

Letter to the Editor

Impact of Breast Cancer Campaigns in the last 5 years: a global assessment with Google Trends

Moisés Andrés Lombana Salas¹, Maria Camila Miranda Jiménez², Michelle Bedoya Coronel³, Jean Pierre Matías Acosta⁴, Enrique Arturo Lombana Salas⁵

^{1,2,3,5} Faculty of Health Sciences, University of Sucre, Sincelejo, Sucre, Colombia,

⁴ Faculty of Health Sciences, University Simon Bolivar, Barranquilla, Atlántico, Colombia

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Dear Editor,

Breast Cancer is the most common type of cancer worldwide, affecting an estimated 7,790,717 people. In 2020, there were 2.2 million new cases ¹ and a total of 685,000 deaths. What is worrying about the situation is that the highest figures correspond to countries with low or medium resources, in which 5-year survival is only 40-60%, while in developed countries it reaches 90%.²

For all the above reasons, this type of cancer is of great interest worldwide as a public health problem, which is why the month of October has been designated as Breast Cancer Awareness Month ³ and the 19th of that month as World Breast Cancer Awareness Day, with the aim of raising awareness and reducing annual mortality worldwide by up to 2.5%, which is expected to prevent 2.5 million deaths between 2020 and 2040.²

This type of campaign can generate an impact on the interest of the world population in this topic, this can be determined retrospectively using Google Trends, a tool that provides information on Internet search trends on any topic; some of the data provided include: queries related to the topic, geographic location where the search was performed, as well as the time in which it was performed; records that have been previously used in studies related to health topics. ^{4,5}

Using Google Trends on December 22 of the current year, the authors evaluated the global interest in breast cancer over the last 5 years using the terms "breast cancer", in the category "search topic" on dates between 25/December/2016 and 18/December/2021. The platform returned search phrases in the <related queries> section highlighting : "breast cancer awareness month 2017", "breast cancer symptoms", "breast cancer", "breast cancer", "breast cancer screening", "breast cancer prevention week", among others.

The country with the highest search interest during this time was Japan, followed by Lebanon, Paraguay, Ghana and Syria while the countries with the lowest search interest were India, Rusia, Kazajistán and Ukraine (Figure 1A).

Regarding the rate of interest in global searches, the authors found that it remained stable with a value close to 45% in the years studied; however, two situations stood out for their notable variability during this time; the first referred to the increase in searches found in the periods between the end of each September to the end of each October with a maximum peak in the week of October 19 (World Breast Cancer Day) so that for the year 2017 a value of approximately 90% was obtained, in 2018 100%, 2019, 2020 and 2021 values close to 90 %, 81% and 70% respectively (Figure 1B), on the other hand the second situation denotes the maximum decrease in searches found during the period studied with an interest rate of approximately 30% (Figure 1B) , corresponding to dates close to March 11, 2020, the day when the World Health Organization declared the COVID-19 pandemic.⁶

The data found reveal a greater population interest in this topic during the Breast Cancer Awareness Month, being this more evident in the celebration of World Breast Cancer Awareness Day, however it is notorious for these dates the decrease of searches in 2020 and 2021 (Figure 1B) compared to the rest of the years analyzed; situation that evidences the influence of the pandemic by COVID-19 in the decrease of interest in breast cancer search.⁷

All of the above indicates that the campaigns carried out during the period studied have generated a considerable impact on the population's interest in breast cancer so that many people around the world are interested in this topic, thus allowing the acquisition of a broader knowledge about it, which brings with it the generation of awareness as well as

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sensitization towards it. However, it seems that the impact of these campaigns has been negatively affected in the last two years. This last situation, in addition to being a threat to the decrease in deaths proposed for 2040, also makes it clear that

new strategies should be employed to generate greater population impact in the next campaigns against breast cancer.

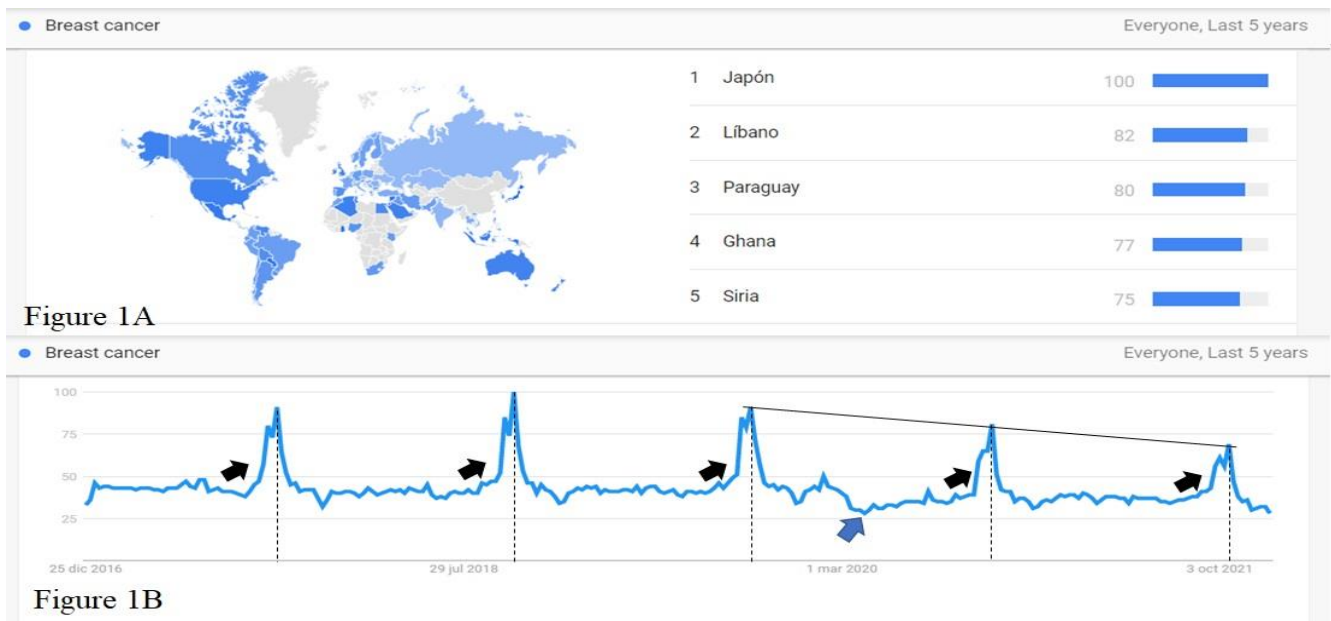


Figure 1A. Map of the worldwide geographic distribution of countries with search interest in breast cancer in the last 5 years: Taken from Google Trends (<https://trends.google.com/>).

Figure 1B. Search interest in breast cancer in the last 5 years via Google Trends. Note the dashed black lines indicating the maximum search peaks in each year, likewise the black line indicates the decreasing trend of the maximum search peaks in the last two years. The black arrows indicate the beginning of the increase in searches from the end of September of each year and the blue arrow indicates the maximum decrease in searches during the period studied.

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