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Breast Cancer As A Public Health Problem In The Department Of Sucre – Colombia

Zury Paola Sierra[1], Javier E. Sierra[1] and María F. Sierra[1]

[1] *Universidad de Sucre, Sincelejo, Sucre- Colombia*
** Correspondence: Author: javier.sierra@unisucre.edu.co*

Abstract

Colombia is a country with problems in its health system, which has not allowed it to improve prevalence indicators for different pathologies. The department of Sucre, located in the northern part of Colombia, has for years presented deficiencies in terms of research and care of cancer patients. In this work we conducted an analysis of breast cancer, from the point of view of lifestyle determinants, biological factors, environment and health services. This work will allow us to continue advancing in improving proposals to confront the problem.

Keywords: Breast Cancer, social determinants of health, health systems.

INTRODUCTION

In the Americas, according to reports from the Pan American Health Organization, breast cancer is the most frequent cancer and according to projections it will increase by 46% by 2030 [1]. For Colombia the situation is also alarming, the incidence and mortality from breast cancer show a constant increase [2]. Despite scientific advances in terms of prevention measures and screening programs, diagnostic strategies and advances in treatment, barriers persist in the country in terms of access and care for this disease, which results in late detection, decreased survival of women and, frequently, death.

Several authors have shown that breast neoplasia is a multifactorial disease, in which genetic and environmental factors contribute to its occurrence [3]. These determinants that predispose a pathology are proposed by Marc Lalonde in 4 main factors, which are: human biology, lifestyles, environment and health care organization [4]. It is important to identify, characterize and establish possible associations between these factors and between them and the event studied; in order to obtain relevant, timely and comparable information capable of influencing the actions that accompany regional and national guidelines for health promotion, prevention in the presentation of this type of cancer, as well as actions aimed at strengthening health care. The search for strategies for the intervention of health determinants based on the results obtained from studies such as the one presented here, becomes a tool that provides valuable evidence; contributing to health decision-making and formulation of public policies, which will result in the welfare and improvement of the living conditions of any population.

In the department of Sucre, there is a rate of reported cases per 100,000 people over 18 years of age, up to epidemiological week 20 of 2018, above the national rate, between 4.86 and 19.02 [5]. Likewise, The National Institute of Health reports an increase in the trend of notification of breast cancer cases for this

territorial entity, and in approximately 43% of these, the timelines for diagnostic opportunity (biopsy) and initiation of treatment are not met; in addition, 52% are pending treatment [5].

Considering the above, the importance of breast cancer and what represents the knowledge of the determinants for early detection, treatment and prognosis of breast cancer.

PUBLIC HEALTH PROBLEM

Among all types of cancer, breast cancer is a disease of great impact worldwide, representing the fifth leading cause of death in general and the first in women [6]. It is the most frequent type of cancer in women in both developed and developing countries due to longer life expectancy, increased urbanization and adoption of Western lifestyles [7]. According to statistics, breast cancer is the first cause of death in women in less developed countries (324,000 deaths, 14.3% of the total) and the second in developed countries (198,000 deaths, 15.4%) [6].

In terms of morbidity, it has been established that breast cancer is the second most common cancer in the world, with an estimated 1.67 million new cases diagnosed in 2012 (25% of all cancers) and the most common cancer in women in both developed and less developed countries [6]. Incidence rates vary almost fourfold in world regions, with rates ranging from 27 per 100,000 in middle Africa and East Asia to 92 in North America; in Latin America and the Caribbean, 27% of new cases of this pathology and 15% of cancer deaths are due to breast cancer; in North America, 30% of new cases and 15% of cancer deaths in women are due to breast cancer [6].
According to predictions based on population growth, it is estimated that by 2030 there will be more than 596,000 new cases and more than 142,100 deaths from breast cancer. The increase in the number of new cases and deaths will be almost double in Latin America and the Caribbean compared to North America [1].

For Colombia, cancer incidence studies carried out in 2007-2011 show that the four sites with the highest adjusted incidence rates in women were breast, cervix, colon, rectum and anus, and stomach [8]. The situation is alarming, the incidence and mortality from breast cancer has shown a steady increase. In fact, this type of cancer is the one with the highest number of reported cases among high-cost pathologies. The International Agency for Research on Cancer (IARC) through High Cost Accounts (CAC) reported that the prevalence of breast cancer in Colombia in 2015 was 159, 3 x 100,000 inhabitants. (12). Therefore, the ten-year plan for cancer control in Colombia 2012-2021 includes it among its public health priorities with preventable mortality if early detection of cases is performed [9]..
In the department of Sucre, breast cancer is the sixth leading cause of mortality in the 45-64 age group, and the first in women in this group. It also ranks first in mortality due to neoplasia with a rate of 9.4 x 100,000 inhabitants [10].

So far there are no measures to prevent breast cancer; there is no scientifically proven method to prevent its development, however, some determinants of the disease that may predispose to its occurrence have been identified. Its etiology is unknown and multicausal, and the best way to control its evolution is through the knowledge of its determinants and which of these have a greater correlation with the presence of the disease and its prognosis.

IMPORTANCE OF BREAST CANCER SCREENING

Among all types of cancer, breast cancer is a disease of great impact worldwide, being the fifth leading cause of death in general and the first in women. Despite all scientific advances, this disease continues to claim the lives of more women than any other neoplasm. There is no other cancer whose incidence has increased more in the world since 1970, making it responsible for almost 25% of all neoplasms diagnosed in American women. In Colombia, despite the research carried out, the knowledge of etiology, prevention and treatment, and the implementation of screening programs, there are still wide disparities in the access and care of this disease, which has resulted in late detection, decreased survival of women and, frequently, death.

This disease has great psycho-affective, social and economic repercussions, imposing a challenge for the health system. This requires the generation of timely, effective and articulated interventions to promote protective factors, increase early detection, reduce avoidable disability and mortality, improve the quality of life of affected patients, and ensure cost-effective performance of the health system. Although much research has been done on cancer, statistics support the need to continue conducting studies on this type of diseases that have a high incidence in the Colombian territory, in order to intervene those factors or determinants in the presence of this cancer.

In turn, the need for this study is supported by the fact that after the search for information in the region (repositories of the universities of the department of Sucre, statistics and information centers in departmental health secretariats, national cancer observatory, search engines in pubmed, academic google, scielo), there was not enough scientific evidence to identify a history of similar studies that provide relevant information on the determinants of breast cancer, no sufficient scientific evidence was found to identify antecedents of similar studies that provide relevant information on the determinants of breast cancer, providing an approach to the current situation in the region and the weight that the different variables have in the presence of the disease, in the detection and prognosis of this ailment.

Taking into account the importance of breast cancer and the importance of knowledge of the determinants for early detection, treatment and prognosis of breast cancer, the objective of this study is to analyze the health determinants related to breast cancer in a population affiliated to the exception regime of the department of Sucre, information that would be of great relevance for health institutions at national and municipal level, with the purpose of generating knowledge that would serve as a basis for other studies in the department and in the region, and to improve strategies for the promotion of early diagnosis of this pathology.

EPIDEMIOLOGY OF BREAST CANCER

Of all cancers, breast cancer is the second most common cause of cancer in the world and the most frequent in women in middle- and high-income countries. In 2012, 1.7 million new cases were diagnosed, which accounted for 25% of all cancers; and approximately 522,000 deaths occurred, making it the fifth leading cause of overall mortality from this type of chronic conditions [11].

According to GLOBOCAN project statistics, in Latin America and the Caribbean, 27% of new cancer cases and 15% of cancer deaths are

due to breast cancer. In North America, 30% of new cases and 15% of cancer deaths in women are due to breast cancer. The regions with the highest mortality from this cause were The Bahamas, Trinidad and Tobago, and Uruguay.

In Colombia, studies of cancer incidence carried out in the years 2007-2011 report that breast cancer is among the highest incidence rates. Breast cancer is a neoplasm almost exclusive to women and men are attributed only 0.8 to 1.0% of cases [12].
For its part, the department of Sucre records a rate of reported cases per 100,000 people over 18 years of age, up to epidemiological week 20 of 2018, above the national rate, between 4.86 and 19.02. Likewise, The National Institute of Health registers an increase in the trend of notification of breast cancer cases for this territorial entity, and it is reported that in approximately 43% of these, the timelines for diagnostic opportunity (biopsy) and initiation of treatment are not met, and 52% are pending treatment.

Health determinants and cancer

There are different models that explain the relationship between determinants and the health status of the population; these have been proposed over time based on the conditions of the population and the perspectives of the authors. Figure 1 shows the evolution of the analysis of determinants.

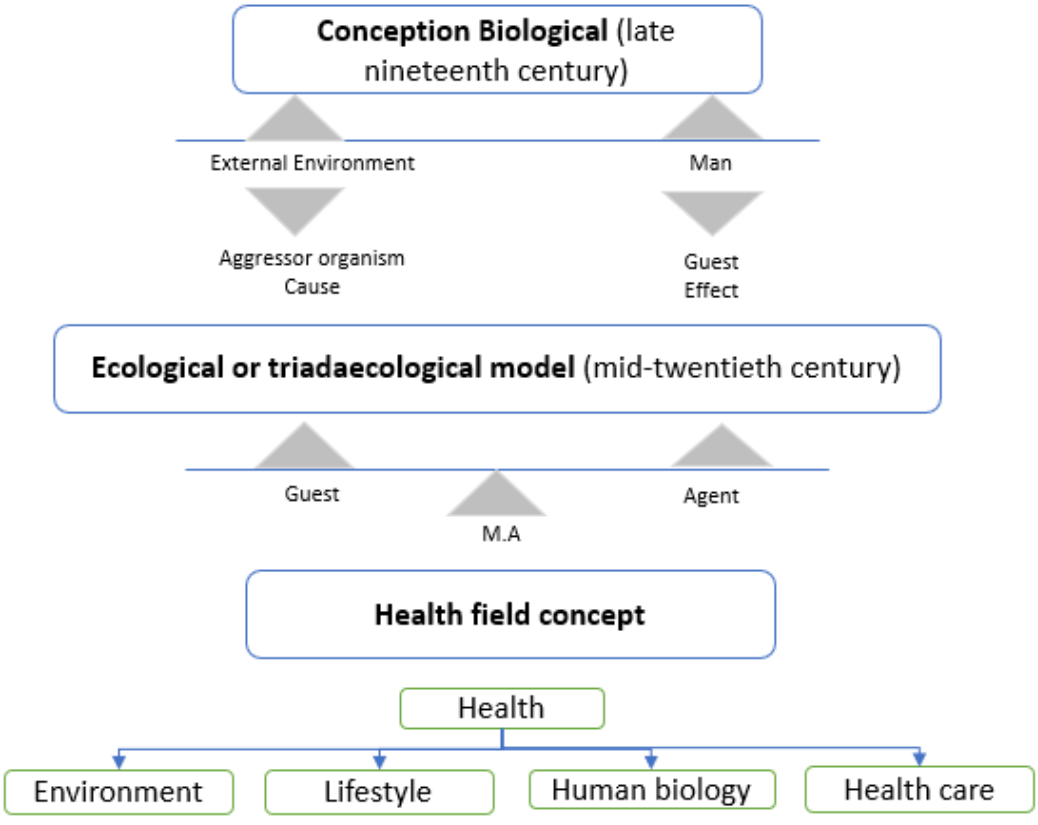

Figure 1. Evolution of the determinants

Because of its complexity, health is affected by various determinants or factors that must be considered within the concept of health. They are related to aspects as varied as biological, hereditary, personal, family, social, environmental, nutritional, economic,

occupational, cultural, values, educational, health and religious.

Given the advances in science, medicine, technology and knowledge in general, most of these factors can be modified, including some of the biological ones. The impact of some on others is such that they cannot be dissociated, without falling into an overly simplistic conception of the complex health-disease binomial [13].

Therefore, in conceptualizing health determinants, it can be said that they are a set of conditioning elements of health and disease in individuals, groups and collectivities. In 1974, Marc Lalonde, Canadian Minister of Health, created an explanatory public health model of health determinants, still in force today, which recognizes lifestyle in particular, as well as the environment - including the social environment in a broader sense - together with human biology and the organization of health services [14] (figure 2).

Figure 2. LALONDE's social determinants model. 1974.

Determinants are factors that influence individual and collective health, which, interacting at different levels of organization, establish the health status of the population. Therefore, by influencing the main determinants of health, the negative effects of diseases are reduced and the health of the population is promoted.

Actions to reduce the determinants involve the participation of medical and health personnel, as well as community action and action by many sectors within and outside the health sector. This participation should encourage and support the development of actions and networks to collect, transmit and exchange information, to evaluate and develop appropriate policies, strategies and measures, with the aim of establishing effective interventions to address the different determinants of health.

The current Lalonde model explains that determinants of health are the specific mechanisms that different members of socioeconomic groups influence various degrees of health and disease. The Lalonde Report was one of the first studies to propose a comprehensive framework for health determinants, including lifestyles, social and physical environment, human biology, and health services [15].

These determinants are modifiable, as they are influenced by social factors, and therefore public health actions should be directed towards this modification. Lalonde established the relative importance or effect that each of the determinants has on public health levels by means of a circular pie chart. Initially, greater importance was attributed to the environment and lifestyle. Subsequently, greater importance was given to the health care system; however, today we know that health is not only improved and maintained by having health care systems:

- **Environment**: related to physical, biological, atmospheric pollution, chemical pollution, soil, water and air environmental factors, and socio-cultural and psychosocial factors related to life in common.
- **Lifestyles:** related to personal and group eating habits, physical activity, addictions, dangerous or reckless behavior, sexual activity, use of health services, etc.
- **Human biology:** related to genetic aspects and the age of people.
- **Health care:** includes the quality, accessibility and financing of health services that serve individuals and populations.

The epidemiological situation of the country is determined by multiple factors in the economic, social, cultural and health sector context. Some of the main determinants are given by the social and demographic changes that Colombia has experienced in the last decades, the first one is related to the volume of the population: the total number of inhabitants tripled in the last fifty years, life expectancy went from 48 years in 1950 to 72 in 2007 and fertility dropped from about 7 children to 2.6 children per woman.

On the other hand, the population went from being predominantly rural to predominantly urban, generating great implications on the living conditions of the population in terms of industrialization, job opportunities, educational level, exposure to environmental carcinogens, access to health services, living conditions and lifestyles and, in general, the circumstances that have been catalogued as risk factors for cancer.

CONCLUSIONS

The possibility of understanding the relationship that breast cancer has with the determinants of health, exposed for several decades, is undoubtedly the best opportunity to explore the direct and indirect variables involved in our population. The present research work is the first that addresses this problem in Sucre and will serve as a basis for future research aimed at trying to understand the behavior of the disease and achieve more effective interventions for the population.

In 89% of the cases the breast cancer has not metastasized to other organs, similar to what was found by Lobos and collaborators, who carried out a retrospective cohort study with 822 patients; where they found that only 8.88% of the total presented bone metastasis. On the other hand, the current survival rate in the study population is 90%, the same authors determined that the survival rate of their population was 78.51%, they clarify that the difference in survival between patients with and without bone metastasis is significant, which implies a decrease in survival and quality of life. Bone metastasis should be considered as a terminal event of the disease.

In the department of Sucre there is little data on health determinants related to breast cancer and its different associations; there are only a few statistics summarized in the departmental and municipal ASIS. In this first study, the researchers intended to address the problem of the disease from the various risk factors already established, in order to understand the behavior of breast cancer in our population, being necessary through public policies to promote work in the area.

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