The Breast Health Global Initiative: Why It Matters to All of Us

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Introduction

Breast cancer is the most common cause of cancer-related death among women worldwide, with case fatality rates highest in low- and middle-income countries (LMCs). Globally, breast cancer is the most common female cancer, comprising 23% of all cancers that are newly diagnosed, in more than 1.1 million women each year.[1] More than 411,000 breast cancer deaths occur each year, accounting for more than 1.6% of female deaths from all causes.[2] The annual global burden of new breast cancer cases is projected to be 1.5 million this year, with an ever-increasing majority from LMCs.[3] Approximately 4.4 million women diagnosed with breast cancer in the last five years are currently alive, making breast cancer the single most prevalent cancer in the world.[1]

In most LCMs, breast cancer incidence rates are increasing more rapidly than in regions where incidence rates are already high. Despite the younger age structure of most developing countries, LMCs already account for 45% of the incident breast cancer cases and cause 54% of the annual breast cancer deaths around the globe.[3] Even assuming that there will be no change in underlying age-specific rates, a nearly 50% increase in breast cancer global incidence and mortality is anticipated between the years 2002 and 2020—due simply to the aging of current global populations. These rising cancer rates will be disproportionately greater among countries in the developing world, projected in LMCs to reach a 55% increased incidence and 58% increased mortality in fewer than 20 years.[3] In reality, these projected statistics probably underestimate future cancer rates, since the little data that is available from LMCs reveals increasing age-specific breast cancer incidence and mortality rates, especially among recent birth cohorts. This is especially true for urban women in LMCs and is partially attributable to the adoption of Western lifestyles.[4,5]

Guideline Development

Evidence-based guidelines outlining optimal approaches to breast cancer detection, diagnosis, and treatment have been well-developed and disseminated in several high-resource countries.[6,7] However, these guidelines define optimal practice, and therefore have limited utility in LMCs. Optimal practice guidelines may be inappropriate for LMCs for numerous reasons, including inadequate personal resources, limited health care infrastructure, lack of pharmaceuticals, and cultural barriers. Hence, there is a need to develop clinical practice guidelines oriented specifically toward LMCs, and these guidelines need to take into consideration existing health care resources. Cosponsored by the Fred Hutchinson Cancer Research Center and Susan G. Komen for the Cure, the Breast Health Global Initiative (BHGI) strives to develop evidence-based, economically feasible, and culturally appropriate guidelines that can be used in nations with limited health care resources, with the aim of improving breast cancer outcomes. The BHGI held three Global Summits to address specific topics as they relate to breast cancer in LMCs: health care disparities (Seattle, Washington, 2002);[8] evidence-based resource allocation (Bethesda, Maryland, 2005);[9] and guideline implementation (Budapest, Hungary, 2007).[10] Modeled after the approach of the National Comprehensive Cancer Network (NCCN), BHGI developed and applied a consensus panel process that is now formally endorsed by the Institute of Medicine (IOM) [11] to create resource-sensitive guidelines for breast cancer early detection,[12] diagnosis,[13] treatment[14] and health care systems[15] as related to breast health care in LMCs. These BHGI guidelines are intended to assist ministers of health, policymakers, administrators, and institutions in prioritizing resource allocation as breast cancer treatment programs are implemented and developed in their resource-constrained countries (Table 1).
Implementation research

The dominant paradigm in the medical community is that good research and publication should be sufficient to ensure the translation of scientific findings into general practice.[16] Unfortunately, a landmark IOM report from 2001 clearly identified the failure of much scientific innovation to be translated into practice.[17,18] More recently, Rubenstein and Pugh separated the IOM's second translational block — clinical research to practice — into two parts: clinical research to guidelines, and guidelines to practice.[19] Implementation researchers maintain that the process is complex, and they have begun to identify factors and processes critical to the adoption of new technologies and practices.[20] Although there has already been some research assessing readiness for change, it has usually focused on just one component, such as providers or health units, or has focused on intention without considering self-efficacy or environment. As a conclusion in her extensive review of the implementation literature, Greenhalgh notes the need for more research on system readiness for innovation and for more studies evaluating implementation of specific interventions.[21]

TABLE 1


A review of available information strongly suggests that research could play a crucial role in applying the experience and knowledge of high-income societies to the challenges of women and breast cancer throughout the world. A recent survey of oncology experts from Latin American countries found that 94% of the surveyed experts consider clinical-epidemiologic research development on breast cancer insufficient in their country. The main reasons identified were insufficient funding and lack of available time.[22]

Very little research on guideline implementation has been done in LMCs. It is necessary to determine whether the basic frameworks and instruments described in high-income countries apply in these very different environments, and what adaptation is needed to make them both valid and feasible. A systematic program of research to develop appropriate readiness-assessment instruments and to identify effective implementation strategies is now needed in a variety of LMCs. As we move toward the adoption, implementation, and maintenance of the new evidence-based principles embodied in the BHGI guidelines, it is critical that careful evaluation is incorporated in the efforts, to ensure that lessons about effectiveness and efficiency are captured. It is precisely because resources are scarce in these countries that it is even more imperative that LMCs adopt effective practices as quickly as possible, and that implementation approaches are designed with limited resources in mind.[16]

Obstacles to early breast cancer detection

In LMCs, worsened cancer survival is largely attributable to late stage presentation, which leads to particularly poor outcome when coupled with limited diagnostic and treatment capacity.[23] Of the over 75,000 new breast cancer cases presenting for treatment each year in India, between 50% and 70% have locally advanced disease at diagnosis.[24] By comparison, 38% of European and only 30% of American breast cancer cases were reported to be lymph-node positive or locally advanced at diagnosis (T1-3N+M0 or T4N M0), in the EUROCARE study and SEER cancer registry between the years 1990 and 1992.[25] Thus, the determination of which factors promote or inhibit women’s participation in early detection programs becomes highly relevant to the relative success of a population-based cancer strategy.

Social or cultural issues may also adversely impact women’s participation in early detection programs, and failure to anticipate these inhibitory factors can adversely affect research or clinical outcomes. For example, a large population-based randomized trial studying screening clinical breast examination (CBE) in the Philippines could not be completed, because over 60% of women from this relatively well-educated population in Manila refused to complete the required follow-up diagnostic studies once a finding on CBE was identified. The researchers concluded that cultural and logistic barriers to seeking diagnosis and treatment must be addressed before any screening program is introduced.[26]

Azaiza and colleagues have provided an important analysis of screening behaviors in relation to cultural and environmental barriers among women who live in the Palestinian Authority.[27] This highly relevant study found that women in this region of the Middle East were more likely to undergo screening mammography if they were (1) less religious, (2) described as having fewer personal
barriers to examinations, and (3) indicated a lower degree of cancer fatalism. Cancer fatalism is a problematic social belief system suggesting that cancer occurs as a result of predetermined destiny, which could lead one to believe that the course of disease is not likely something that one could personally influence or prevent. Women who consented to CBE had a higher perceived effectiveness of CBE and described lower levels of cancer fatalism. Muslim women were half as likely as were Christian women to participate in CBE screening. Similarly to women who underwent CBE, women were more likely to perform self-breast examination (SBE) if they were more highly educated, resided in cities, were Christian, and were less religious. Also, women with a first-degree relative with breast cancer were more likely to practice SBE.

Fatalism can create a very significant obstacle for participation in early detection programs. Since participation in an early detection program depends upon a person’s acceptance that early intervention can favorably influence one’s destiny, a person who has strong fatalistic beliefs may be unlikely to accept that early detection approaches could work. The Azaiza study of women from the Palestinian Authority suggests that fatalistic belief systems may be more common among people who consider themselves to be more religious. One approach to improved participation in breast cancer screening might be to recruit church or religious leaders as spokespersons for early detection messages. Additionally, when religious practices require women to remain completely covered, as is the case in many Muslim countries, women may feel that SBE and CBE are unacceptable or shameful practices. Special screening clinics staffed by women physicians and nurses and adapted to the needs of specific religious communities may be required to promote screening participation in these regions of the world.

Early Breast Cancer Detection in the Absence of Screening Mammography

The value of BSE as a screening tool in LMCs remains an area of controversy. Some groups have concluded that self-examination has no benefit in improving breast cancer outcome, based primarily on the negative BSE randomized trial performed in Shanghai, China and reported in October 2002.[28] The cluster randomized trial assigned 260 factories to the instruction group and 259 factories to the control group. All current or retired female employees ages 30 – 65 years of age were eligible for study. Women from the instruction factories were given intensive instruction in BSE, reinforcement sessions one and three years later, and practiced BSE under the supervision of a factor medical worker every six months for five years. Women in the control group may have been performing BSE on their own recognizance, but they received no formal training in the process. Because no mortality difference was seen between the groups trained in SBE versus those that were not, many concluded that BSE is not of clinical value. In fact, the Shanghai study data does not support this sweeping conclusion.

Generally overlooked from the Shanghai BSE trial is the fact that even the women in the control group of this study performed BSE quite effectively despite the lack of formal training. Over 40% of the breast cancers diagnosed in the Shanghai control group were less than 2cm in diameter, suggesting that Chinese women appear to do well with breast cancer early detection without the assistance of training in BSE methodology. These statistics stand in strong contrast to cancer demographics from the Middle East, Africa, and India where the median tumor size is commonly 4-6 cm at presentation, the majority of women presenting with locally advanced or metastatic breast disease at initial diagnosis. The differences in cancer presentation between women from these regions of the world compared to China are not fully understood, but could relate to different cultural beliefs. While not formally studied, it is reasonable to hypothesize that women who are taught that exposing their bodies is socially improper and are discouraged from touching or examining their own breasts would be at significant disadvantage for self-identification of disease.

Preliminary results from a new cluster randomized trial suggests that CBE in fact facilitates the down-staging of breast cancer in Mumbai, India where women commonly present with advanced stage disease at diagnosis.[29] Women in the intervention group underwent CBE for detection of breast abnormalities and also underwent cervical inspection for plaque or lesions warranting cryotherapy. For comparison, women in the control group received health education alone but did not undergo CBE (or cervical inspection). More than 75,000 women have now been randomized to each arm. Screening among the intervention group is planned to occur every two years for four cycles; women will then be monitored for eight years to determine cancer outcome. In a recent update of the study and after three rounds of screening, more breast cancers have been found in the intervention group (125 cases vs 87 cases in the control group) and of these, a significant fraction were stage 0, I or II at initial diagnosis (62% vs 44% in the control group).
BHGI Learning Laboratories

BHGI has adopted an implementation strategy of developing collaborative relationships with organizations and institutions in LMCs to focus on situation analysis, education and training, and adapted use of affordable technology for breast cancer early detection, diagnosis and treatment. In Kumasi, Ghana, a surgical pathology laboratory has been established through a collaboration established between the University Hospital of North Norway and the Komfo Anokye Teaching Hospital in Kumasi, Ghana during the 2nd BHGI Global Summit in 2005.[30] Since then, BHGI has coordinated two professional training courses in Ghana (January 2010, Kumasi; August 2010, Accra), targeting the educational needs of physicians, nurses and breast cancer advocates. Future projects are underway in other countries including a cluster randomized screening trial in Bogota, Colombia. The International Atomic Energy Agency (IAEA) has established a formal relationship with BHGI to create training courses in other partnership countries, modeled after the courses taught in Ghana. BHGI intends to develop models that can be generalized and translated to other environments of similar economic and health care resources.

Relevance to High-Resource Countries

The improvements in breast cancer survival in the industrialized world seen in recent decades can be attributed to early detection by screening, combined with timely and effective treatment as guided by the results of extensive and rigorous clinical trials.[31] Randomized trials using screening mammography with CBE initiated in the 1970s showed that early cancer detection within a given population leads to down-staging of disease and improvement in breast cancer survival. At the same time, randomized trials of systemic therapies for breast cancer proved that endocrine therapy for estrogen-receptor positive (ER+) cancers and cytotoxic chemotherapy for ER–cancers improves survival and durable long-term cure among lymph node negative, lymph node positive, and even locally advanced breast cancers.[32] Breast cancer mortality, which had been essentially unchanged in the U.S. for the six decades between the 1930s through the 1980s, has been dropping by nearly 2% each year between 1990 through the present.[33]

Research performed in LMCs also applies to care for underserved populations in the United States. Notably, minority women in the U.S. are more likely to present with advanced stage disease and have higher mortality rates than do white women, although white and black women presenting with similar-stage disease and receiving similar treatment have similar outcomes. These findings suggest that differences in stage at presentation should represent primary targets for research, the goal of which is to determine which interventions best reduce disparities in cancer outcomes among women from different social or racial groups.[34]

Conclusion

Improving breast cancer outcomes in LMCs will require concerted efforts to provide resource-adapted solutions for breast cancer early detection, diagnosis, and treatment, applying what has been learned and successfully applied in high-resource environments in these settings where significant infrastructure components are missing, early detection strategies for cancer have not been employed, and significant social or cultural obstacles may impede progress. The BHGI is working to collaborate with colleagues in LMCs to develop practical strategies to improve outcome, applying implementation research methodology to promote early detection strategies in settings where appropriate care can be administered.

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References:

References

30. Stalsberg H, Awuah B, Ibarra JA, et al. Re-establishing a surgical pathology service in Kumasi,
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