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Breast Imaging

Barriers to breast cancer screening are worsened amidst COVID-19 pandemic: A review

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ABSTRACT

Disparities in screening mammography and barriers to accessing breast cancer screening are most prevalent among racial/ethnic minority and low-income women. The significant breast cancer mortality rates experienced in both Hispanic and African American populations are found to be connected to delayed screening. For these women to follow the screening guidelines outlined by the American College of Radiology and Society of Breast Imaging, they must successfully navigate existing barriers to screening. These barriers include differential access to care, language barriers, and lack of medical insurance. The COVID-19 Pandemic has worsened the barriers to breast cancer screening faced by these groups of women. These barriers need to be addressed or they may further exacerbate disparities.

1. Introduction

Screening for breast cancer with mammography is effective in reducing mortality from breast cancer.¹ While African American and Hispanic women report similar mammography usage to Caucasian women, African American women and Hispanic women are diagnosed at a later stage of breast cancer.¹ Early detection of breast cancer leads to higher survival rates.² A late-stage diagnosis is associated with higher breast cancer mortality experienced by African American women and Hispanic women.³ The higher mortality and lower survival rates of breast cancer among African American women are multifactorial: barriers to health care access, biological and genetic differences in tumors, the prevalence of risk factors, barriers to early detection and screening, lack of medical coverage, and unequal access in cancer treatment.⁴

In March 2020, the World Health Organization declared Coronavirus Disease (COVID-19) a pandemic. As health care institutions became overrun with COVID-19 patients, many institutions followed recommendations to place a moratorium on elective procedures and non-essential surgeries, including routine breast cancer screenings. Screening mammograms and diagnostic studies on women without clinically concerning symptoms were postponed. Practice reductions in breast imaging created schedule alterations resulting in delays in screening and treatment, as the focus was shifted to caring for patients with COVID-19.⁵ For African American and Hispanic patients who already experience delays in screening and treatment, the pandemic has

increased delays.⁵ Evidence has shown that these delays resulted in lower rates of cancers detected at screening and larger tumor size compared to pre-pandemic values.

The purpose of this review is to elaborate on the various socioeconomic factors contributing to breast cancer disparities and discuss the impact of COVID-19 on these preexisting health inequities.

2. Access

Many factors contribute to limiting access to breast cancer screening, with a lack of adequate health insurance being a major contributor.⁶ Patients who are uninsured or underinsured have worse cancer outcomes than patients who are insured.⁶ African American and Hispanic women are more likely to be uninsured than Caucasian women.⁶ Caucasian women are more likely than African American or Hispanic women to have mammograms at imaging facilities accredited as breast imaging centers of excellence, associated with academic facilities, equipped with advanced technology such as breast tomosynthesis, and read by fellowship-trained radiologists.¹

Differential access to specialists, advanced technology, and affiliation with an academic medical center may be related to the disparity of a late-stage diagnosis.¹ The 2010 Patient Protection and Affordable Care Act (ACA) expanded and increased Medicaid benefits, with possibilities of reaching up to 47 million Americans without health insurance.⁶ In a study of 902 women with primary breast cancer diagnosed from 2007 to

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2016, the states with expanded Medicaid had a 2.5% decrease in advanced-stage breast cancer across all races, compared to a 0.7% decrease in non-expansion states.⁶ In African American women, late-stage disease incidence decreased by 3% in expansion states and was essentially unchanged in non-expansion states.⁶ Therefore, the Affordable Care Act state-specific Medicaid expansion plan has had a notable impact on health insurance coverage and breast cancer screening rates.

Geographical access to care is a barrier often faced by underrepresented women. Women with no missed mammograms before diagnosis lived a median of 15 min from the nearest facility, while those who missed five of their past five annual mammograms lived nearly twice as far, with a median travel time of 27 min.⁷ Breast cancer screening, diagnosis, and treatment become difficult when primary care clinics and physicians are not easily accessible in the geographical areas where low-income populations live.⁸ African American and Hispanic women are more likely to live in poverty than Caucasian women.⁶ Women who live in underserved communities may be required to travel to access breast cancer screening and treatment facilities. Many women are dependent on their job for primary income and may not be able to take off time from work.⁹ Hispanics along with other communities of color accounted for 23% of the initial job loss due to the pandemic.¹⁰ Increased unemployment among individuals already living in poverty during the pandemic shutdown may have hindered access to health insurance.¹¹ Transportation may have also contributed to the observed disparities; while public transportation remained open during the stay-at-home order, the hours were limited, and lower-income patients may have been hesitant to use public transportation due to changing information about COVID-19 transmission and mortality.⁵

The COVID-19 pandemic is centered in metropolitan regions, and racial and ethnic minorities are more highly concentrated in urban areas in the United States.¹² Public hospitals in urban pandemic epicenters serve as healthcare safety nets for medically underserved communities.¹² The economic costs of treating COVID-19 related illnesses have disproportionately harmed safety net healthcare facilities where cancer care is provided to a greater number of racial/ethnic minority patients.¹²

3. Communication

Language barriers and lack of understanding between a patient and a healthcare provider can prevent proper care and follow-up. In an evaluation of the association of language with delay in follow-up, at 30 days of follow-up, 67% of all English speakers with incomplete assessments had a follow-up exam compared with 50% of all non-English speakers.¹³

Sufficient communication between physicians and patients can relieve anxiety and increase the rate of appropriate follow-up.¹⁴ Physicians' nonverbal and interpersonal communication behaviors related to empathy were found to be more important to minority patients than the verbal transmission of health-related information.¹⁵ Listening and spending time were especially important aspects of health interactions for Asian and Hispanic patients, whereas African Americans valued participating in decision-making and building a trusting relationship with providers.¹⁵ However, physical distancing, masks, personal protective equipment (PPE) worn by the physicians created barriers in effective physician-patient communication during the COVID-19 Pandemic.¹⁶

The most common cause of COVID-19-related delays is practice reductions.¹⁷ Canceled or delayed appointments, or procedures related to policy to restrict non-urgent treatment, retain social distance, and/or preserve personal protective equipment, are among the practice reductions.¹⁸ Health care providers need to increase efforts to maintain prevention services and reach out to underserved populations, who faced health disparities before the pandemic.¹⁹ One method of reaching out is telehealth.²⁰ However, the accessibility to technology and use of the internet differs among patient populations.²⁰

4. Education

One of the factors that contribute to increased breast cancer mortality among African American women is the biological characteristics of the tumors that tend to be more aggressive.²² Hispanic women tend to be diagnosed at a later stage and have worse prognostic features than Caucasians such as triple-negative breast cancer.¹⁹

Although multiple genes establish an inherited risk of cancer, breast cancer gene (BRCA) mutations are the most prevalent mutations which are responsible for the preponderance of hereditary classifications of breast cancer.²¹ In women with diagnosed breast cancer, the prevalence of BRCA1 mutations in the African American population is 4.3%.²² The prevalence of BRCA2 mutations in the African American population is 3%.²² According to the National Breast Cancer Foundation, cancers related to a BRCA1 mutation are also more likely to be triple-negative breast cancer – a form of breast cancer that can be more aggressive and difficult to treat. As a whole, 55 to 72% of women with a BRCA1 mutation will develop breast cancer by age 70 to 80, whereas 45 to 69% of women with a BRCA2 mutation will develop breast cancer by age 70 to 80.²³ African American women are less likely to have genetic testing than Caucasian women.²³ As a result of the lack of genetic testing, patients do not realize they are at high risk to develop breast cancer. Additionally, African American women are also less likely to adhere to the American College of Radiology recommendations for breast MRI.²³ During the pandemic, the focus was shifted to ensure accrual of diverse patients onto COVID-19-related clinical trials and participation in vaccine programs; while certainly beneficial to society, there was a diminished focus on education for patients on genetic testing or a breast MRI which contributes to their disproportionate mortality burden.²⁴

To increase understanding of inequities in breast screening, healthcare providers must be educated on culturally tailored care.¹⁵ The development of knowledge and experience is a continual process that is required to deliver effective and sensitive care.¹⁵ All healthcare providers should be given opportunities to learn this information.¹⁵ However, medical students rarely acquire efficient non-clinical processes for dealing with social problems that affect their patients' health.²⁵ On the other hand, some schools, such as the University of California, San Francisco, are offering seminars for physicians on how to minimize unconscious racial stereotyping, as well as research cautions on how to avoid unintended bias.²⁶ Undergraduate medical education was disrupted due to the need for medical students to volunteer on the front lines of the pandemic; as a result, these students were taught valuable skills but also decreased time to focus on other parts of their education.²⁷

5. Best practices to counter COVID-19 related issues

A rebound in mammography utilization as of July 2020 had lagged considerably among Asian and Hispanic women. These results support the conclusion that the COVID-19 pandemic has disproportionately affected racial and ethnic minority groups in the United States.^{28–30}

Due to the COVID-19 pandemic, about 285,000 breast exams were missed between March 15 and June 16, 2020.³¹ However, now that safety standards are in place and the vaccine has become available, screening appointments are on the rise at many locations. To predict how the disruptions have impacted future breast cancer death numbers, Wisconsin researchers looked at simulation models developed by the U.S National Cancer Institute Cancer Intervention and Surveillance Modeling Network. These models suggest that the number of excess breast cancer deaths due to COVID-19 impact on screening and treatment could reach 2487 over the next decade, with a 0.52% increase in breast cancer deaths between 2020 and 2030.³²

To protect patients and workers from virus transmission, health care facilities follow a range of practices.³³ The spacing time between patient appointments, masking, social distancing, hand sanitizing, and improved cleaning measures have become normal in healthcare facilities.³³ Many facilities require patients to self-screen for symptoms and

answer questions regarding travel and viral exposure as part of the prescreening process.³³ Some centers check patients' temperatures when they arrive, and patients should be pre-screened for COVID-19-related symptoms before attending a screening visit.³³ Appointments are arranged such that patients are separated from one another and waiting rooms to avoid overcrowding.³³ Extended hours including evenings and weekends have helped practices overcome barriers that might discourage patients from office visits.³²

The American Cancer Society has been leading a broad national effort known as "Return to Screening" to quickly raise cancer screening rates to pre-pandemic levels.³⁴ To increase screening rates for breast cancer, a nationwide consortium of public health organizations, professional organizations, patient advocacy groups, corporations, government, and key individual leaders are involved.³⁴ This initiative funds the formation of regional and local consortia, as well as resources for healthcare systems to use in increasing screening exams and interventions to increase health equity in underserved areas.³⁴ Additionally, the American Cancer Society provides cancer information in 12 languages, including prevention, early detection, treatment, and side effect management.³⁴ Volunteers with the American Cancer Society's Cancer Action Network contact their elected officials to gain funds for cancer research, guarantee that all Americans have access to cancer care, and support public health legislation that decreases cancer risk and improves cancer care for all.³⁴

6. Conclusion

Health-care access restrictions caused by COVID-19 have a negative influence on the health and wellness of African Americans and Hispanic Americans.³⁵ However, before the pandemic, African American and Hispanic health disparities were evident in cancer detection, treatment, and survival.³⁵ The large cumulative deficits of missed mammograms are likely to harm early breast cancer detection and breast cancer outcomes.³⁶ Health-care providers must tailor their efforts to sustain prevention programs and reach out to underserved communities.³⁶

To limit the projected impact of the COVID-19 pandemic on cancer patients, immediate initiatives are required, particularly the need to manage the accumulation within regular diagnostic services.³⁷ The medical community and public health professionals must work together in promoting health equality and minimizing inequities in the post-COVID-19 pandemic to increase access, improve communication, education, and awareness of the importance of screening and early breast cancer detection.³⁷

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