# Level of Knowledge about Breast Cancer: A Study from A psychological Perspective 

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#### Abstract

Breast cancer is a group of diseases that affect breast tissue, its impact is increasing, but its early diagnosis has managed to reduce mortality. It is a current reality that has become a major health problem in Western countries. The objective of this research was to analyze through a survey, in the inhabitants of the province of Tungurahua, the level of knowledge, the most relevant aspects of breast cancer and the type of support that exists or is needed by people who suffer from this disease. An observational, cross-sectional, descriptive and retrospective study was carried out following the guidelines of the STROBE Guide (5). A 15 -item electronic questionnaire was developed and distributed electronically. In conclusion, a large percentage of the surveyed population $55.6 \%(\mathrm{n}=215)$ representative of the inhabitants of the province of Tungurahua have little knowledge about breast cancer, its prevention measures and risk factors, there is still a large lack of knowledge about this pathology, especially in people with less economic income; most did not know of any support group or foundation.


Keywords:-Breast Neoplasms, Preventive Health Services, Knowledge.

## Introduction

Breast cancer is a group of diseases that affect breast tissue, although both men and women can contract it; it is more common in women, its impact is increasing, but its early diagnosis has managed to reduce mortality. To address this problem in our context, the theme "Breast Cancer" has been selected in order to raise awareness about the importance of its prevention and analyze the essentiality of early detection to prevent its development or (1) progression.

Cancer affects all aspects of life of those who suffer from it, its diagnosis and treatment creates a high degree of pressure or concern for uncertainty and the feeling of lack of control over their lives, because they consider that the disease is life-threatening, in addition to affecting their body image, as well as sexual function, demonstrating that it is essential to investigate the adaptation process in each of the stages of the disease; For this reason, this issue deserves to be investigated so that alternatives for its prevention and rehabilitation are explored (2).

This issue is pertinent given that it is a current reality that has become an important health problem in Western countries due to its high incidence and high mortality. In Ecuador, the Ministry of Public Health (MSP) registered until June 2018, 1287 new treatments with this diagnosis of breast cancer. The statistics of the country at the global level are equally worrying, since two years ago there were 28058 new cases according to Globocan in research on this type of cancer (3) .

The study of this is fundamental because it will allow analyzing the mental repercussions as a result of the diagnosis of this disease, understanding that these effects can trigger traumatic experiences that increase vulnerability to mental disorders such as depression, this depends a lot on the age at which they are; limiting their inclusion and development in the environment. Early diagnosis of breast cancer is associated with survival and
quality of life; It is very important because the probability of cure depends on it, which can reach $100 \%$ if detected in time. The objective of this research was to analyze through a survey, in the inhabitants of the province of Tungurahua, the level of knowledge, the most relevant aspects of breast cancer and the type of support that exists or needs people suffering from this disease. (4)

## Materials and Methods

An observational, cross-sectional, descriptive and retrospective study was conducted through an online survey on breast cancer, following the guidelines of the STROBE Guide (5). A 15-item electronic questionnaire was developed and distributed electronically using the Google Forms tool. The sample size was calculated taking into account the population of inhabitants of the province of Tungurahua. With a confidence level of $95 \%$ and a margin of error of 0.05 or $0.5 \%, 385$ responses were required.

The form was distributed from June 23, 2022 to July 3, 2022, through social networks such as WhatsApp and Messenger. Data were coded and analyzed using Microsoft Excel. Descriptive statistics (frequency and percentage for categorical data) were used to review and summarize the answers to each question. This study was conducted in accordance with the Declaration of Helsinki. Considering significant a value of $\mathrm{p}<0.05$. The Chi-Square test was applied to analyze the associations between qualitative variables and the quantitative variables were expressed with means $\pm$ with the standard deviation.

The information collected in the questionnaire included the following:

## Demographics:

- Gender
- Age
- Self-identification
- Revenue


## Interesting facts:

- How much knowledge do you have about breast cancer?
- Do you know the risk factors for breast cancer?
- At what age do you think you are most likely to get breast cancer?
- Do you have a family member who has had this disease?
- Are you aware of breast cancer prevention measures?
- Which of these prevention measures do you know about?
- Has individual had a breast self-exam?
- How often is the breast self-exam performed?
- Has mammography been done?
- Do you know of any support groups or foundations for women who have or have had breast cancer?
- If you suffered from this disease what kind of support do you feel you would need?


## Results

After applying the inclusion and exclusion criteria, a total of 385 inhabitants of the province of Tungurahua were surveyed. $59 \%(n=227)$ are women and $41 \%(n=158)$ are men. In terms of age, $49.4 \%(n=190)$ were between 18 25 years old, $22.6 \%(n=87)$ were $26-35$ years old, $16.4 \%(n=63)$ were $36-45$ years old, $8.6 \%(n=33)$ were 46-55 years old, and $3.1 \%(n=12)$ were 56-60 years old. Self-identification was also taken into account: $76.9 \% ~(n=296)$ are mestizo, $10.6 \%(n=41)$ white, $5.2 \%(n=20)$ indigenous, $4.7(n=18)$ Afro-Ecuadorian and $2.6(\mathrm{n}=10)$ Montubios. In terms of income, $50.6 \%(n=195)$ have incomes greater than a unified basic salary, $34.8 \%(n=134)$ income equal to a unified basic salary and $14.5 \%(n=56)$ income less than a unified basic salary.

- Sex:

Of a total of 385 responses obtained in the survey, $59 \%(n=227)$ are women and $41 \%(n=158)$ are men.

- Age:

Of a total of 385 responses obtained in the survey, $49.4 \%(n=190)$ responded that they were between 18-25 years old, $22.6 \%(\mathrm{n}=87)$ answered that they were between $26-35$ years old, $16.4 \%(\mathrm{n}=63)$ answered that they were $36-45$ years old, $8.6 \%(n=33)$ answered that they were between $46-55$ years old and $3.1 \%(n=12)$ answered that they were 56-60 years old.

- Self-identification

Of a total of 385 responses obtained in the survey, $76.9 \%(n=296)$ answered that they are mestizo, $10.6 \%$ $(\mathrm{n}=41)$ white, $5.2 \%(\mathrm{n}=20)$ indigenous, $4.7 \%(\mathrm{n}=18)$ Afro-Ecuadorian and $2.6 \%(\mathrm{n}=10)$ answered that they are Montubios.

- Revenue:

Of a total of 385 responses obtained in the survey, $50.6 \%(\mathrm{n}=195)$ answered that their income is greater than a unified basic salary, $34.8 \%(\mathrm{n}=134)$ answered a unified basic salary and $14.5 \%(\mathrm{n}=56)$ answered that their income is less than a unified basic salary.

1. How much knowledge do you have about breast cancer?

Of a total of 385 responses obtained in the survey, $55.8 \%(n=215)$ answered that their knowledge about breast cancer is low, $37.7 \%(\mathrm{n}=145)$ answered a lot and $6.5 \%(\mathrm{n}=25)$ answered that their knowledge about breast cancer is nothing.
2. Do you know the risk factors for breast cancer?

Of a total of 385 responses obtained in the survey, $72.5 \%(n=279)$ stated that they did know the risk factors for breast cancer and $27.5 \%(n=106)$ stated that they did not know the risk factors for breast cancer.
3. At what age do you think you are most likely to get breast cancer?

Of a total of 385 responses obtained in the survey, $33.8 \%(n=130)$ responded that they think there is a greater probability of suffering from breast cancer at an age of $36-45$ years, $32.7 \% ~(~ \mathrm{n}=126)$ at an age of 26-35 years, $16.4 \%(n=63)$ responded at an age of $46-55$ years, $13.8 \%(n=53)$ responded at an age of $15-25$ years and $3.4 \%(n=13)$ answered that they think there is greater Probability of developing breast cancer at an age of 56-65 years.
4. Do you have a family member who has had this disease?

Of a total of 385 responses obtained in the survey, $65.7 \%(n=253)$ mentioned that they did not have relatives who had breast cancer, and $34.3 \%(n=132)$ mentioned that they did have family members who had breast cancer.
5. Are you aware of breast cancer prevention measures?

Of a total of 385 responses obtained in the survey, $67.5 \%(n=260)$ answered that they did know about breast cancer prevention measures, and $32.5 \%(\mathrm{n}=125)$ answered that they did not know about breast cancer prevention measures.

## 6. Which of these prevention measures do you know about?

Of a total of 385 responses obtained in the survey, $59 \%(n=227)$ mentioned that they knew about mother's self-examination as a preventive measure against breast cancer, $61 \%(\mathrm{n}=235)$ mentioned that they knew about mammography, and $17.4 \%(n=67)$ mentioned that they did not know any method of prevention against breast cancer.

## 7. Has individual had a breast self-exam?

Of a total of 385 responses obtained in the survey, $58.2 \%(\mathrm{n}=224)$ answered that they had not performed a breast self-exam and $41.8 \%(n=161)$ answered that they had performed a breast self-exam.
9. Has mammography been done?

Of a total of 385 responses obtained in the survey, $66.2 \%(n=255)$ answered that they had not had a mammogram and $33.8 \%$ (130) answered that they had had a mammogram.
10. Do you know of any support groups or foundations for women who have or have had breast cancer? Of a total of 385 responses obtained in the survey, $51.3 \%(\mathrm{n}=197)$ answered that they do not know of any support group or foundation for women who suffer or have suffered from breast cancer, and $48.8 \%$ ( $n=188$ ) answered that they do know of any support group or foundation.

## 11. If you suffered from this disease what kind of support do you feel you would need?

Of a total of 385 responses obtained in the survey, $52.2 \%(n=201)$ answered that if they suffered from breast cancer they would need support (family, friends and professional), $27.8 \%$ ( $\mathrm{n}=107$ ) answered professional support, $13 \%(\mathrm{n}=50)$ answered family support, and $7 \%(\mathrm{n}=27)$ answered that if they suffered from breast cancer they would need support from their friends.

## Inferential Statistics

- The gender variable was associated with knowledge of breast cancer risk factors, where it was observed that $41 \%(\mathrm{n}=158)$ representing men, $67 \%(\mathrm{n}=106)$ chose "Yes" option and $32 \%(\mathrm{n}=52)$ chose "No option"; and $59 \%(\mathrm{n}=227)$ representing all women, $76 \%(\mathrm{n}=173)$ chose "Yes" and $24 \%(\mathrm{n}=54)$ chose "No". A statistically significant difference ( $\mathrm{p}<0.05$ ) was found, which indicates that, between women and men, women have greater knowledge about risk factors.
- The income variable was associated with knowledge about breast cancer prevention measures, where it was observed that $50.6 \%(n=195)$ equivalent to the total number of people with incomes greater than a unified basic salary, $78 \%$ ( $\mathrm{n}=152$ ) chose "Yes option", $22 \%(\mathrm{n}=43$ ) chose "No option"; $34.8 \%(\mathrm{n}=134)$ representing the total number of people with income from a unified basic salary, $60 \%(n=81)$ chose "Yes option", $40 \%$ $(\mathrm{n}=53)$ chose "No option"; and $14.5 \%(\mathrm{n}=56)$ equivalent to the total number of people with incomes less than a unified basic salary, $48 \%(\mathrm{n}=27)$ chose "Yes" and $52 \%(\mathrm{n}=29)$ chose "NO option". A statistically significant difference ( $\mathrm{p}<0.05$ ) was found, which indicates that there are more people with higher incomes who are aware of prevention measures.
- The income variable was associated with How much knowledge you have about breast cancer, where it was observed that $50.6 \%(n=195)$ representing the total number of people with income greater than a unified basic salary, $54 \% ~(n=105)$ chose "A lot option", $43 \%(n=83)$ "Little option", $4 \% ~(n=7)$ "Nothing option"; $14.5 \%(n=56)$ representing the total number of people with incomes below a unified basic salary, $21 \%(\mathrm{n}=12)$ chose "A Lot option", $64 \%(\mathrm{n}=36)$ "Little option", $14 \%(\mathrm{n}=8)$ "Nothing option"; and $34.8 \%(\mathrm{n}=134)$ representing the total number of people with an income equal to a unified basic salary, $21 \%$ ( $\mathrm{n}=28$ ) chose "A Lot option", $72 \%$ ( $\mathrm{n}=96$ ) "Little option" and $7 \%(\mathrm{n}=10)$ "Nothing option". A statistically significant difference ( $\mathrm{p}<0.05$ ) was found, where it was evidenced that people with incomes greater than a unified basic salary have greater knowledge about breast cancer.
- The gender variable was associated with Having a family member with breast cancer, where it was observed that $50.9 \%(n=227)$ representing the total of women, $26 \%(n=60)$ chose "Yes option" and $43 \%(n=98)$ "No option"; $41 \%(\mathrm{n}=158)$ representing all men, $45 \%(\mathrm{n}=72)$ chose "Yes" and $34 \%(\mathrm{n}=155)$ "No option". No statistically significant difference was found.


## Discussion

Breast cancer ( CM ) is a current reality that has become an important health problem, due to its high incidence and high mortality (3). In the results obtained it can be evidenced the great ignorance that still exists on the subject in the inhabitants of the province of Tungurahua. Demographic variables such as gender, sex, age, income and self-identification were associated with questions of interest to assess the level of knowledge about breast cancer. It was found that women have greater knowledge than men about breast cancer, its risk factors and prevention measures, even some men did not know that they may also be prone to suffer from this disease, this may be because this condition is mostly associated with females. Male breast cancer is rare, accounting for about $1 \%$ of cancers that occur in men and about $1 \%$ of all CMs worldwide. Less than $0.2 \%$ of cancer-associated deaths in males may be due to CM. Because it occurs at a very low rate, literature, studies, clinical trials, and the development of new treatment alternatives have been based primarily on female breast cancer. (6)

The vast majority of participants $55.8 \%(n=215)$ answered that they know little about this condition, this result can be somewhat alarming, because here it is shown that although there is currently a lot of information about breast cancer, there is still a great ignorance of this in the province of Tungurahua; a comparison was made with a study about Breast Cancer Awareness and Breast Self-Examination among female students at the University of

Sharjah, United Arab Emirates and their results were exactly the same, this similarity may be due to the fact that both are developing countries and their health systems are saturated. (7)

It was shown that people with higher incomes are better informed about this cancer, this may be because they have access to better education or health care. Even this variable is global as incidence and mortality have declined in resource-rich countries, while morbidity and mortality have increased in resource-poor countries. Around the world, disparities exist in breast cancer survival rates based on a country's average income, as well as the Human Development Index (HDI). Research has shown that the mortality/incidence rate of breast carcinoma is significantly lower in countries with very high HDI compared to countries with high, medium and low HDI (8) Similar disparities exist in the United States. Although the impact increases in women who live in areas of better socioeconomic status, the 5 -year survival rate for each stage of diagnosis is lower among breast cancer patients living in low-income areas. Educational attainment was also found to be inversely associated with poor outcomes for this cancer. Women who lived in zip codes with lower levels of education were more likely to have metastatic breast cancer, large tumors, negative tumors, or high-grade breast cancer than women who lived in areas with higher levels of education. Decreased access to health care is also associated with poor outcomes, with the highest group of deaths including uninsured women (8).

## Conclusion

In conclusion, a large percentage of the population surveyed $55.6 \%(n=215)$ representing the inhabitants of the province of Tungurahua have little knowledge about breast cancer, its prevention measures and risk factors, there is still a great gap of knowledge about this pathology, especially in people with less income; Most did not know any support group or foundation, so it is important to consider the implementation of campaigns that provide information about this cancer, prevention, treatments and also support groups for people who suffer from it.

## Bibliographies

1. Santaballa A. Breast cancer Breast cancer. Revista Medica De Costa Rica Y Centroamerica Lxxi. 2020;4(617):1-24
2. Aguilar V. Panorama of breast cancer in Ecuador. Cheers. 2020. p. 10-26.
3. Ruiz- González P, Zayas A, Morales-Sánchez L, Gil-Olarte P, Guil R. Resilience as a predictor of depression in women with breast cancer. International Journal of Developmental and Educational Psychology INFAD Journal of Psychology. 2019;4(1):75-83.
4. López Cuevas ZC, González Ortega JM, Amador García RA, Lorenzo Rivera O, Fernández Herrera L, Bello Ávila LB. Breast cancer in young women. Presentation of two cases. Rev medica electron. 2018;40(4):31-43.
5. von Elm E, Altman DG, Egger M, Pocock SJ, Peter/, Go C, et al. SPECIAL ARTICLE STROBE Initiative Statement (Strengthening the Reporting of Observational Studies in Epidemiology): Guidelines for Reporting observational studies [Internet]. Vol. 22, Gac Sanit; 2008. p.144-150.
6. Gucalp A, Traina TA, Eisner JR, Parker JS, Selitsky SR, Park BH, et al. Male breast cancer: a disease distinct from female breast cancer. Vol. 173, Breast Cancer Research and Treatment. Springer New York LLC; 2019. p. 37-48.
7. Rahman SA, Al-Marzouki A, Otim M, Khayat NEHK, Yousef R, Rahman P. Awareness about breast cancer and breast self-examination among female students at the University of Sharjah: A cross-sectional study. Asian Pacific Journal of Cancer Prevention. 2019 Jun 1;20(6):1901-1908.
8. Winters S, Martin C, Murphy D, Shokar NK. Breast Cancer Epidemiology, Prevention, and Screening. In: Progress in Molecular Biology and Translational Science. Elsevier B.V.; 2017. p. 1-32.
