**Breast Cancer: Socio-Ecological Model**

**Abstract**

The modern society is faced with numerous public health issues across diverse populations on a global scale. Assessment of public health issues using the Socio-ecological Model would significantly contribute to the formulation of an effective solution to the public health problem based on the identified indicators and determinants. This paper is focused on evaluating breast cancer as a pertinent public health issue facing the African-American female population. A succinct analysis of the background information pertaining to breast cancer will provide information regarding the impacts of the health issue to individuals and the society at large. Various risk behaviors of breast cancer will be discussed based on the applicable socio-ecological theory. This will be applied in the proposition of multi-level interventions resulting in positive health outcomes for the populations. Finally, this paper will evaluate the success likelihood of the proposed intervention and how it addresses at least two of the public health services across all levels of the Socio-ecological Model.

**Breast Cancer: Background Information**

**Breast cancer has become a common public health issue in the society today. Most people have had an encounter with breast cancer either at a personal level, through relatives or in the neighborhood. Basically, breast cancer is a medical problem that results from the excessive growth of breast cells (CDC, 2016). According to the Center for Disease Control (2016), breast cancer appears in different forms depending on the type of cells that grow out of control to become cancerous and the part in which they grow. A human breast has three main parts which include the connective tissues, lobules, and ducts. Notably, most cases of breast cancer result from the excessive growth of cells around the ducts or lobules (Center for Disease Control, 2016). The cancerous cells then spread to other body parts through lymph and blood vessels.**

**The process through which cancerous cells spread to other body parts is called the metastasization. Ductal carcinoma and invasive lobular carcinoma are the most prevalent types of breast cancer affecting the African-American women today. Uncontrolled growth of cells from the cell ducts to the rest of the breast tissue results in invasive ductal carcinoma cancer while the spread of the cancerous cells from the lobules to other breast tissues results in the invasive lobular carcinoma type of breast cancer (Center for Disease Control, 2016). Breast cancer is associated with various signs and symptoms including the emergence of new lumps in the breast, swollen breast tissues, irritation of the skin around the breast, breast skin redness, nipple discharge, and the change in the breast shape or size. Breast cancer can be detected through physical breast examination or screening (Breast Cancer Facts & Figures, 2015). Mammograms reveal benign breast lumps which are neither cancerous nor do they grow excessively within the breast tissues.**

**Detection of breast cancer begins with the microscopic screening of the breast tissue is required to initiate a process of definitive diagnosis to evaluate the spread of cancerous cells to the rest of the body parts as well as determining the type of cancer in an individual. Breast examination can be carried out through microscopic analysis of a breast tissue extracted through surgical biopsy or using a surgical needle (Breast Cancer Facts & Figures, 2015). It’s imperative to note that the method applied to extract cells for microscopic analysis depends on the type of individual as well as other clinical factors such as the availability of cancer screening resources.**

**Prevalence of Breast Cancer among African American Women**

Breast cancer incidence rate is relatively low among African American Women while the mortality rate is relatively higher in comparison to Caucasian women. This implies that African American women have reduced chances of developing breast cancer but higher chances of dying from the disease once contracted (Wertich, 2017). Statistics reveal that death rate from breast cancer is currently at 41% among the African American women. This rate is higher than any other ethnic group on a global scale. Moreover, the African American women have fewer chances of surviving for more than five years after getting diagnosed with breast cancer due to its aggressive form is known as the triple-negative breast cancer(Hughes et al., 2014). Comparatively, the African American women have three times higher chances of developing breast cancer compared to the Caucasian women.

**Breast Cancer: Social Determinants**

The social determinants of health refer to the factors that influence the environments where people exclusively live and grow despite the risks associated with access to basic utilities For instance, lack of social support is a primary social determinant of breast cancer among African American women. Basically, social support enables women to understand various self-care interventions as well as providing them with the much-needed counseling and moral support. Offering social support to women suffering from breast cancer helps them to access proper medical care by helping them to understand the need to take medication and embrace proper nutrition to improve their chances of survival. Moreover, social support involves emotional counseling by close friends and family significantly reduces the stress levels as well as the reactivity of the hypothalamus-pituitary-adrenal axis. This is important in boosting the body immunosurveillance from cancer reoccurrence (Hughes et al., 2014). Lack of these essential provisions of social support on women suffering from breast cancer may result in negative consequences that result in deterioration.  Isolation of women suffering from breast cancer significantly elevates their mortality risk due to lack of access to home-based care interventions and counseling services.

Lack of access to health care is also a social health determinant affecting African American women suffering from breast cancer. This facilitated by factors such as poor or inadequate health insurance coverage due to the existing racial disparities within the continuum of breast cancer. Basically, the number of African Americans without health insurance is nearly twice compared to the white Americans due to the dependence of public health insurance schemes such as Medicaid. The lack of or inadequate insurance coverage among the African Americans is largely attributed to low wages or even lack of health allowances for those in employment (Hughes et al., 2014). As a result, the under-insured or uninsured women have reduced chances of accessing screening services thus end up getting diagnosed when the disease is already in the advanced stage. As a result, these women have very minimal chances of surviving breast cancer. Additionally, the breast cancer treatment outcomes are significantly influenced by the type of insurance coverage an individual has. Generally, the women having private health insurance coverage are likely to access early breast cancer diagnosis compared to the publicly insured women (Leung et al., 2014). Consequently, the women having public health insurance coverage have better chances of early diagnosis compared to the uninsured women.

**The Socio-Ecological Model**

Public health policies significantly contribute to the development and implementation of strategic and actionable interventions to multi-dimensionally improve the quality of life for the breast cancer survivors. The socio-ecological model is used as the basis for research, design, and implementation of the multi-dimensional interventions to evaluate various methods through which the internal and external factors affecting women suffering from breast cancer at personal, interpersonal, and community levels. This affects the community at large, the healthcare service providers, and the caregivers as they coordinate to identify the major issues of concern, develop the action plans, and implement the program to improve the quality of life for breast cancer survivors. According to the National Action Plan for Cancer Survivorship (NAPCS), various factors and strategies within the public health domain should be used as the basis of collaboration between various components of the socio-ecological model for improvement of breast cancer survivorship outcomes. The socio-ecological model outlines various factors affecting the patient behavior at different levels based on the personal attributes such as attitude, demographic data, health literacy, behavior, interpersonal relations, and developmental history. The level of interpersonal relations is addressed based on the available support systems by the professional health workers and the relatives of the breast cancer patient. The organizational level is made up of the available social systems upon which various policies and regulations are formulated. The community level is concerned with the existing relationships between various organizations and related information networks whose boundaries are clearly defined (Hughes et al., 2014). Finally, the policy levels are defined by the local, state, federal, and international policies and regulations.

There is a wide range of applicable interventions that can be implemented to reduce the prevalence of breast cancer among women. As aforementioned in the socio-ecological model, breast cancer can be best diagnosed at the personal level for those that have been already diagnosed and those at the risk of breast cancer. At this level, having sufficient information regarding the disease is essential to inform the screening and consequent behavioral interventions. The applicable interventions are directly related to the provisions of the four levels of the Socio-Ecological Model (Pierce, & Kealey, 2015). At the interpersonal level, development of a global support group would significantly contribute to the alleviation of the disease for people who lack proper support from family or relatives. The global support group is comprised of volunteers who get assigned to women having breast cancer within their locality, preferably around a fifty-mile radius. The volunteers are in a position to create a good relationship with the individuals to ensure the success of the social support initiatives. Therefore, it’s imperative that the individual having breast cancer gets to trust the volunteer who has been assigned to them as the initial step of beneficial support. For instance, the person affected by breast cancer may have financial difficulties that may limit her ability to visit the doctor on appointments. In this case, the volunteer provides transportation support to ensure constant treatment. Such interventions significantly help to increase the quality of life for the affected person and also reduce their lifespan. According to research factors like mortality rate for African American women diagnosed with breast cancer is directly proportional to the adequacy of social support systems (Hughes et al., 2014).. Therefore, social support helps the affected person to develop consistency in taking medication as well as attending appointments.

The same volunteers can also contribute to the interventions that are implemented at the organizational level whereby they get assigned to local oncology clinics to help in awareness creation on the benefits of breast cancer screening. The volunteers can also serve to ensure that the healthcare facilities within their locality are sufficiently equipped with proper equipment and systems for screening as well as the financing options for the affected individuals. In the event that the facilities lack proper systems, the volunteers are expected to work out applicable solutions with the physicians to come up with a way to help the affected persons. This is important in ensuring that the healthcare system is sufficiently equipped to come up with preventive measures as well as create a favorable environment for those that have already been diagnosed.

The next stage of the socio-ecological model is the community level in which the volunteers can still be used to develop and implement proper interventions for breast cancer patients. At this level, the focus shifts to creating awareness on the importance of breast cancer screening to reduce the mortality rate associated with the disease. The volunteers can create awareness either by door to door campaigns, through the mainstream media, or even through print media in all areas where breast cancer screening is scheduled to ensure that many people turn up. The volunteers can also host frequent meetings in the public park to help the people to understand benefits of breast cancer screening and also to provide answers to questions that people may have with regard to breast cancer screening and treatment. Additionally, the volunteers can attend community gatherings such as in the local churches to educate people and encourage them as well as recruit new volunteers. In coordination with the community health systems, the volunteers can promote breast cancer screening initiatives through community-based advertisements.

The policy stage is the final level of the Socio-Ecological Model. At this level, the same volunteer will be involved in the formulation of government policies and regulations with regard to breast cancer screening to improve the outcomes of various interventions. For instance, the volunteers and the community healthcare workers can influence the state government to come set up funds to facilitate yearly free breast cancer screening activities to help the women in rural areas and those who cannot afford health insurance to access the services for early detection. Additionally, the volunteers can collaborate with the healthcare stakeholders to influence the government to set up laws and policies for improved service delivery for the at-risk women. It’s imperative to note that fighting breast cancer is subject to a combination of effort by various stakeholders to reduce the mortality rate among the African American women.

Various care organizations can be involved in the implementation of the proposed care interventions for the women having breast cancer. For instance, the Sisters Network Inc. is a global organization that is focused on creating global awareness about the impacts of breast cancer in the modern society. This organization focuses on specifically helping the African American women thus the selected volunteers would significantly facilitate awareness creation in the African American society. Another organization that could help to implement the suggested care interventions for breast cancer screening and treatment is the African American Breast Cancer Alliance Inc. which is committed to awareness creation and building healthcare connections for the women through education and provision of sufficient resources for the African American women (Miller et al., 2015). This organization reaches out to the families and communities that have been directly or indirectly affected by breast cancer. Therefore, this organization is likely to provide the best volunteers to promote the cause of each intervention that has been proposed.

**Community-Based Participatory Research as an Intervention**

The Community-based Participatory Research focuses on collaborating with the affected communities to develop alternative research techniques based on the assumption that the characteristic phenomenon can be treated independently of its context for research purposes (Holkulp et al., 2009). These techniques that develop from a positive philosophical framework have been widely used as the basis for differentiating research with practice. However, the CBPR is cognizant of the benefits of involving members of the population under study as the key participants in every stage of research as long as the study aims at implementing change. The existing health disparities at the community level can be significantly reduced by proper implementation of the Community-based Participatory research programs. Moreover, community involvement is critical for the proposed intervention to reduce the mortality rate due to breast cancer among the African American women. Therefore, this approach will ensure that stakeholders at all levels will cooperate to implement the desired change.

Based on the fact that breast cancer is quite prevalent among the African American women, the chances of successful implementation of the proposed interventions is high. This is because each intervention that has been proposed focuses on the primary ways in which breast cancer affects African American women. The approaches to each intervention are practically realistic as long as there are sufficient volunteers to implement. Recruiting volunteers for this cause is not a hard task since most African American communities have numerous social support groups that take pride in serving the community. After ensuring that the volunteers are recruited and prepared for the work, they should be then assigned to specific roles to ensure that each team is working to fulfill certain objectives based on the larger goal of reducing breast cancer among the African American women. Collaboration between different stakeholders significantly increases the success rate.

The public healthcare system is founded on a framework of various services that serve to monitor, identify, and resolve issues within the community healthcare system. The core functions of the public health system in a community setting includes;

•    Diagnose and resolve health issues

•    Educate and empower the masses about public health

•    Mobilize resources for partnership with various organizations to facilitate the interventions

•    Develop regulations to support healthcare improvement efforts

•    Implement the laws and regulations that ensure community health and safety

•    Provide the community with access to sufficient healthcare services.

•    Promote competency in the healthcare system

•    Evaluate the efficiency of healthcare systems

•    Ensure access to affordable care

•    Promote quality in the individual and community-based healthcare services

•    Promote research into diverse solutions to healthcare issues.

The proposed healthcare intervention for the African American women having breast cancer has sufficiently addressed the issue of information as the primary intervention as it empowers the people with crucial information regarding breast cancer. The information is passed through awareness campaigns, mainstream media, and print media to inform the community about various cancer screening options. The second intervention focuses on ensuring the efficiency of the healthcare service providers in facilitating the screening process through volunteers to ensure that the affected women are able to access proper care.

**Conclusion**

The issue of breast cancer among the African American women has resulted in many deaths compared to the Caucasian women. However, the African American women have reduced chances of developing breast cancer compared to the European women. As a result, various interventions should be designed and implemented to facilitate early detection and medication as a way of reducing the mortality rate. Early detection paves a way for early treatment thus reducing the severity of the disease. Additionally, it creates a room for proper healthcare to ensure that the women have access to consistent medication to improve their quality of life even after diagnosis. Additionally, social support systems play an important role in helping the affected women to cope with the disease. Through social support, the women get the much needed moral guidance and even financial support since the treatment is quite expensive. Therefore, it’s important that proper screening mechanisms and equipment are set in place to ensure early detection and the consequent treatment. Creating awareness is also a critical factor in saving lives.

**The Socio-Ecological Model Diagram**

**KEY**

INDIVIDUAL: Outlines the important of breast cancer screening at the personal level.

INTERPERSONAL: This level involves the inclusion of volunteers to provide the women having breast cancer with the moral and material support to ensure that the women consistently access medication.

ORGANIZATIONAL: Volunteers serve to ensure that the community-based oncology clinics to build an efficient working system to educate the diagnosed women and the at-risk women on the benefits screening and consistent screening.

COMMUNITY: At this stage the volunteers work together with all stakeholders to pass the information regarding breast cancer.

POLICY: This level involves promoting cooperation between the volunteers and other stakeholders such as the state and federal government to come up with policies and regulations to guide the screening and treatment process.

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