



# The Impact of the COVID-19 Pandemic on Breast Cancer Screening

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## Research Article

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## Abstract

The aim was to present the difficulties caused by the COVID-19 pandemic related to breast cancer screening. This is a cross-sectional descriptive, qualitative and exploratory study. For data collection, an interview script with open and closed questions was used, which was applied to professional nurses from basic health units in a municipality in Alto Vale do Itajaí. Data analysis took place using the discourse analysis technique. Five nurses were interviewed and data collection ended due to exhaustion of subjects. Data were treated according to three categories of analysis, namely: the impact of the COVID-19 pandemic and barriers to access breast cancer screening; adaptive strategies and measures to meet the demands of women's health and the perception of nurses regarding women's adherence to breast cancer prevention programs during the COVID-19 pandemic. This study is expected to contribute to the construction of scientific knowledge to support decision-making by authorities in situations of public calamity, being able to analyze the impacts caused in this pandemic, in order to prevent long-term damage to the population in similar situations.

**Keyword:** Women's Health; Breast Neoplasms; Cancer; COVID-19; Pandemic

## Introduction

Since its existence, humanity has constantly faced challenges to maintain its survival, the search for food, shelter and reproduction were fundamental strategies to stay alive. Over the years, adaptation to technologies and the intellectual evolution of human beings has brought more comfort and safety, consequently increasing their life expectancy. The human sciences with a focus on health, analyzes the entire course and evolution of the human species and has essential research tools to obtain evidence and plan effective interventions with the aim of promoting, preventing and rehabilitating the health of humanity.

As previously mentioned, one of the current challenges encompasses means of disease prevention; in this context we highlight infectious diseases and progressive chronic

diseases. Cancer currently stands out as one of the most prevalent chronic diseases in Brazil and in the world. In women's health, breast cancer is the second most prevalent type of cancer in the gender. Breast self-examination stands out as an accessible strategy for the detection of breast nodules and mammography, which consists of a radiographic image exam that tracks and identifies nodules present in the breast. It is one of the main tests to determine the presence of the disease. The neoplasm in general has a better cure rate if it is diagnosed early.

With the onset of the COVID-19 pandemic, in March 2020, measures imposed by government authorities in order to curb contamination and deaths of the population, suspended health promotion campaigns, routine consultations and holding groups for health education in primary care, as well as elective surgeries and specialized consultations.

During this study, important aspects will be described that somehow impacted the progress of breast cancer diagnoses, having as theme the impact of the COVID-19 pandemic on breast cancer screening in a population of Alto Vale do Itajaí.

In addition to the already existing barriers that make it difficult for the population to access information and prevention itself, in 2020 the emergence of the pandemic collaborated to further reduce women's adherence to preventive actions for breast cancer, as social isolation measures were imposed and postponement of procedures such as elective surgeries and imaging tests. The fear and doubt imposed on the population may be a consequence of non-adherence to preventive measures for breast cancer. So, what are the aspects involved in the COVID-19 pandemic that interfered with breast cancer screening?

The pandemic contributed to a major impact on health promotion and prevention in the most diverse areas of action, such as child and elderly health, considering women's health, it is assumed that the necessary sanitary measures to face COVID-19 had a negative impact, after all, prevention measures had a reduced offer and, consequently, access to screening was distanced from those women who could not have an early diagnosis, possibly affecting the prognosis of the disease.

We know that due to the emergence of SARS-CoV-2, the functioning of practically all spheres of health underwent changes and adaptations due to social isolation, impacting patients' access to health services. These measures resulted in the distancing of women from health institutions, which consequently stopped taking tests and consultations. It is important to know the consequences of the measures adopted to combat COVID-19 in breast cancer screening in women in a city in Alto Vale do Itajaí.

The following work aims to present the difficulties caused by the COVID-19 pandemic related to breast cancer screening, as well as to identify the adaptive measures adopted in primary care institutions during the pandemic related to breast cancer screening, describe the perception of nurses regarding the adherence of women to preventive measures for breast cancer during the pandemic and also to know the barriers in access to screening during the pandemic.

## Methodology

This is a descriptive, qualitative and exploratory cross-sectional study that seeks to present the difficulties caused by the COVID-19 pandemic related to breast cancer screening, as well as to identify the adaptive measures adopted in institutions (ESF) during the pandemic. Related to screening

for breast cancer, to describe nurses' perception of women's adherence to preventive measures for breast CA during the pandemic and also to learn about the barriers in accessing screening during the pandemic.

Qualitative research is characterized by understanding a particular event with an in-depth analysis of. It does not have statistical purposes, but subjective analyses, descriptions and interpretations [1].

The collection was carried out in the basic health units that make up the target municipality researched located in Alto Vale do Itajaí, Santa Catarina, Brazil. There are a total of eight professional nurses working in the units. The research has as target public the nurses of the family health strategy. Therefore, the 8 nurses working in the city's ESF were invited to participate in the study. The definition of inclusion and exclusion criteria is important in the methodological design because it improves the characterization and significance of the research in view of the objectivation of the work performed. As inclusion criteria, the population defined for the study comprises nurses aged over 25 years, who actively exercise the profession during the data collection period, also includes those who have been in the primary care area for at least 1 year and who agreed to participate in the interview by signing the Informed Consent Form (ICF).

Professionals who refused to participate in the research were excluded from the study; did not sign the ICF; those who were away due to vacation or medical certificate and professionals who could not be contacted after 3 attempts. After applying the criteria, 5 nurses composed as research subjects.

Of the professionals excluded from the study, one was on vacation, one exceeded three contact attempts and one had a medical certificate during the collection period. After approval by the municipal health department and approval by the Unidavi Research Ethics Committee, the research subjects were identified and invited to participate in the study, respecting the inclusion and exclusion criteria.

An interview script was prepared by the author with the intention of serving as instruments for collecting information to be applied to nurses in basic health units. The researcher introduced herself individually to each study participant, read and discussed the ICF. Each individual that composed the sample was evaluated individually, in a private environment, minimizing the risk of embarrassment. The answers obtained were transcribed by the researcher on a draft paper. All participants will have the right to receive the return of the evaluations if they are interested, according to the ICF. The interview time with the participant was estimated on average around 20 minutes. After the end, the

participation of each research subject was thanked.

The organization of the database was done using a spreadsheet in Microsoft Excel software. Subsequently, descriptive analyzes of the data were carried out, which were directed to specific categories in order to fully analyze them. Bardin's was used as a guiding instrument for discourse analysis [2].

Content analysis is a research method used to describe and interpret the content of documents and texts. It can be used in qualitative or quantitative research. Helps to reinterpret messages and achieve an understanding of their meanings [3].

The study complies with the ethical precepts determined in Resolution No. 466, of December 12, 2012, implemented by the National Health Council, which provides for tests and research carried out with human beings and the rights that are guaranteed. It was clarified for each participant the objective, methods, benefits that this study can bring and the inconveniences or constraints that it may cause [4].

The development of the research was carried out after the approval of the Ethics and Research Committee of the University Center for the Development of Alto Vale do Itajaí with CAAE Opinion number: 5.557.153. The collected material was for the exclusive use of the researcher, being used with the sole purpose of providing elements for carrying out this research project, the research itself and the articles and publications that resulted from it. The study presents minimal risk to the participants and the risk of embarrassment for nurses when answering the items on the data collection form should be considered. To minimize the risk, data collection was individualized, in a private environment, and the secrecy and anonymity of the participants was preserved. As benefits, the present study improves knowledge related to strategic planning in situations of public calamity for both health professionals and political authorities in order to reduce its impact on the population that uses health services. The data collection instruments were numbered, following a sequence according to the data collection and this number will replace the participant's name.

## Results and Discussion

Women's health in the collective environment becomes promotional when it aims to reach a large population. Amidst the barriers and difficulties encountered by working professionals, the COVID 19 pandemic made health promotion cautious and discreet in order to mediate between an acute disease of large-scale contamination and the other chronic, silent and potentially fatal.

With the intention of understanding the damage caused structurally and physically to women's health, it was decided to interview professional nurses working in the area of collective health, in order to understand how the new scenario has altered the work process performed by them, and through from this to obtain a perspective on the pandemic/post pandemic period in primary care in a population of Alto Vale do Itajaí.

In the analysis, took into account the moments the virus transmission growth curve was at its highest and the measures were more restrictive, and the moments when there was low viral spread and, as a result, the relaxation of sanitary measures.

The study population consists of 5 nurses, all female, aged between 32 and 56 years, working in the city for between 3 and 10 years. They have specialization in gynecology and obstetrics (2), collective health (1), urgency and emergency (1) and health audit (1), and one of the interviewees does not have specialization so far, all of them working in units with an effective contract.

The search for specialization is naturally inevitable with the aim of entering the labor market, improving technical competence and developing skills required in a given area of specialization. Today's globalization as well as technological demands has caused a significant increase in demand for postgraduate courses due to the competitiveness in the job market [5].

Authors [6] describe that the extension of professionals in the Family Health Strategy, in the case of doctors and nurses, is considered a crucial key for a favorable outcome to the strategy. The turnover of these professionals tends to impair the quality of health care, strategic planning and, consequently, the satisfaction of its users, since the bond between professional/patient requires, in addition to knowledge and competence, time to adapt to both.

Therefore, more sensitivity is expected in relation to women's health, since we found that most of the interviewees have specialization in their area of expertise, with 2 specifically in women's health and 1 in public health. With this, it is expected that the experience linked to specializations will be a preponderant factor not only for greater sensitivity in relation to women's health, but also for their decision-making and strategies used in their practice to be based in accordance with protocols and attributions that the nurse must perform in this theme. Another fact found in the data collection is the permanence of these professionals for more than 2 years in the unit, a positive fact that contributes to a greater bond and in-depth knowledge of

the population profile of the units and, consequently, careful health promotion.

After data analysis, the results were grouped according to themes, obtaining two categories and one subcategory, namely: the impact of the COVID-19 pandemic and the barriers to access screening for breast cancer; nurses' perception of women's adherence to breast cancer prevention programs during the COVID-19 pandemic; adaptive strategies and measures to meet the demands of women's health, which will be covered during the discussion.

With the emergence of COVID-19, the pandemic became a global health emergency in 2020. Among the consequences, one can highlight the postponement of public screening programs, such as breast cancer, which was confirmed by more than 50% of countries participating in a survey conducted by the World Health Organization. The author states that the effects of the devastating pandemic include delays in the diagnosis and treatment of breast cancers, which, due to the virus, increase the chances of more invasive treatments and, consequently, an increase in mortality from the neoplasm [7].

In this way, we sought to understand the health measures adopted to combat the pandemic in basic units:

*"Exclusive service for flu syndrome, we receive PPE for personal use"*(Interviewee 1).

*"[...] a measure to try to curb mass contamination was the cancellation of health promotion [...] the joint efforts carried out mainly for the collection of preventive/mammograms [...] were suspended indefinitely"*(Interviewee 4).

According to the National Cancer Institute [8], primary care is the gateway to the health system. A large part of the health needs of a local population are demanded by it, which are organized, directed and answered in a regionalized, continuous and systematized way, through preventive and curative actions. It also emphasizes that among the benefits of cancer screening, it considers the identification of the neoplasm at an asymptomatic stage, as it will consequently result in less aggressive subsequent treatments, increase treatment success and consequently patient survival.

In the passage of the pandemic by COVID-19, transmission was obtained through respiratory droplets; therefore, the need for physical proximity for contagion to occur became evident. Social distancing is nothing more than reducing physical interactions in a given place where there are inhabitants, this includes asymptomatic people who are possibly infected or in an incubation period. To promote social distancing, it is necessary to suspend the operation

of schools, workplaces and cancel events, for example. But in the case of confirmed mass transmissions, such measures are considered insufficient, so community containment or blocking, also known as lockdown, is necessary, prohibiting people from leaving their homes for a certain time [9].

It is observed that, consequently, the social distancing measures prevented the implementation and progress of health promotions such as lectures and joint efforts involving the most diverse areas of health, especially women's health, since such measures prevent citizens from leaving your residence. The mandatory use of masks was also consolidated in the period and extended until March this year. Taking into account the historically existing obstacles that prevent nurses from achieving a desirable number of population inclusion in health prevention programs such as social, environmental, cultural and political barriers, every requirement imposed focusing on a single disease demobilized the population profile on a large scale that so badly needs the health programs.

Looking at the understanding that in the UBS the services were destined exclusively for flu-like symptoms, the individual is no longer a being with other needs and the holistic idea is no longer taken into account. The female population in general, having symptoms or not and being in quarantine or not, still has needs that go beyond the viral disease, needs such as the prevention of breast cancer, which is the most common in the female community after skin cancer not melanoma. In this way, we stop looking at this individual as a whole and in an integral way, as we are prioritizing only the care of the disease at this moment and not the risk factors, for example, we can mention in this context physical activity and other life habits that prevent breast cancer and which were also interrupted outdoors, in the period when the vaccine was not yet available, as well as collective activities in gyms. Another adaptive factor was that many people started to work at home office, leaving them reclusive and more inactive; several disorders increase their incidence in this period, anxiety, fear of being contaminated, as well as eating disorders.

It is evident that adaptive measures were necessary to be implemented both administratively in the municipal management and for the health teams in how they carry out their routine activities, and of course, for the SUS user. An alternative that could be adopted to maintain the prevention of breast cancer is to ensure that the patients targeted for screening undergo the same, and for this, a mapping of women who fit the performance of the biennial mammogram and carry out the delivery of requirements for exams through the Community Health Agents (ACS), thus, would control the flow of people in the health unit and prevent the exposure of patients to the risk of contamination by COVID-19, however

the state of emergency declared until April 2022, regulated actions that were previously promoted in primary care, where health promotion was suspended in the period. Regarding the operation of the unit in terms of opening hours:

*"The time remained the same"* (Interviewee 1).

*"Our unit has not changed its opening hours despite a notable increase in demand for medical care or carrying out COVID tests"* (Interviewee 2).

*"Afternoon appointments were exclusive for cases of flu symptoms"* (Interviewee 3).

Ordinance No. 397/GM/MS launched by the Ministry of Health's Primary Health Care Secretariat in 2019, the Saúde na Hora Program aims to expand the opening hours of primary care units throughout Brazil with the in order to facilitate the user's access to the services as well as relieve the emergency care units and first aid. The proposal has the condition to rise to a total of 60 hours of uninterrupted service per week without reducing the number of existing professionals. The municipality that extends opening hours will receive more federal funds [10].

It should be noted that in order to guarantee the universality and completeness of assistance in health care, the organization of the work process is necessary and requires professionals who express their technical skills and political and bureaucratic management. These skills later reveal the way in which the production of care is governed, production, demands, difficulties and solutions that accompany the daily experience of health services [11].

We observe here the need for time management and carefulness of the needs demanded by each population profile, since they do not only include COVID-19, but also chronic, mental and family planning diseases. There was no impediment in the federal constitution to extend the hours of service at the UBS (Basic Health Unit) and the author cited above emphasizes the importance of management skills and organization of work in health. However, the regulations implemented during the state of emergency suspended or left the other rights of citizens less flexible for their contemplation.

In this way, it was necessary to understand how the scheduling of mammography exams was organized:

*"The exams were not scheduled; the patient was seen by a doctor only if she had any complaints related to the breast"* (Interviewee 1).

*"This type of scheduling was suspended during the pandemic"* (Interviewee 2).

*"We forwarded the appointment with the doctor only if there was an important complaint related to mastology, the exam was scheduled if the doctor requested it, however, the delay was long until the patient was able to perform the exam"* (Interviewee 5).

It is contextualized that the Ministry of Health in 2015 approved new measures in order to detect early breast cancer. Such measures are based on scientific evidence in order to provide greater effectiveness and less damage to the health of the population. Among the strategies adopted, biennial mammography is maintained as a means of tracking the disease, as it presents better results and, consequently, a reduction in mortality due to breast cancer. The age range for the exam also remained between 50 and 69 years old [12].

Another study [13] concludes that in addition to PHC contributing to the non-spread of COVID-19 through guidance and monitoring of its local population, preventive actions should also be prioritized, including vaccination, monitoring of patients with chronic diseases, pregnant women and infants through teleconsultation and face-to-face assistance to minor emergencies such as the exacerbation of chronic diseases, since the non-application of these measures implies a greater number of morbidity and mortality due to other health problems. Face-to-face care at the UBS should be prioritized for patients with various complaints except flu-like illness. The safe operation of basic health units is reinforced through the provision of personal protective equipment and training of professionals on methods of personal protection and disinfection.

As a way to intermediate cases of COVID-19 and relieve basic units and emergency rooms, the municipal management of the study site created the so-called tent. It was adapted at a strategic point next to the city's central unit and served, on demand, the population with flu-like symptoms. The tent was composed of 1 nursing technician, 1 nurse and 1 doctor, and procedures such as consultations, testing, terms of social isolation, certificates and referral to the emergency room were carried out if a more careful evaluation was necessary. Although the tent counts as an extension and helps in the selection of patients with flu symptoms, the municipality has not made it possible for the population to access other areas such as women's health, the possibility of performing mammograms should remain in operation and the teleconsultation could help women access health services without having to leave their homes, as many were afraid of being contaminated, but we observed that the municipality in question had difficulties in

implementing these adaptive strategies. Another challenge, if these measures were successful, would be the adherence and guarantee that women would have access to reference services such as a diagnostic imaging center, since in the municipality surveyed; the reference center for performing mammography is outsourced. There would be a need for agreements and flexibility in the functioning of both services to accommodate women who seek this service.

According to information published by INCA [14], Stage I; the tumor is already taking shape, but it measures less than 2 cm. In addition, due to its size, it does not affect the lymphatic glands of the armpit; its diagnosis can be made through self-examination, mammography or other medical tests. Stage II; the nodule measures between 2 and 5 cm and has already reached some nearby lymph nodes. Stage III; at that moment, the tumor already measures more than 5 cm and has spread to several nearby lymph nodes, possibly reaching muscles and skin, stage IV. The stage IV tumor has already spread to the lymphatic glands and also to other organs, characterizing a metastasis. At this stage, breast cancer is known as “metastatic breast cancer” or “advanced breast cancer”.

Based on the assumption that there were difficulties both in terms of accessibility and the promotion of women's health, the researcher sought to understand whether the pandemic could in fact have interfered with the screening of

breast cancer in the years 2020 and 2021:

*“The pandemic interfered, because people culturally take a long time to seek help and when they sought it in those years, specialized consultations for new patients were suspended, as well as elective surgeries and delay in carrying out tests, especially the more complex ones” (Interviewee 3).*

*“Undoubtedly, it was the main and only reason why we had very low numbers of mammograms and cytopathological exams in those years” (Interviewee 5).*

According to an article published by the newspaper Estadão [15], the detection rate of breast cancer through mammography is five per thousand exams. The age group with the highest risk for developing the disease was the one that most failed to attend medical appointments during the pandemic (about 73%) due to fear of contamination.

According to data from the Brazilian Institute of Geography and Statistics [16], in 2010, the female population in the municipality studied was 1,745 aged between 50 and 69 years. The grand total of the population in that year was 22,250 inhabitants and 25,619 in the year 2021.

Below is information about the number of mammograms performed nationwide and their respective years:

Mis	2021		2020		2019		2018		2017	
	A	B	A	B	A	B	A	B	A	B
Janeiro	233.06	28.118	294.683	30.274	312.955	29.38	327.184	34.655	299.544	30.397
Fevereiro	230.261	28.44	291.119	28.911	309.401	29.55	275.836	30.76	269.488	29.354
Morco	224.334	29.66	257.217	28.974	294.533	29.625	327.396	32.482	322.462	33.788
Abril	202.664	30.128	70.826	15.987	318.734	33.326	326.336	31.842	295.606	31.886
Moio	219.618	28.636	59.39	13.294	317.7	33.581	315.265	32.585	351.827	35.182
Junho	224.725	28.06	78.141	18.2	292.757	30.294	302.504	30.005	335.515	30.993
Julho	248.921	29.246	98.808	22.624	308.579	31.976	313.585	33.066	336.977	33.228
Agosto	263.937	30.297	130.063	25.325	310.975	33.224	323.11	34.743	358.277	37.659
Setembro	266.439	30.544	160.092	26.742	310.004	31.732	310.16	29.5	338.033	32.765
Outubro	328.898	31.096	254.771	28.89	400.99	38.38	379.029	33.774	409.29	34.742
Novembro	368.567	32.193	306.944	32.047	372.528	33.114	384.242	31.076	403.823	34.582
Dezembro	330.098	31.949	269.735	29.179	344.135	30.218	326.752	30.035	376.635	31.779
Total	3.141.522	358.367	2.271.789	300.447	3.893.311	384.4	3.911.399	384.523	4.097.477	396.355

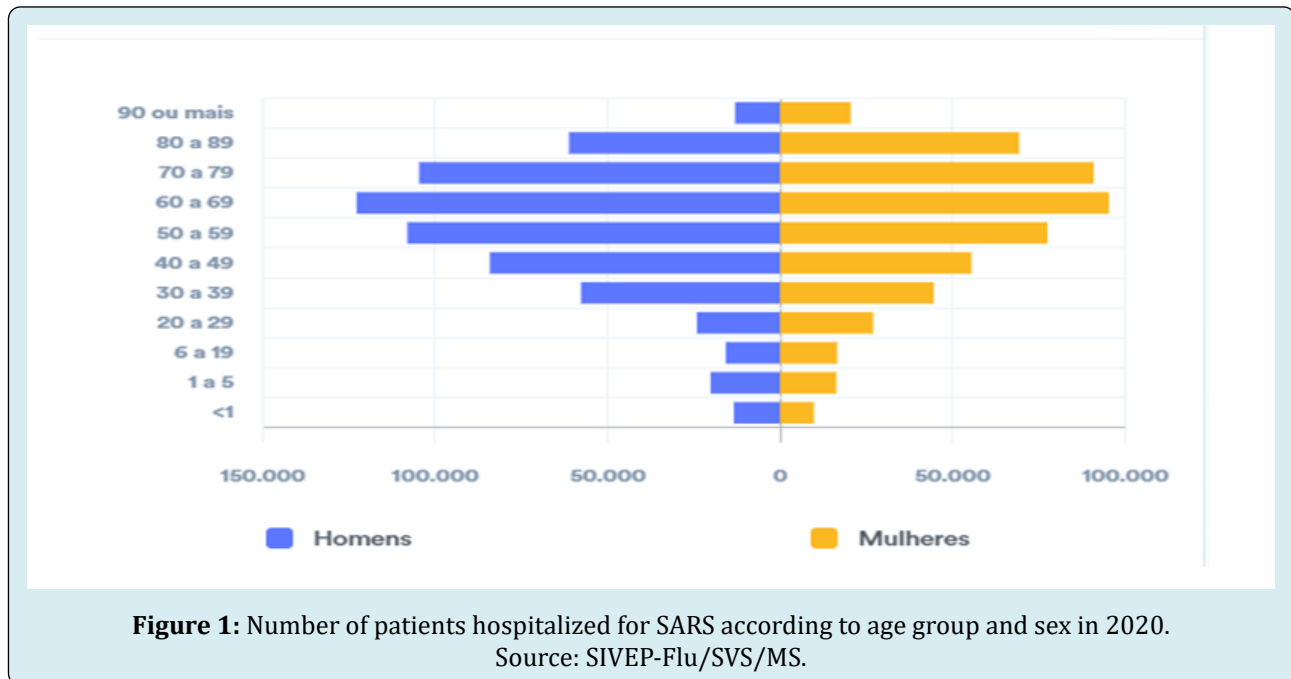
**Table 1:** Number of mammograms registered in Brazil in the years 2017-2021

Source: SIA/SUS.

Legends: A = screening mammograms; B = diagnostic mammograms.

We can analyze according to the Figure that, comparing the year 2019 and 2020, there was a reduction of 41.64% in the number of screening mammograms, a positive analysis would be the decrease in the number of diagnostic

mammograms and the increase in screening mammograms, since diagnostic mammography is performed when the patient has any symptoms related to the breast, which is sparse in the numbers presented above.



Authors [17] state that the decrease of more than 2 million mammograms analyzed in the years 2020 and 2021 is alarming. Among the reasons for the low number of tests performed, one can include the fear of contracting the COVID-19 virus, the suspension of consultations and the redirection of health professionals to specific sectors to combat the pandemic.

With the numbers presented above, it is evident the significant impact of screening tests carried out as well as early diagnoses that were no longer carried out. The national data with the lowest offer of screening are in line with the data found at the research site. In the previous paragraph, the author [17] also reinforces this information, but in the search for data that would collaborate with the measures to face COVID-19, it was found that the majority of the population that contracted the viral disease was in the target age group for the Tracking. This means that the measures imposed not only prevented women from carrying out the screening test, but also did not protect them from contamination with the coronavirus.

According to authors [18,19], the adaptation theory of the theorist Callista Roy starts from the perspective of the human being as a holistic and adaptable being, through the stimuli of the environment, the activation of cognitive instruments is obtained that work to keep him and adapt and

express his response through behavior to the stimulus.

From the point of view of adaptation theory, such aspects that occurred in those years were a reflection of the environment imposed on the population as a pandemic, social isolation and high mortality due to the viral disease, which led to the cancellation of joint efforts and incentives to the population and abandonment of the search for consultations and mammograms due to fear and political barriers.

### Nurses' Perception of Women's Adherence To Breast Cancer Prevention Programs During The COVID-19 Pandemic

Systemic changes in primary care are necessary to respond efficiently to health crises. By strengthening Primary Health Care, it is possible to build an infrastructure prepared to fight epidemics and with properly trained professionals, the possibility of monitoring disease patterns in order to warn of possible outbreaks [20]. In this scenario of changes in health care strategies, professional nurses were the ones who experienced the change in care firsthand, as well as the results obtained:

*"Certainly, the fear of the population and the lack of encouragement from public bodies collaborated even more to impact screening"* (Interviewee 1).

*"Certainly, and not just in tracking, [...] suspended surgeries, complex exams with a huge waiting list, the pandemic caused a great impact on the most different health systems focused on promotion, prevention and rehabilitation" (Interviewee 4).*

The little demand for carrying out screening is evident, and when present, it was hampered by bureaucracy and the new adequacy of the units to attend to specific cases that were not aimed at prevention. The decrease in time to meet the different demands of the population, as well as the suspension of specialized tests and procedures, has made breast cancer screening a challenge for the patient. Law n.º 13.979/20, enacted in February 2020, declares a state of emergency throughout Brazilian territory due to the new Coronavirus. From then on, new regulations were approved that aimed to adjust according to the scenario experienced over the months in Brazil. Such measures included the regulation of public policies regarding health promotion [21].

The Ministry of Health published the Letter of Rights of SUS Users. The document aims to promote the guarantee of universal and equal access for Brazilians to health services. Among the regulations contained in the letter, the National Policy for Cancer Prevention and Control, Law No. 12,732/2012 and Law No. of the diagnosed patient and a period of 30 days for carrying out tests aimed at confirming malignant neoplasm as the main diagnosis. There is also a guarantee of social security, tax, financial and judicial rights that aim to minimize the fragility caused by the disease [22].

Therefore, the Law determines the citizen's right and guarantee to access SUS health institutions, as well as the actions carried out in it, such as the promotion of women's health. It is evident that in the period of the pandemic, the population did not obtain its right guaranteed in the constitution. In order to find out if there was any strategy that did not affect women's health during the pandemic:

*"There was no joint effort in 2021, in October a joint effort was carried out but there was not much adherence, probably because of the patients' fear" (Interviewee 1).*

*"In 2021 they tried to do it, but there was little adherence from the population" (Interviewee 2).*

Fear is extinct characterized by survival; it is basically a response to a threatening factor. However, when fear becomes chronic, it ends up being harmful to the individual, increasing the chances of developing psychiatric disorders. In a pandemic, fear raises anxiety and stress levels in healthy people and causes exacerbated symptoms in patients who already have an existing psychiatric disorder [23].

The measures taken by the media and government authorities collaborated so that fear and panic took hold of the population; they stopped prioritizing health in the most diverse aspects and were concerned with not becoming contaminated, because the recommendations of those who should protect the individual's health holistically focused only on the viral illness. As a result, even if the health unit promoted joint efforts to screen for breast cancer, the population would not look favorably on patient and health professional contact, and adherence would not be of great significance.

### **Strategies and Adaptive Measures to Meet the Demands of Women's Health**

The Non-Pharmacological Action Plan obtained positive results in China regarding new cases of COVID-19 infection; such actions suggest the suspension of public transport, cancellation of events of any purpose, closure of public spaces, among others, mandatory use of masks and home isolation for the entire population [24].

Study [25] concludes that health facilities in Brazil are well structured to comply with COVID-19 prevention protocols, and that the benefits of breast cancer screening tests outweigh the risk of COVID-19 infection. Therefore, an intense investment is necessary so that patients feel safe to return to health units to carry out the examinations and consultations necessary for the early diagnosis of breast cancer.

Regarding the measures carried out in their units to meet the demands of women's health:

*"There were no joint efforts, the focus was on the numbers of contamination by the virus, therefore, it was understood that the less people had contact with each other, especially in public environments, the less the numbers of contaminated people" (Interviewee 4).*

*"No, the recommendation was to seek medical help only in extreme need or if you had flu-like symptoms" (Interviewee 5).*

The unpreparedness of the authorities responsible for the strategic planning of primary care is evident. The fear and suspension of any other needs that the population demands distanced women's search for self-care and concern for their health in general. COVID-19 was the main "attraction" and there was the impression that only this disease would actually impact people's lives [26].

In this way, we stop looking at this individual as a whole and in an integral way, as we are only looking at the disease at this moment and not at risk factors, for example, including



physical activity and other lifestyle habits that prevent breast cancer. Outdoor gyms were also discontinued. Many people started working at home offices; several disorders increased their incidence during this period, anxiety, fear of being contaminated before the vaccine was available to everyone, overweight, domestic violence, etc.

Facing a pandemic requires plans related to risk management, that is, management from the national to the municipal level, population profile to be monitored, training of health professionals, changes in the organizational form with the present reality, permanent education for professionals working in area, mapping potentialities and partnerships with private institutions stimulating solidarity [27].

Noting the difficulties in consolidating health promotion measures, professionals highlighted:

*"No, we in nursing did not have the autonomy to manage health promotion in our unit in the most diverse areas, not just women's health"* (Interviewee 1).

*"I, as a nurse, did not have enough autonomy for this, and in those years, even if some kind of promotion was carried out, it would certainly not have great support from the population, as they were afraid to leave their homes, and I, as a professional, could suffer harsh criticism for trying to bring the population closer to the health unit"* (Interviewee 3).

Researches [28] state that the professional nurse in community health adopts care measures for subpopulations within a community. This means that it outlines action plans to promote prevention, rehabilitation or care for problems involving specific collective health. From the moment the professional focuses on subcommunities, a holistic view of the community is created and the individual or family becomes a member of a risk group.

With all the multifactorial difficulty of carrying out nursing care in the community's health, we seek to understand this perception on the part of nurses regarding the incentives of health management:

*"There was only in that year 2021 a small task force in pink October, but the focus was always on cases of COVID"* (Interviewee 2).

*"There were incentives for promoting women's health in the month of October"* (Interviewee 3).

*"Only in 2021 were we able to carry out some cytopathological tests and nursing consultations focused on women's health,*

*nothing too broad"* (Interviewee 4).

Primary Health Care has health education as its core competence and this includes risk assessment and women's awareness of signs and symptoms of the disease. Among the measures that should be prioritized by the organization, quick and easy access to care services is highlighted, increasing the chances of an early-stage diagnosis.

It is noted that the promotion and screening of breast cancer itself have been left behind in primary care. The concern of the authorities was aimed at keeping the population away from health environments and physical contact, as this would increase the chances of crowding and, consequently, mass contamination by the dreaded virus. Interestingly, during the pandemic, the objective of promoting health in general was to keep people away from the health system, as hospital environments were seen as potential environments for contamination.

Noting the potential for health restrictions to ease as COVID-19 cases decline:

*"Joint effort no, but when he returned to routine activities there was an increase in demand"* (Interviewees 1 and 3).

*"Immediately there was none, since when the numbers dropped we were waiting for how the indicators behaved, so everything depended on that and after the cases dropped significantly, there were many pending issues from before to organize themselves so that we could receive new exams, and continue the service with an open door"* (Interviewee 4).

*"There were changes in the tax incentives provided by the federal government, so we went back to carrying out the screening tests and trying to beat the target imposed by the ordinance"* (Interviewee 5).

Authors [29] report that in the 1990s there was a high incidence of breast cancer, from then on, the movement called October Rose began, which aimed at promoting health and raising awareness of the entire population in the fight against breast cancer. The movement started in the United States and later expanded to the whole world. The pink color used in clothing, civil constructions and information to the population aimed to draw the population's attention to the theme. In Brazil, the city of São Paulo was the first city to join the movement in 2002. INCA participates in the movement, opening space to its information platforms for the theme and discussion on breast cancer for the entire population.

Despite the need to obtain support materials for the health care team in relation to the resumption of activities that were previously routinely carried out, such as mammograms, it was extremely difficult to find something

specific from the bodies responsible for strategic planning in all spheres whether national, state or municipal. The interviewees also did not specify whether they actually hear any regulations or ordinances restoring the resumption of health promotion activities. In the data from this study, we found failure in adaptive health promotion strategies, especially after the period of loosening of sanitary rules and increase in vaccination coverage. We also analyzed that vaccination was first offered to older patients with comorbidities, being the first groups that completed the vaccination schedule that said, we questioned why screening strategies were not designed as soon as the population aged 69 to 50 was completing their vaccination schemes since they were protected from the severe forms of COVID-19.

However, authors [30] describe that the result of adaptation is what promotes integrity in order to help the individual achieve the goals of adaptation, that is, survival. An individual's reading is characterized by a set of beliefs or feelings that he obtains about himself at certain times. It is also recalled the importance of a holistic view towards the individual in order for him to adapt to a new scenario/environment in which his desires and physical and spiritual needs are favored.

### Final Considerations

During the present study, a significant deepening was necessary regarding health promotion in the face of the epidemic scenario. However, studies on this topic are scarce and when searching for data related to the functioning of health units during the pandemic, only measures were found that encompassed only the viral disease, making it difficult to scientifically compare both themes in the given period.

There was data compliance with the objectives of this project as well as security, coherence and collaboration with the interviewees. In the midst of so many challenges in improving public health in our country, may this research serve as a steering wheel for better planned decision-making by authorities in situations of public calamity in order to prevent long-term damage to the population?

The results reveal the great impact caused by the spread of the COVID-19 virus, which forced authorities to impose distancing measures to control mass contamination, causing the postponement of public policies aimed at promoting women's health, especially cancer screening. We found that strategic adaptive measures to the scenario at times when there was a relaxation of sanitary measures were not offered, there could be flexibility between population needs and adaptations whose objective would be to meet the demands in general that would not interfere on a large scale in the data presented in the study.

It was found that there was no priority in relation to health programs aimed at women, fear was one of the main reasons for adherence and low demand for exams, we evidenced through the results that nurses did not have autonomy to promote health according to needs of its population, the focus in the years of the pandemic was on the numbers of infected and the work of primary care was monitoring confirmed cases.

We showed that a large number of women failed to undergo the very important screening test for breast cancer, and that health units had difficulty in managing the high demand that the viral disease provided with the existing needs of the population of that municipality.

The study also reinforces the importance of new research aimed at human needs experiencing a health crisis, as it is to be expected that people will be harmed by not being fully assisted in endemic moments and public calamities. The adaptation theory came in line with nursing care, since the behavior of the population and managers was the reflection caused by the new environment witnessed in the pandemic situation, and it also helps in the adaptation of health programs in the different scenarios in which a population may experience.

This research enabled a better understanding of the impact of COVID-19 on women's health, in particular, on breast cancer. The present study contributes so much to academia, managers, women and their families, and especially health professionals who perform their activities in primary care. We emphasize the importance of further studies that will add to the knowledge produced and thus contribute to the production of evidence that supports decision-making by authorities in situations of public calamity, being able to analyze the impacts caused in this pandemic, in order to prevent damage to long term for the population in similar situations.

Finally, we would like to reinforce the importance of the nurse's presence in primary care as an active participant in the demands of its population and knowledgeable of the population profile of its community. more effective strategies to meet all the demands of your community.

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