

# Original Article: Epidemiological Study of Breast Cancer in Iran: A Micro Review Study



Saeed Saedi\*<sup>1</sup> | Atefeh Saedi<sup>2</sup> | Mohammad Mehdi Ghaemi<sup>3</sup> | Maryam Milani Fard<sup>4</sup>

<sup>1</sup>Shirvan Center of Higher Health education, Imam Khomeini Hospital, North Khorasan University of Medical Sciences, Bojnurd, Iran

<sup>2</sup>Medical Genetics Research Center, Medical School, Mashhad University of Medical Sciences, Mashhad, Iran

<sup>3</sup>MD, PhD, Assistant Professor of Medical Informatics, Medical Informatics Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran

<sup>4</sup>Researcher at the Anesthesia and Pain & Molecular and cell Biology Research Center, Faculty of Medicine Department of Anatomy, Iran university of Medical Sciences, Tehran, Iran



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## ABSTRACT

Breast cancer is defined as changes in the uncontrolled growth of cells in breast tissue that occur abnormally in the mammary glands (lobules) or in the ducts that connect the lobules to the nipple. The present study is an epidemiological study of breast cancer in Iran. The browsing documents searched in the Google Scholar, Sid and Mag Iran databases were analyzed using the keywords epidemic, cancer, breast. Based on the results obtained in this study, the incidence and death rate and burden of breast cancer in Iran has risen significantly, compared with previous years. Because of the vital role of women in the family, economy, health, development and other areas, early detection of breast cancer and its prevention according to its high prevalence around the world, as one of the best approaches to control this disease, is important.

## Introduction

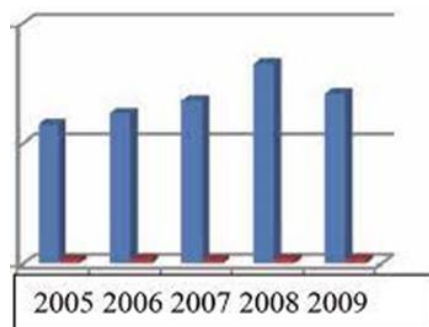
**B**reasts, like the mobile organs of the body, can be affected. Breast diseases are classified into two types, benign and malignant [1-3]. Most people who go to a breast care center want to have breast augmentation surgery, but breast pain also

accounts for a large proportion of clients. Most women experience breast pain throughout their lives, so you should be familiar with treatment methods and breast diseases so that if you encounter any complications, you can go to medical centers immediately [4-6]. Breast pain is normal during menstruation, but if this pain persists, you must see a specialist. The

\*Corresponding Author: Saeed Saedi (saeedsaedi1976shirvan@gmail.com)

prevalence of breast cancer in the United States and Europe is twice compared with Asian countries, and the prevalence is increasing in all countries; however, its prevalence in Asia is lower than that of Western countries [7-10]. The lower prevalence of breast cancer in women in Asian countries is attributed to their traditional

lifestyle (Figure 1). But rapid socio-economic development and socio-cultural change have led to a westernized lifestyle and an increased risk of breast cancer in Asia. In today's Asia, for example, women have fewer children; they have children at older ages and experience shorter breastfeeding times [11-15].

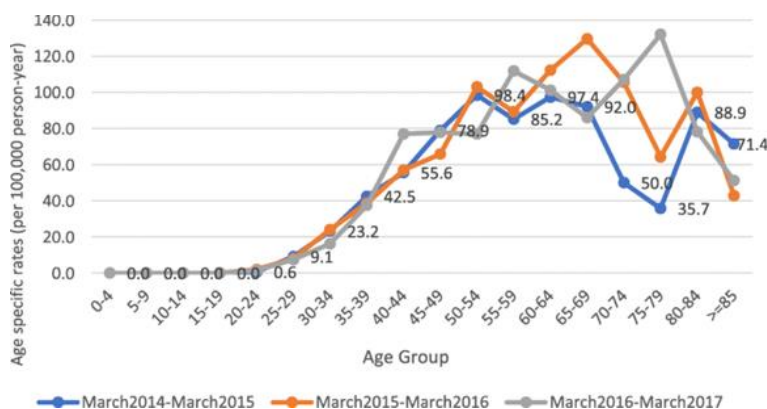


**Figure 1.** Epidemiology and Histopathology of Breast Cancer in Iran

Breast cancer is the most common cancer among women in the world and it is reported by about 67.1 million cases every year. This disease is the fifth leading cause of death due to cancer in Iranian women and 8,500 new cases are reported annually in the country [16-19]. Breast cancer occurs in Iranian women at least a decade earlier and at a more advanced stage than in Western countries. The risk of a woman (up to age 85) getting breast cancer in 1940 was 5% or one in 20 [20-22]. The risk of breast cancer is currently 13.4% or more than one in 8. It is

estimated that in 2015, about 231,840 cases of aggressive breast cancer were diagnosed in women and about 40,290 women died of breast cancer (Figure 2) [23-25].

The incidence of breast cancer has increased dramatically in recent years [26] and is the highest incidence of cancer in Iran [27]. Breast cancer accounts for a large percentage of morbidity and mortality among all cancers and is the number one female cancer in the world and in Iran [28-30].



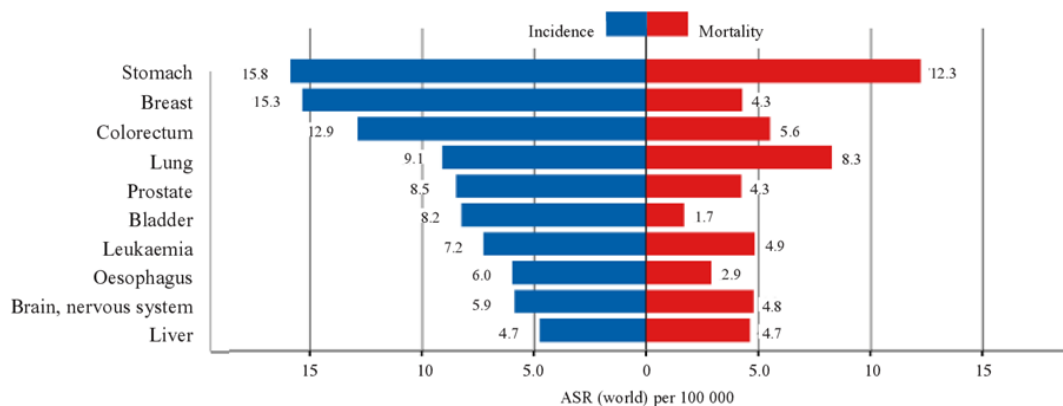
**Figure 2.** Spatio-temporal mapping of breast and prostate cancers in South Iran from 2014 to 2017

Breast cancer has the same prevalence in different provinces [31-33]. This cancer is in the first place in all provinces except Ardabil, Kohgiluyeh and Boyer-Ahmad [34-36]. In

Ardabil province, breast cancer is ranked third after esophageal and gastric cancer and in Kohgiluyeh and Boyer-Ahmad province, it is ranked second after skin cancer [37-39]. The

use of epidemiological studies in identifying the characteristics and prevalence of diseases, especially common diseases in each region, and the development of health promotion policies (Figure 3) and the adoption of non-preventive and non-preventive programs, as well as analysis and decision-making are very effective in teaching health and promoting health [40-43] (Figure 4).

The risk for a Noli Par woman was similar to women who had their first full delivery at the age of 35. It is thought that complete cell differentiation that occurs in the glands during and after pregnancy protects the breast against breast cancer [44-46]. Older age in the first pregnancy may pose a higher risk of Noli parity because it stimulates more proliferation in breast cells that are more likely to grow fully and may be more prone to cell damage [47-49].



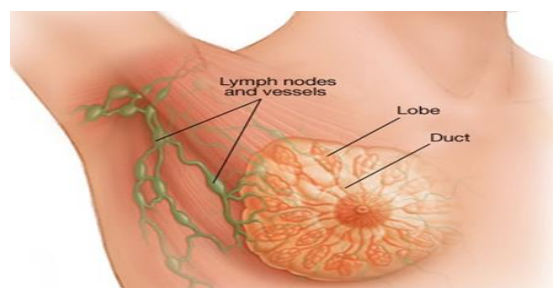
**Figure 3.** Cancer Statistics in I.R. Iran in 2018

### *Fibrocystic breast disease*

The most important step in breast surgery is their examination. Breast examination should be done physically using deep touching of different areas of the breast [50-53]. The examination is usually performed in two positions, sitting and lying on your back, because in each of these positions, a specific type of disease can be diagnosed [54-57]. After this step, the patient should bend his pectoralis muscle so that all parts can be examined if there is a hollow or stretched skin. The areola should be examined by applying pressure to the hand, and finally by placing the hand under the armpit [58-60].

### *Fiber Adana*

Fibroadenoma is another breast disease that occurs between the ages of 15 and 35 [61-63]. You can feel a soft and moving mass by touching the breasts, but it is also possible to have several masses [64]. The masses of this disease are usually less than 3 cm in diameter and are not painful. These lumps usually heal on their own and do not require any surgery, but periodic breast exams are one of the most important things done to prevent breast cancer [65-67].



**Figure 4.** Breast cancer - Symptoms and causes

### Breast Cancer Symptoms

Familiarity with the symptoms of breast cancer is one of the most important things because in this case you can take the necessary measures to prevent further destruction. The main symptoms of breast cancer are as follows:

- a) Feeling of thickening or bulging on the breasts or armpits;
- b) discharge of fluid other than milk from the nipples;
- c) changing the shape and size of the nipple;
- d) changes in the shape or size of the breast in an adult; and
- e) any changes in the breast tissue or the area around it, existence of pimples, depressions or wrinkles on the chest.

### Method

This review study was based on observation and documentation. The first part was based on library studies and Internet searches on Web of Science, PubMed Scopus, Google Scholar, Direct Science, and Advanced Google. Articles on the World Health Organization and the US CDC were also reviewed.

### Findings

According to a study conducted in 2003 in Iran, among 28 provinces of the country, the incidence of this cancer is ranked first among women in 17 provinces. Unfortunately, the age of breast cancer in Iranian women is lower than the world average [68]. In a review study, Mousavi *et al.*, examined articles in Iran from 1998 - 2005 and concluded that the incidence of breast cancer in Iran at the age of 85 of the female population is 22 percent [69] (Figure 5). Babaei *et al.*, in their study from 2004 to 2006 in Ardabil, identified this disease as the third most common cancer in women after esophageal and gastric cancer and the incidence of this disease was 11.9% [70]. In a study conducted by Soomi *et al.* in East Azarbaijan province, the incidence of this disease was 23.5 percent [71]. Fazeli *et al.* [72] approached the same research in Arak from 2007 to 2011 using the information of the cancer registration system and based on new cases of

breast cancer; the incidence of this disease was reported higher in urban areas than rural areas.

A personal history of ductal carcinoma in situ (non-invasive breast cancer) or an invasive breast cancer increases the risk of invasive breast cancer. The data, which included 340,000 women with primary breast cancer, showed that the incidence of invasive breast cancer in the opposite breast during a 7.5-year follow-up was 4%. Those diagnosed under the age of 30 were slightly higher than those diagnosed at an older age (0.45 versus 0.25 to 0.37). For women with a history of ER-negative breast cancer, the highest level among women under 30 at the time of diagnosis was compared with those diagnosed at older ages 1.26 versus 0.85 at age 30 to 35 years, and 0.45 to 0.64 for diagnoses > 40 years. These values did not change with ductal carcinoma in situ [73-75].

In a study during 2004-2009 in Golestan province, Sadat Taheri *et al.* [74], using the information obtained from the cancer registration system and based on new cases of cancer, reported the standard incidence of breast cancer in this province as 28% and concluded that the incidence of this disease in rural areas is significantly lower than urban areas [76]. Roshandel *et al.* (9007) focused on newly diagnosed cancer patients in Golestan province from 2004 to 2008. They reported that the most common cancer in women is breast cancer with a standardized incidence of 26.9 in the female population [77]. The mean age of patients in the study of breast cancer risk factors in Ramsar and Tonekabon was 48.7+/- 2.3 years [78] (Figure 5).

The risk associated with a positive family history of breast cancer is affected by the number of first-degree female relatives who have or have not had breast cancer. For example, based on a study using data from more than 50,000 women with breast cancer and 100,000 controls, specific genetic mutations that led to breast cancer were rare. Only 5 to 6 percent of all people with breast cancer are directly related to inheriting breast cancer-prone genes. Radiation therapy is a treatment that uses X-rays to kill or stop the growth of cancer cells. This procedure may be used after breast surgery to

prevent the cancer from coming back. This procedure is painless and each session lasts about 30 minutes. The number of treatment sessions depends on the patient's condition [79].

Mirzaei *et al.* showed that breast cancer in women in the 4th and 5th decades of life is most common, according to the findings of the study of pilgrims and colleagues in Babol [80]. According to research this increase occurs slowly after menopause. Shah Khodabandeh *et al.*, reviewed 15 Iranian articles in the Medline database; the most cases of the disease were reported in the age group of 40-49 years [81-83]. According to the statistics of the Cancer Registry

Center during the years 88-82, the peak age of cancer is between the ages of 50-55. In the Nowruz Nejad's study in Mazandaran, the highest age group of breast cancer patients was 40-49 years, and in another study in the same province conducted by Naqibi, the highest rate was reported in the age group of 54-50 years [32]. Breast cancer in women is uniformly distributed in all provinces of Iran and is ranked first in all provinces of the country [84]. In the study of neurosis, the most common morphology in breast cancer of women in Mazandaran province (69.35%) was inflammatory carcinoma of the tube [84-86].



**Figure 5.** 5 Steps to Detecting Breast Cancer Early

The incidence of breast cancer in men is 200 times lower than that in women. Although this disease is rare in men, it has many similarities with breast cancer in women. It is more like breast cancer in postmenopausal women than in premenopausal women [36]. The rate of age-related incidence in men is constant, while in women, the rate of age related incidence increases with age. According to various studies, breast cancer in men is common in the seventh decade of life.

Men's breast cancer, like women, has differences. The disease is observed in different races and is more common among black men. The disease is higher in males than in females. Contrary to the higher prevalence of breast cancer in white women, the incidence of this disease is among the white.

Surgery, radiation therapy, hormone therapy and chemotherapy are the main methods of treatment. In some cases, radiotherapy is sufficient at the doctor's discretion if the tumor has not spread. October 1st to 31st has been named Breast Cancer Awareness Month for awareness of breast cancer prevention methods, symptoms and treatment.

Breast diseases are known to be one of the most common diseases, but you should see a doctor immediately after feeling any pain in this area. Breast cancer is one of the most worrying diseases for a person and because some breast diseases are not accompanied by pain. You must periodically check your physical condition and make sure that your body is healthy. The amount of cost required to eliminate or prevent the occurrence of breast diseases also depends on

various factors; therefore, the exact price for this type of surgery cannot be considered. The cost of treating breast disease will depend on the type of doctor, consumables, type of disease, and so on.

### Conclusion

Breast cancer accounts for about one-third of all cancers in women, and is the most common cause of cancer death in women after lung cancer. However, breast cancer has the highest incidence of all cancers. The incidence of this disease is increasing rapidly in many countries around the world. Some of the known etiological factors of cancers also play a role in breast cancer.

Epidemiological studies provide important information on risk factors for breast cancer. Chemotherapy is a method of treating breast cancer that prevents the growth and proliferation of cancer cells by taking chemical pills or injecting drugs into a vein.

This treatment is used intermittently, meaning that a course of treatment may be given and then the patient is rested and treatment resumed. Complications such as fatigue, nausea and vomiting, loss of appetite, diarrhea, sores around the mouth and lips, hair loss, can be among the side effects of chemotherapy.

After the end of chemotherapy, all these complications will disappear. Based on the results obtained in this study, the incidence and death rate and burden of breast cancer in Iran compared with previous years, there has been a significant increase in the country.

Because of the vital role of women in the family, economy, health, development and other areas, early detection of breast cancer and its prevention according to its high prevalence around the world, as one of the best approaches to control this disease, is important.

### Orcid

Maryam Milani Fard:  
<https://www.orcid.org/0000-0002-0888-8847>

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