointment were complemented by reminder calls from the Breast Clinic, reinforcing the patients' commitment.

A relevant testimony illustrates this point: *"I went to the doctor for a general check-up, and the doctor explained the importance of getting a mammogram. Then, the clinic called me to remind me of the appointment. That gave me peace of mind because I felt they were looking out for me."*

These combined strategies not only boosted attendance but also created a perception of ongoing care. Integrating medical recommendations with personalized reminders proved to be a powerful tool for reducing procrastination.

2. Education on early detection

Discussion about the importance of mammography in the early detection of breast cancer emerged as a key facilitator. Many women demonstrated a clear understanding of the preventive role of this examination, primarily thanks to information provided by physicians, educational campaigns, and personal or family experiences.

One participant mentioned, *"I know that mammograms help detect things early. I prefer prevention, because I saw how cancer affected a close friend who didn't detect it in time."*

In addition, several interviewees highlighted that promotional programs have helped reduce the stigma associated with the procedure, normalizing its practice as part of regular preventive care. This educational approach has had a positive impact, especially on women with a family or personal history of cancer.

One asOne aspect worth highlighting is the normalization of the screening process for some users. The perception of mammography as a routine component of preventive care was another important facilitator. Many participants considered screening a regular self-care measure, similar to other preventive exams such as Pap smears.

One woman stated: *"I always get a mammogram every two years because I know it's important for my health, just like a Pap smear."*

This habit has been consolidated thanks to continuing education and the promotion of the service, normalizing screening as an essential practice for well-being.

3. Family and social support

The emotional and logistical support provided by family and friends played a central role in the women's decision to

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undergo mammography. Family members acted as a practical support system, providing transportation, companionship during the procedure, and emotional encouragement to overcome fears or uncertainties.

One interviewee recounted: *"My daughter was the one who insisted I get the mammogram. She accompanied me and was with me the whole time. That gave me the strength I needed to do it.* "

On the other hand, the social environment also played an important role. Friends, neighbors, and colleagues who shared their own experiences with screening acted as motivating agents, generating a perception that having a mammogram is a normal and necessary practice.

4. Ease and efficiency of the process

The positive experience during the screening process at the Breast Clinic was highly valued by the participants. From the moment they arrived at the clinic, patients highlighted the clarity of the instructions, the speed of service, and the internal organization as factors that contributed to a comfortable and efficient experience.

One woman commented*: I arrived. The security guard greeted me. Very kind, he directed me, and he showed me where I needed to go. The receptionist was also very kind and sent me to another place there, and then the other woman greeted me again. And they guided me, you know, where to; it was all very, very easy*.

This organized flow minimized the stress associated with the medical visit and fostered a perception of quality service. Furthermore, the accessibility of the service, both geographically and administratively, reduced barriers that traditionally hinder access to specialized healthcare services.

The ease of the process also included the simplification of administrative procedures. Patients appreciated the ease of scheduling appointments and the absence of complications related to authorizations or paperwork.

This administrative efficiency not only reduced waiting times but also decreased the stress associated with medical care, improving the overall perception of the service.

5. Modern infrastructure and equipment

The modernization of equipment and the quality of the facilities at the Breast Clinic were identified as factors that significantly improved the patient experience. Participants highlighted that the use of advanced technology not only increased their confidence in the results but also reduced pain and discomfort during the procedure.

One interviewee stated: *"I used to think mammograms were very painful, but this time the machine was modern, and the process was much more bearable*."

Likewise, the clinic's clean, organized, and well-maintained environment contributed to a perception of professionalism and safety, encouraging women to consider screening as part of their health routine: "*Well, I had it done before at Rivera, and I didn't know it was there, but when I came here, I was fascinated. I loved it, everything was nice, I mean, I don't know, I felt more confident where they do it first, where they attend to you afterward, I mean, I thought it was spectacular. I told the nurse and the doctor that I loved the place and everything was so clean and tidy.*"

6. Humanizing the service

The respectful and empathetic treatment provided by the clinic staff was a key factor that positively influenced the patients' experience. The women appreciated the team's kindness, warmth, and patience, which helped alleviate anxiety and create a trusting environment.

One significant testimony came from a patient who stated, *"From the security guard to the mammography technologist who attended to me, everyone was very kind. They explained each step of the process and made me feel safe and at ease*. "

This level of humanization, combined with the technical competence of the staff, strengthened the relationship between the users and the service, promoting loyalty to the screening program.

Discussion

The results of this study highlight the effectiveness of the model implemented by the Breast Clinic (BC) of the Northern Health Network in ensuring the early detection of breast cancer. Quantitative analysis reveals that women between 50 and 54 years of age had greater access to screening compared to other age groups, with a significantly shorter wait time than the 15 days established by regulations (p = 0.04; 95% CI). This finding suggests that the BC's efforts are well-focused on guaranteeing timely access for this group, which is key to early detection.

The implementation of clinical and administrative processes directly contributes to the observed results. Turnaround times are optimized through the assignment of specific tasks, such as the constant monitoring performed by nursing assistants, who track potential delays in mammogram readings. These corrective actions help maintain indicators within regulatory standards, strengthening users' trust in the healthcare system.

The observed disparities in access reveal important organizational and geographic dynamics. The significantly higher access rates among women aged 50–54 (p = 0.04) can be attributed to an 'organizational capture' effect. Women in this age group are often in more frequent contact with primary care services due to the management of perimenopausal symptoms or the onset of chronic conditions (e.g., hypertension, diabetes), creating more opportunities for physicians to trigger the 'induced demand' mechanism and order screening mammography. Conversely, older women who may attend clinics less frequently require more active outreach strategies.

Geographically, the superior performance in Commune 5 (p = 0.03) suggests a 'legacy effect' of healthcare access. Since the program originated in the La Rivera healthcare center (located in Commune 5) in 2015, before moving to its current location,

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the population in this specific territory has developed a stronger culture of screening and familiarity with the administrative pathways of the ESE Norte. This finding highlights that physical proximity is not the sole determinant of access; historical engagement and community knowledge of the service play a critical role in adherence. In contrast, Communes 6 and 7, despite high population density, face compounded challenges of violence and lower historical exposure to the program, necessitating targeted navigation interventions beyond simple geographic coverage.

The focus on demand generation has been a key tool for improving adherence to the program. The use of databases provided by the Health Benefits Administration Entities (EAPB), combined with active follow-up of eligible women, has allowed for reminders to users of the importance of having a mammogram, even in the absence of symptoms. This process, strengthened by raising awareness among physicians to order mammograms during general consultations, has proven effective in increasing coverage.

The facilitators identified include medical recommendations, which strengthen trust and motivate users; family and social support, which reduces logistical and emotional barriers; and the efficiency of the screening process, which minimizes waiting times. The modernization of equipment, such as the Philips mammography unit, has also been crucial in offering greater comfort and reducing discomfort during the procedure, thus improving patient adherence. Empathetic and professional staff care is another essential factor, as indicated by previous studies [24,25], which agree that humane treatment and adapting services to the social needs of users are fundamental pillars for promoting screening.

The external validity of these findings is framed within the context of high-density urban areas characterized by socioeconomic vulnerability. The success of the ESE Norte model relies on the availability of fixed mammography infrastructure accessible via standard urban transportation networks. Consequently, the direct operational replicability of this model in rural settings is limited, as such contexts require distinct logistical strategies to overcome geographical barriers—such as mobile mammography units or organized patient transport systems—which are not the focus of the ESE Norte intervention. However, the core facilitators identified, such as the effectiveness of reminder systems, humanized care, and the reduction of administrative barriers, represent adaptable principles for other resource-constrained settings, provided that the physical gap between the user and the technology is first addressed.

Internationally, experiences from similar programs in low- and middle-income countries, such as those reported by Gakunka, et al. in Kenya and Racine et al. in Canada, reinforce the global relevance of the facilitators identified in this study. Although technological and economic environments differ, the principles of social support, community campaigns, and trained personnel remain critical factors for the success of screening programs [26,27].

Finally, it is important to acknowledge the potential selection bias inherent in this study, as the sample consisted exclusively of women who successfully accessed and completed the screening process. While this approach allowed for a deep understanding of the facilitators that enable access, it inevitably excluded the perspectives of eligible women who did not utilize the service. Therefore, the findings reflect the experiences of users who managed to overcome initial barriers, but they do not account for the specific obstacles that prevented non-participants from seeking care. Future research should prioritize this group, employing designs that capture the narratives of women outside the screening program to identify the structural or cultural determinants hindering their participation.

Finally, regarding the integration with broader policy frameworks, it is crucial to note that Colombia is currently implementing a Pilot Program for Early Detection of Breast Cancer, led by the National Cancer Institute (INC). Currently, the lack of standardized data from similar contexts limits the scope of robust cross-national or regional comparisons. Therefore, the results of this study serve as preliminary evidence base. Once the INC pilot yields its findings, it will be possible to establish more precise national benchmarks to evaluate the comparative performance of the ESE Norte model and analyze the synergistic effects of these facilitators on a larger scale. For now, this study contributes by characterizing a functional model within the subsidized regime that can inform these developing national strategies.

Conclusion

The findings of this study underscore the importance of a comprehensive model that combines active outreach strategies, staff training, adequate infrastructure, and administrative management capacity aligned with community needs. The experience of the ESE Norte Breast Clinic demonstrates that integrating these strategies not only increases screening coverage but also improves women's health outcomes. The replicability of this model in other contexts should be explored, ensuring its adaptation to the social determinants and local characteristics of each population.

References

1. HaRaford J, Azavedo E, Fischietto M. Guideline implementation for breast healthcare in low- and middle-income countries on behalf of the Breast Health Global Initiative Healthcare Systems Panel. Cancer. 2008;113(Suppl 8):2282–2296. Available from: https://doi.org/10.1002/cncr.23844

2. World Health Organization. Cancer control: knowledge into action: WHO guide for effective programs: early detection. Geneva: World Health Organization; 2007. Available from: https://pubmed.ncbi.nlm.nih.gov/24716262/

3. Susan G. Komen. Breast cancer statistics [Internet]. [cited 2015 Apr 3]. Available from: https://www.komen.org/breast-cancer/facts-statistics/breast-cancer-statistics/

4. Global Cancer Observatory. Cancer today [Internet]. [cited 2024 Jan 4]. Available from: https://gco.iarc.fr/today/en

5. Cali Population-Based Cancer Registry. Average annual mortality rates, age-specific, crude, and age-standardized [Internet]. 2022.

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Available from: https://dx.doi.org/10.17352/2455-5479.000230

6. National Cancer Institute. Epidemiological bulletin. No. 11 [Internet]. 2018. Available from: https://www.cancer.gov/

7. Bravo LE, García LS, Collazos PA. Cancer survival in Cali, Colombia: a population-based study, 1995–2004. Colomb Med. 2014;45(3):110–116. Available from: https://pubmed.ncbi.nlm.nih.gov/25386036/

8. Trufelli DC, Miranda VC, Santos MBB, Fraile NMP, Pecoroni PG, Gonzaga SFR, et al. Analysis of delays in diagnosis and treatment of breast cancer patients at a public hospital. Rev Assoc Med Bras. 2008;54(1):72–76. Available from: https://doi.org/10.1590/s0104-42302008000100024

9. Angus J, Paszat L, McKeever P, Trebilcock A, Shivji F, Edwards B. Pathways to breast cancer diagnosis and treatment: exploring the social relations of diagnostic delay. Texto Contexto Enferm. 2007;16(4):591–598. Available from: https://www.scielo.br/j/tce/a/rs5n4nJvkXbPKxXdsxctm4K/?lang=en

10. De Charry L, Carrasquilla G, Roca S. Equity in breast cancer detection in Colombia. Rev Salud Publica (Bogota). 2008;10:571–582. Available from: https://doi.org/10.1590/s0124-00642008000400007

11. Piñeros M, Sánchez R, Perry F, García OA, Ocampo R, Cendales R. Delays in the diagnosis and treatment of women with breast cancer in Bogotá, Colombia. Salud Publica Mex. 2011;53(6):478–485. Available from: https://pubmed.ncbi.nlm.nih.gov/22282140/

12. Velasco S, Bernal O, Salazar A, Romero J, Moreno Á, Díaz X. Availability of mammography services in Colombia. Rev Colomb Cancerol. 2014;18(3):101–108. Available from: https://www.revistacancercol.org/index.php/cancer/article/view/329?time=1767715662

13. Ministry of Health and Social Protection. Individual risk management [Internet]. [cited 2024 May 20].

14. Sardi A, Orozco-Urdaneta M, Velez-Mejia C, Perez-Bustos AH, Munoz-Zuluaga C, El-Sharkawy F, et al. Overcoming barriers in the implementation of programs for breast and cervical cancers in Cali, Colombia: a pilot model. J Glob Oncol. 2019;5:1–9. Available from: https://doi.org/10.1200/jgo.19.00054

15. Ministry of Health and Social Protection, Colciencias. Clinical practice guideline: early detection, comprehensive treatment, follow-up, and rehabilitation of breast cancer. Bogotá (Colombia): Ministry of Health and Social Protection; 2013.

16. National Cancer Institute. Recommendations for screening and early detection of breast cancer in Colombia. Bogotá (Colombia): Instituto Nacional de Cancerología; 2006.

17. Bamodu OA, Chung CC. Cancer care disparities: overcoming barriers to cancer control in low- and middle-income countries. JCO Glob Oncol. 2024;(10):e2300439. Available from: https://doi.org/10.1200/go.23.00439

18. Hernández JMR, Rubiano DPR, Barona JCC. Administrative access barriers to health services in the Colombian population, 2013. Cienc Saude Colet. 2015;20:1947–1958. Available from: https://doi.org/10.1590/1413-81232015206.12122014

19. Azar D, Murphy M, Fishman A, Sewell L, Barnes M, Proposch A. Barriers and facilitators to participation in breast, bowel, and cervical cancer screening in rural Victoria: a qualitative study. Health Promot J Austr. 2022;33(1):272–281. Available from: https://doi.org/10.1002/hpja.478

20. Heisey R, Clemons M, Granek L, Fergus K, Hum S, Lord B, et al. Health care strategies to promote earlier presentation of symptomatic breast cancer: perspectives of women and family physicians. Curr Oncol. 2011;18(5):e227–e237. Available from: https://doi.org/10.3747/co.v18i5.869

21. Perez-Bustos AH, Orozco-Urdaneta M, Erazo R, Cordoba-Astudillo P, Gallo D, Muñoz-Zuluaga C, et al. A patient navigation initiative to improve access to breast cancer care in Cali, Colombia. Cancer Rep. 2022;5:e1564. Available from: https://doi.org/10.1002/cnr2.1564

22. Creswell JW, Creswell JD. Research design: qualitative, quantitative, and mixed methods approaches. 5th ed. Thousand Oaks (CA): Sage Publications; 2018.

23. Attride-Stirling J. Thematic networks: an analytic tool for qualitative research. Qual Res. 2001;1(3):385–405. Available from: https://www.scirp.org/reference/referencespapers?referenceid=1516209

24. Kathrikolly TR, Shetty RS, Nair S. Opportunities and barriers to breast cancer screening in a rural community in coastal Karnataka, India: a qualitative analysis. Asian Pac J Cancer Prev. 2020;21(9):2569–2575. Available from: https://doi.org/10.31557/apjcp.2020.21.9.2569

25. Hirmas Adauy M, Poffald Angulo L, Jasmen Sepúlveda AM, Aguilera Sanhueza X, Delgado Becerra I, Vega Morales J. Barriers and facilitators of access to health care: a qualitative systematic review. Rev Panam Salud Publica. 2013;33. Available from: https://doi.org/10.1590/s1020-49892013000300009

26. Gakunga R, Kinyanjui A, Ali Z, Ochieng' E, Gikaara N, Maluni F, et al. Identifying barriers and facilitators to breast cancer early detection and subsequent treatment engagement in Kenya: a qualitative approach. Oncologist. 2019;24(12):1549–1556. Available from: https://doi.org/10.1634/theoncologist.2019-0257

27. Racine L, Isik Andsoy I. Barriers and facilitators influencing Arab Muslim immigrant and refugee women's breast cancer screening: a narrative review. J Transcult Nurs. 2022;33(4):542–549. Available from: https://doi.org/10.1177/10436596221085301

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Available from: https://dx.doi.org/10.17352/2455-5479.000230