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BREAST CANCER

1. INTRODUCTION.

1.1 Definition: Breast cancer is a disease caused by the uncontrolled multiplication of breast cells. The type of breast cancer will depend on the cells that become cancerous and can be generated in different parts of the breast, the most common cases are in which the cancer is generated in the ducts or in the lobules. On some occasions, cancer cells spread to other parts of the body and that is when the term metastasis is used.

The two most common types of breast cancer are:

- **Invasive ductal carcinoma:** Cancer cells are created in the duct and reproduce in other tissues and even in other parts of the body.
- **Infiltrating lobular carcinoma:** Cancer cells are created in the lobules and can also spread to other parts of the body.

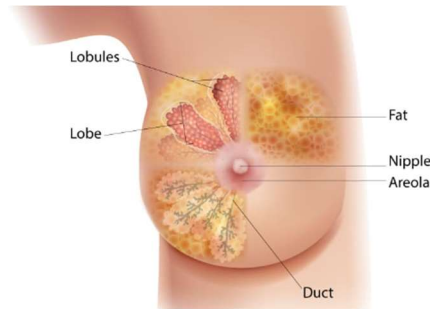
Other types of breast cancer such as Paget's disease and inflammatory breast cancer have also been detected. Some of the most common symptoms are lumps under the arm, reddening, sinking or even bloody discharge from the nipple, changes in the size and shape of the breast. (Centers for Disease Control and Prevention, 2019).

1.2 Symptoms of breast cancer: There are some warning signs like:

- Lumps in armpits or breasts.
- Swelling in the breasts.
- Irritation on the skin of the breast.
- Signs in the nipple such as redness, scaling, pain in the area, sinking or discharge other than milk.
- Pain or changes in the shape of the breast.

1.3 Incidence: Breast cancer is the most common type of cancer worldwide. In 2020, 2.26 million new cases of breast cancer were diagnosed. According to statistics, this disease causes the majority of deaths in women. (Wilkinson and Gathani, 2022);

according to UK statistics, 1 in 8 women are diagnosed with this type of cancer. (NHS, 2019).



(Centers for Disease Control and

Prevention, 2019).

2. PUBLIC HEALTH MEASURES:

The most common measures used by public health in the UK for breast cancer are:

- **Prevention:** The prevention of breast cancer has not been certified since its causes are incomprehensible to most professionals. Currently there are some prevention treatments used in women at higher risk. There are some ways to prevent this type of cancer such as doing exercise regularly; have a healthy diet and do not drink alcohol.
- **Diagnosis:** Individuals are advised to go to their GP if they notice any symptoms, then it will be the family doctor who will evaluate the case, and if they need another evaluation, they will be referred to a specialized breast cancer center.

Clinical ways to diagnose breast cancer:

- **Mammography and breast ultrasound**, the first thing they will do if an individual has been referred by their family doctor due to a suspicion of breast cancer will be to do an x-ray of their breasts and in some cases an ultrasound that is more effective in detecting this type of cancer. Ultrasound produces an image of the inside of your breasts created using high-frequency sound waves.
- **Biopsy:** For this analysis, a sample of cells will be taken from your breast to find out if they are carcinogenic, depending on your condition, the doctor will use one way or another to do the biopsy.

- **Needle aspiration:** The doctor removes a sample of cells using a small needle.
- **Treatment:** People with breast cancer are treated by a team of specialists, called the Multidisciplinary Team (MDT) who will be in charge of giving the patient the best treatment and care.

The most common treatments for breast cancer are:

- Chemotherapy
- Radiotherapy
- surgery
- targeted therapy
- Hormone Therapy

Depending on the state and stage of the cancer, a single treatment or a mix of several treatments will be applied. If the cancer is diagnosed at an advanced stage, a different treatment will be applied to that applied in the case of a recent cancer. (NHS Choices, 2019).

2.1 NHS Breast Screening Programme in England.

Detecting a disease such as breast cancer is to identify people who appear healthy but are at risk of developing the disease, and therefore allows health professionals to apply earlier treatment and also to make better decisions regarding treatment. of the illness. Detection programs in the UK are implemented in the NHS through the UK National Screening Committee (UK NSC), which oversees evaluating and then evidencing the incidence of the disease to the ministers in charge of public health in the 4 countries of the United Kingdom. PHE runs the NHS screening programs and houses the UK NSC secretariat. (NHS Breast Screening Programme Clinical guidance for breast cancer screening assessment Public Health England leads the NHS Screening Programme, n.d.).

3. RISK FACTORS FOR BREAST CANCER.

Based on the studies carried out on this disease, I could highlight how the most decisive risk factors for breast cancer are age and gender, that is, women over 50 years of age have a higher risk of suffering from this type of cancer. This theory does not mean that all women

will suffer from breast cancer, and not all risk factors will affect it in the same way. The best way of prevention is to go to your doctor if you have any risk factor.

Risk factors that have no option in return:

- **Age:** The highest percentage of breast cancer diagnosed is in people over 50 years of age.
- **Genetic mutations:** This is due to inherited changes in certain genes such as BRCA1 and BRCA2.
- **Reproductive history:** Early menstruation (before 12 years) and late menopause (after 55 years), this is due to the fact that the body maintains hormones for a longer time.
- **Dense breasts:** due to the tissue that this type of breast has, it is more difficult to diagnose the disease.
- **History of previous breast diseases:** breast cancer can reproduce a second time or be derived from other breast diseases, such as atypical hyperplasia.
- **Cases of breast or ovarian cancer in the family:** the risk increases if a first-degree relative has suffered from any of these cancers.
- **Radiotherapy treatments:** If the patient has been previously treated with radiotherapy to the breasts, there is a greater risk of having breast cancer. (Centers for Disease Control and Prevention, 2021).

There are also other risk factors associated with socioeconomic factors and lifestyle.

According to studies, there is also a risk of developing breast cancer in people who do not have a healthy lifestyle, this may include:

- **Weight:** It has been proven that women who are obese after menopause have a higher risk of suffering from breast cancer and even of reproducing it after treatment.
- **Physical exercise:** A person who performs little physical activity will have a greater chance of having breast cancer or that it will reproduce after treatment.

- **Alcohol:** based on the latest research, it is recommended not to drink more than 3 or 4 servings of alcohol per week if you want to avoid having breast cancer.
- **Food:** There are no certified studies on which foods can be a risk factor for breast cancer, but it is proven that a good diet based on vegetables, fruits and less animal fat will help keep you healthy and avoid diseases such as breast cancer.

Socioeconomic factors: According to studies carried out, the richest women in the world, regardless of their race, are more likely to suffer from breast cancer than the poorest women, these factors may include the age of first pregnancy or changes in diet. However, it has been proven that the poorest women have a higher risk of developing the disease at an

advanced age and less chance of surviving it, this may be due to factors such as lifestyle, diet and access to health care.

Radiation Exposure: If a woman has been exposed to ionizing radiation at an early age, she may be at greater risk of developing the disease, for example a woman who has been exposed to radiation to the chest to combat Hodgkin lymphoma.

A very small amount of radiation is used to perform a mammogram, which according to studies is not associated with the development of breast cancer. (Cancer.Net, 2018).

4. LONG- TERM AND SHORT-TERM PUBLIC HEALTH CONSEQUENCES OF BREAST CANCER IN A HEALTH SETTING.

Breast cancer is a serious problem for public health since, according to studies, breast cancer has replaced lung cancer as the most diagnosed cancer worldwide. According to current data, this cancer represents 1 in 8 cases of cancer diagnosed. There are currently 2.3 million new cases of breast cancer diagnosed in men and women. Mortality data tells us that 285,000 women died from breast cancer in 2020, which is equivalent to 16% of all deaths in women due to cancer.

All issues related to cancer have an impact on public health, these can be:

- Years lost due to premature deaths
- Economic burden due to absent productivity in addition to the costs of treating the disease.
- Long-term effects on the quality of life of people who have this disease.

The public health consequences of cancer are expected to continue to increase as the population ages. (National Cancer Institute, 2018).

Cancer not only affects patients, also their families and health professionals.

4.1 Statistics

As shown in this table, the highest incidence of cancer in 202 was reported by Belgium, followed by the Netherlands.

Rank	Country	Number	ASR/100,000
	<i>World</i>	<i>2,261,419</i>	<i>47.8</i>
1	Belgium	11,734	113.2
2	The Netherlands	15,725	100.9
3	Luxembourg	497	99.8
4	France	58,083	99.1
5	France, New Caledonia	185	99.0
6	Denmark	5,083	98.4
7	Australia	19,617	96.0
8	New Zealand	3,660	93.0
9	Finland	5,228	92.4
10	US	253,465	90.3

(WCRF International, 2022).

This table shows mortality from breast cancer, as indicated Barbados had the highest mortality rate in 2020.

Rank	Country	Number	ASR/ 100,000
	<i>World</i>	<i>684,996</i>	<i>13.6</i>
1	Barbados	111	42.2
2	Fiji	184	41.0
3	Jamaica	637	34.1
4	Bahamas	80	31.0
5	Papua New Guinea	847	27.7
6	Somalia	1,189	27.2
7	Mali	1,425	26.6
8	Dominican Republic	1,577	26.4
9	Syria	1,946	26.2
10	Samoa	21	25.6

(WCRF International, 2022).

4.2 The World Health Organization and Breast Cancer.

The World Health Organization (WHO), with the aim of decreasing the mortality rate from breast cancer through proper diagnosis and treatment, launched the launch of the Global Breast Cancer Initiative involving global partners. (Arnold et al., 2022).

5. CONCLUSION

According to the information that I have been able to find in different resources, I could say that breast cancer is one of the most commonly diagnosed diseases today.

I also want to highlight the high levels of incidence for this type of cancer, because although the mortality rate is not extremely high, there is an alarming incidence rate, especially in elderly women. I also want to highlight the prevention and treatment resources that are made available to patients who have developed this disease, since it has been proven through numerous studies that although today there is still a very high number of diagnosed cases of breast cancer, life expectancy is quite high thanks to all the initiatives of public health services worldwide to achieve a decrease in new cases and a better quality of life for patients and their families in cases, sometimes chronic.

According to statistics, the highest mortality rates occur in countries with a low economic level, which implies a lack of resources that influences the treatment of this disease and as a consequence an increase in the number of deaths.

There are unavoidable risk factors for the development of the disease such as genetic factors, but there are many other factors such as alcohol and tobacco consumption, having a sedentary life or bad eating habits, along with factors such as some medications or radiation treatments, could be avoided and so among all the people we could contribute to decrease the cases of breast cancer.

The consequences for public health in the short and long term, we could also say that they are alarming, since in addition to posing a risk to public health, it will also negatively affect public health services worldwide, since more resources will be needed to reduce the incidence of this disease.

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