INTERNATIONAL SEVEN JOURNAL
OF HEALTH RESEARCH
ISSN: 2764-9415

# The impact of covid-19 on cervical cancer screening

# O impacto da covid-19 no rastreio de câncer de colo uterino

**DOI: 10.56238/isevjhv2n4-005**
Receiving the originals: 15/06/2023
Acceptance for publication: 07/07/2023

**Francinne Vitória Silva**
https://orcid.org/0000-0002-1580-8315
Family and Community Physician. Master's student in Family Health at Universidade Federal de Pelotas/RS
E-mail: francinnevitoria1@gmail.com

**Juan Pablo Camilo**
Medical Student, Institution: Fundação Universidade Regional de Blumenau (FURB)
E-mail: jpcamilo@furb.br

**Lucas Karsten Soares**
Medical Student, Institution: Fundação Universidade Regional de Blumenau (FURB)
E-mail: lucasksoares@gmail.com

**Luiz Henrique Dias Christ**
Medical Student, Institution: Fundação Universidade Regional de Blumenau (FURB)
E-mail: luizhdchrist@gmail.com

**Vinicius Hornburg Santestevan**
Medical Student, Institution: Fundação Universidade Regional de Blumenau (FURB)
E-mail: vsantestevan@gmail.com

## ABSTRACT

The pandemic caused by the SARS-Cov-19 virus was declared in March 2020, creating several effects on the provision of health services and society. In Primary Health Care, there was an interruption in the provision of preventive programs, including cervical cancer screening. Studies conducted in 2019 and 2020 show a reduction of close to 67% in certain regions of Brazil. Objectives: To analyze the impact of the COVID-19 pandemic on the collection of cytopathological examinations at the Jackson Roberto Carl Family Health Strategy in Blumenau-SC in 2020 and 2021. Methodology: To verify the impact of the COVID-19 pandemic, an accounting and descriptive analysis of the cytopathological exams performed between 01/30/2018 and 12/07/2021 was carried out regarding the number of exams per year of collection, based on the physical records of the ESF. Results: In the period from 2018 to 2021, 587 cytopathological exams were collected. In 2019, in the pre-pandemic, we had the highest number of screenings performed, totaling 210. Comparing 2019 and 2020 (first year of the COVID-19 pandemic), a significant drop in collections was observed from 210 to 20, respectively, representing a drop of approximately 90%. In 2021 there were 168 collections of this test, which represents the return of this preventive action. Conclusion: The significant drop in the number of cytopathologic examinations imposed by the restrictive health measures of social distancing in 2020 refers to the need to actively search for women in the screening group in order to recover this loss of coverage.

**Keywords**: Screening, Public health, Women's health, Pap smears.

## 1 INTRODUCTION

In late 2019, a new virus from the Coronavirus family called SARS-CoV-19 was discovered and its infection resulted mainly in acute respiratory symptoms that became known as COVID19. This disease has harmed practically all sectors of world society, especially since March 2020, when a pandemic situation was declared by the World Health Organization (WHO) (BILHIM, 2021).

With this, strict restrictive measures were adopted by Brazil, which aimed at social distancing and reallocation of health resources to the front line in combating the new global public health emergency. This led to a reduction in the activity of services considered non-essential, the two of interest here being elective medical consultations and cervical cancer screening programs (CHAVES et al., 2022).

Cervical cancer remains one of the leading causes of mortality among women, especially in underdeveloped countries. In 2020 alone, 604,000 new diagnoses and 34,000 deaths from the disease were estimated worldwide (WHO, 2021).

The screening method used nationally is the cytopathological examination of the uterine cervix, also known as Pap smear, which consists of the manual exfoliation of the cells present in the uterine cervix. The standardization of reports is given by the Brazilian Cytological Classification and the beginning of the screening is recommended for all women with uterus from 25 to 64 years, being the first two annual exams and, if normal, they become triennial (INCA, 2016).

Similar studies have shown a significant impact on the screening of this neoplasm in the Brazilian territory, reaching a reduction close to 67% in certain regions of the country when comparing the same period of time in 2019 and 2020 (MILITÃO, et al., 2021; DAL'NEGRO, 2022). Research on the decrease in cervical cancer screening tests is mainly concerned with the possible worsening of cancer stages at the time of diagnosis; thus compromising the patient's prognosis (BONADIO, et al., 2021). Cervical cancer, in 2020, in Brazil, was the third most common in women, behind only breast cancer in first, and colorectal cancer in second (INCA, 2020); which also suffered from the impact of screening restrictions in the midst of the pandemic.

Thus, it is important to estimate this reduction and identify the target population, patients aged between 25 and 64 years old, within the coverage area of ESF Jackson Roberto Carl, enabling users to receive and return to the pre-pandemic screening recommended by MS/INCA. Thus, the present study seeks to demonstrate the decrease in the frequency of uterine cytopathological examinations and diagnosis of premalignant lesions, in a certain Basic Health Unit, The general objective of this work is to analyze the impact of the COVID-19 pandemic between 2020 and

2021, in the collection of cytopathological examination in a Family Health Strategy in Blumenau-SC. pointed out in the following research question: Did the Covid-19 pandemic have a relevant impact on the number of cervical cancer screenings performed on the coverage area of ESF Jackson Roberto Carl?

## 2 MATERIALS AND METHODS

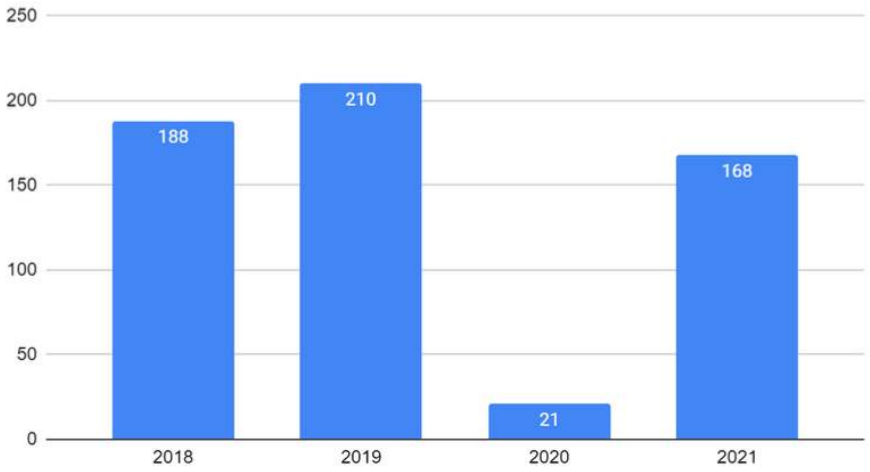
A quantitative, retrospective descriptive study was carried out during the elective activities of medical students in supervised internship at ESF Jackson Roberto Carl. Data on the number of cytopathological tests performed between 01/30/2018 and 12/07/2021 and the age of women were counted by year of collection based on physical records of the results of cervical cytopathological collections. Typing occurred in the Microsoft Excel program. The descriptive analysis included simple frequencies of the data.

The groupings proposed in the study were: Negative for Malignancy (NPM); Within the Limits of Normality (DLN); HSIL; ASC-US; ASC-H; LSIL; Not Groupable (NA). It is noteworthy that the NA group was referred to because the cytopathology report did not expressly present a result that fit into another group. These groups were classified, in Microsoft Excel tables, by quantity and percentage referring to age and mean age. The total quantification of results obtained for each year was also performed, respecting the interval from 2018 to 2021.

## 3 RESULTS AND DISCUSSION

The research carried out on the population covered by ESF Jackson Roberto Carl the number of cytopathological tests performed in the period from 2018 to 2021 was 587, reaching an average of 146.75 annual screenings. In 2019, in the pre-pandemic, we had the highest number of screenings performed, totaling 210; while in 2020, the period when the pandemic began, we had the lowest number, with only 21 patients. In 2021 there were 168 collections. If the averages of the years before the pandemic, 2018 and 2019, are compared with those after its onset, 2020 and 2021; it is therefore possible to observe a drop of about 47%. In the period from 2019 to 2020, a drop of 90% of the total, indicating a possibility of loss in the time window for identifying lesions still in their early stages.

Graph 1 – Annual number of examinations



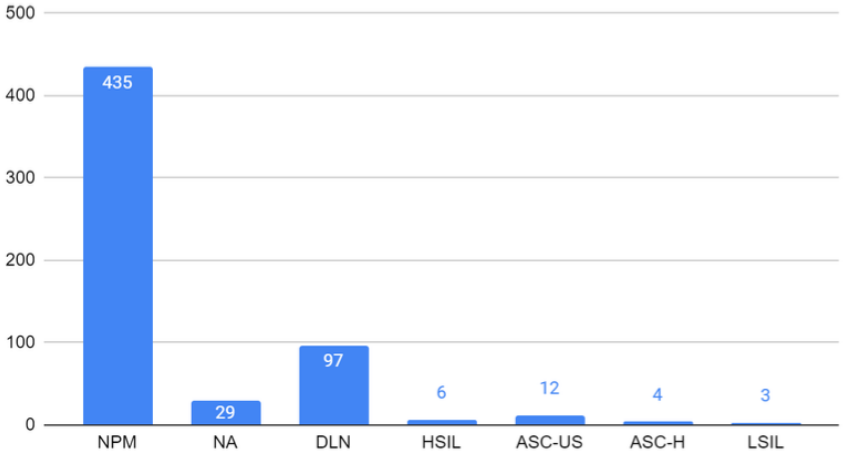

Source: The author

Analyzing the results obtained in each year, the highest number of high-grade lesions (HSIL) was observed in 2021, corresponding to about 66% of the total found in the four years observed in the study, corroborating the hypothesis of the negative effects of the pandemic on screening.

Quantifying the results, it was found that the vast majority of patients fell into the Negative for Malignancy (NPM) and Within Normal Limits (NLL) groups, which is to be expected in a screening.

Among the total, women who presented some result suggestive of malignancy (ASC-US, ASC-H, LSIL and HSIL) represent about 4.5% of the sample. Regarding the Non-Groupable (NA) group, the conclusion of the examination was not explicitly identified, and it was not grouped into other categories.

Graph 2 - Quantification of examination results

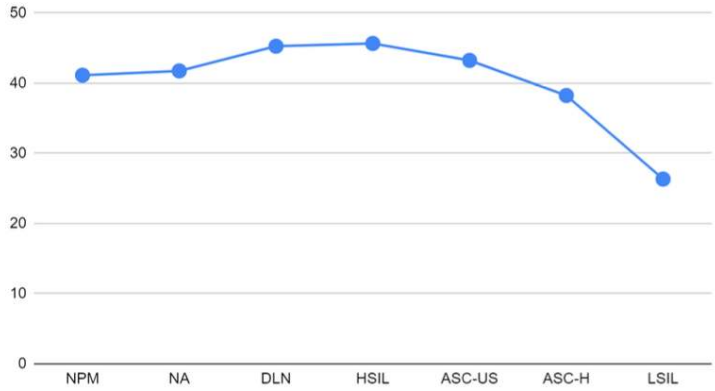



Source: The author

When observing the FHS catchment area, we identified 1399 women, of which 801 fall into the target population group recommended by the MS (Ministry of Health 2016). In the results found, results were counted in patients who did not fit into the MS target group, this due to the screening policy of the health unit in question. Which performs the collection of cervical cytopathology, for all women who have already started sexual activity and who wish to perform the screening.

The highest mean age was found in the HSIL group, with 45.7 years. In contrast, the LSIL group had the lowest mean age of 26.3 years.

Graph 3 - Test results x Average age




Source: The author

## 4 CONCLUSION

With the research, it was possible to observe a deficit in the coverage of patients within the target audience recommended by the MS, especially when observing the difference between the pre-pandemic years (2018 to 2019) and the year of its beginning (2020); clearly demonstrating an important impact on screening. With the loss of this number of patients, the window of time for action on the lesions reduces, allowing an increase in the identification of higher degree lesions when they return to the screening routine.

With the FHS database, an active search can be carried out for women who have never been screened or who are in the screening window recommended by the Ministry of Health, through home visits by the unit's Community Health Agents, or through a telephone call, encouraging them to have their cytopathology collected.

When faced with the third most common neoplasm in women (INCA, 2020), screening for precursor lesions is an important pillar of its prevention, which should not be postponed or forgotten by the population or health professionals. Further studies are needed to conclude on the

impact on the number of screenings, and how this changes outcomes, covering a larger population area.

## REFERENCES

BILHIM, J. Impacto da Pandemia COVID-19 no Sistema Público de Saúde em Portugal e Brasil. Revista Gestão e Saúde. Março, 2021. https://doi.org/10.26512/gs.v12i01.37724

BOARDMAN, Cecilia et al. Cervical Cancer: Practice Essentials, Background, Pathophysiology. Medscape. 2021. Disponível em: https://emedicine.medscape.com/article/253513-overview?src=soc_tw_share. Acesso em 11 de maio de 2022.

BONADIO RC, MESSIAS AP, MOREIRA OA, et al. Impact of the COVID-19 pandemic on breast and cervical cancer stage at diagnosis in Brazil. cancer medicals cience. 2021;15:1299. Published 2021 Oct 4. doi:10.3332/ecancer.2021.1299

CHAVES, A. et al. Impacto da Pandemia da COVID-19 no Rastreamento do Câncer de Colo Uterino no Estado de Goiás. Brazilian Journal of Development. Curitiba, Vol 8 (9), fev. 2022. DOI:10.34117/bjdv

DAL'NEGRO S. Impactos da Pandemia da COVID-19 no Rastreamento e Diagnóstico do Câncer de Colo do Útero no Brasil. Universidade Federal do Paraná (Campus Toledo). 2022. Disponível em: https://acervodigital.ufpr.br/bitstream/handle/1884/73987/TC%20-%20SADANA%20HILLARY%20DAL%27NEGRO.pdf?sequence=1&isAllowed=y

Diretrizes brasileiras para o rastreamento do câncer do colo do útero / Instituto Nacional de Câncer José Alencar Gomes da Silva. Coordenação de Prevenção e Vigilância. Divisão de Detecção Precoce e Apoio à Organização de Rede. – 2. ed. rev. atual. – Rio de Janeiro: INCA, 2016.

FREITAS, F. et al. Rotinas em Ginecologia. Editora Artmed, 7a edição, 2017. https://www.inca.gov.br/sites/ufu.sti.inca.local/files//media/document//estimativa-2020-incidencia-de-cancer-no-brasil.pdf https://www.pfizer.com.br/sua-saude/oncologia/cancer-de-colo-de-utero. Acesso em: 22 maio

INSTITUTO NACIONAL DE CÂNCER JOSÉ ALENCAR GOMES DA SILVA. Estimativa 2020:incidência do Câncer no Brasil. Rio de Janeiro: INCA, 2019a. Disponível em: https://www.inca.gov.br/estimativa/taxas-ajustadas/neoplasia-maligna-da-mama-feminina-e-colo-do-utero (abre em nova janela). Acesso em: 11 maio 2022.

JEDY-AGBA, E. et al. Trends in cervical cancer incidence in sub-Saharan Africa. Br J Cancer 123,148–154 (2020). https://doi.org/10.1038/s41416-020-0831-9

MILITÃO, B. et al. Repercussões da Pandemia de Sars-Cov-2 na Realização do Exame de Papanicolaou: um Estudo Epidemiológico. Revista Eletrônica Acervo Saúde. Vol 13(9), set, 2021. https://doi.org/10.25248/REAS.e8869.2021

Ministério da Saúde, Estimativa 2020, Incidência de Câncer no Brasil, Instituto Nacional de Câncer José Alencar Gomes da Silva. 2019. Disponível em:
MINISTÉRIO DA SAÚDE. INCA. Câncer do colo do útero. In: Instituto Nacional de Câncer. [S. l.], 25 abr. 2022. Disponível em: https://www.inca.gov.br/tipos-de-cancer/cancer-do-colo-do-utero. Acesso em: 22 maio 2022.

PFIZER. CÂNCER DE COLO DE ÚTERO. In: Pfizer. [S. l.], c2019. Disponível em:
WHO guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention, second edition. Geneva: World Health Organization; 2021. Disponível em: https://www.who.int/publications/i/item/9789240030824