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Inequities Of Access to Prevention and Diagnosis and Timely Treatment of Cervical Cancer in Women in Latin America and The Main Associated Risk Factors

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ABSTRACT

For the preparation of this document, a documentary review was carried out on the production and publication of research works related to the study of the variables Inequities of Access to Prevention and Diagnosis and Treatment of Cervical Cancer at the Latin American level. The purpose of the bibliometric analysis proposed in this document was to know the main characteristics of the volume of publications registered in the Scopus database during the period 2018-2022, achieving the identification of 57 publications. The information provided by this platform was organized through graphs and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics have been described, the position of different authors towards the proposed theme is referenced through a qualitative analysis. Among the main findings made through this research, it is found that Brazil, with 21 publications, was the country with the highest scientific production registered in the name of authors affiliated with their institutions. The Area of Knowledge that made the greatest contribution to the construction of bibliographic material referring to the Inequities of Access to the Prevention and Diagnosis and Treatment of Cervical Cancer was Medicine with 49 published documents, and the Type of Publication most used during the period indicated above was the Aarticle of Reviewwith 52 documents of the total scientific production.

Keywords: *Cervical Cancer, Prevention, Diagnosis, Treatment, Human Papillomavirus, Health Inequities*

INTRODUCTION

Inequality or social inequality is a term that covers many spheres, is present in various communities generating problems that affect the well-being and stability of the members that compose it, so it has become one of the central axes of agreements and treaties that seek its eradication and with this the egalitarian progress of the countries of the world.

One of the sectors where inequality is most visible is undoubtedly the health sector, much more in less developed countries with high poverty rates where only some have access to primary health care,

so it becomes more complicated to achieve the Prevention, Detection and Treatment of diseases that can become the cause of public health problems and high mortality rates. In the words of the World Health Organization, health inequity implies that:

Inequalities are unnecessary, avoidable and unjust. In this sense, it is not enough to describe inequalities in health outcomes, but it is necessary to review their determining factors, since, due to their disparate distribution, they contribute to generating inequities. In general, most health inequalities between social groups are unfair because they reflect an unfair distribution of social determinants, such as access to work, education, health services, discrimination by ethnicity, gender or socioeconomic level, immigrant status, etc. (Arias V, 2009)

Worldwide, Cancer in general has gained relevance since it afflicts a considerable number of people causing their death despite this, it is important to note that at the Latin American level this type of disease is faced differently. In the case of women, Cervical Cancer is among the most frequent. In fact, the authors of the article "Inequities in the early detection of cervical cancer: a reality in the Costa Rican population" (Montero-López, Quesada-Leitón, Quirós-Rojas, & Santamaría-Ulloa, 2022) say the following:

Cervical cancer is one of the most common neoplastic diseases affecting women's health worldwide. The main cause is the persistent infection of the oncogenic types Human Papillomavirus (HPV), determined by the interaction with some risk factors, namely age, smoking, malnutrition, early initiation of sexual relations and, fundamentally, not having practiced at least one screening test such as Pap smear, also known as Pap smears (PAP). (Montero-López, Quesada-Leitón, Quirós-Rojas, & Santamaría-Ulloa, 2022)

In general, the lack of access to health care may be due to the lack of public policies necessary to guarantee this right to the population, although it can also result from lack of economic resources or little schooling, which downplays the need to go to a professional periodically and perform check-ups that facilitate the detection of important diseases. For all the above, we seek to verify with this article if the variables Inequities of Access to the Prevention and Diagnosis and Treatment of Cervical Cancer are related through the description of the main characteristics of the set of publications attached to the Scopus database, as well as the description of the position of certain authors affiliated with various institutions during the period between 2018 and 2022 at the Latin American level.

General Objective
To analyze from a bibliometric and bibliographic perspective, the elaboration of works on the Inequities of Access to the Prevention and Diagnosis and Treatment of Cervical Cancer in Women at the Latin American level during the period 2018-2022.

METHODOLOGY
This article is carried out through a mixed orientation research that combines the quantitative and qualitative method.

On the one hand, a quantitative analysis of the information selected in Scopus is carried out under a bibliometric approach of the scientific production corresponding to the study of the Inequities of Access to the Prevention and Diagnosis and Treatment of Cervical Cancer.

On the other hand, examples of some research works published in the area of study indicated above are analyzed from a qualitative perspective, starting from a bibliographic approach that allows describing the position of different authors against the proposed topic. It is important to note that the entire search was performed through Scopus, managing to establish the parameters referenced in Figure 1.

Methodological design

FIGURE 1: Methodological design
Source: Authors

Phase 1: Data collection

Data collection was executed from the Search tool on the Scopus website, where 57 publications were obtained from the choice of the following filters:

cervical AND neoplasms AND health AND inequities AND (LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018)) AND (LIMIT-TO (AFFILCOUNTRY , "Brazil") OR LIMIT-TO (AFFILCOUNTRY , "Colombia") OR LIMIT-TO (AFFILCOUNTRY , "Peru") OR LIMIT-TO (AFFILCOUNTRY , "Mexico") OR LIMIT-TO (AFFILCOUNTRY , "Argentina") OR LIMIT-TO (AFFILCOUNTRY , "Chile") OR LIMIT-TO (AFFILCOUNTRY , "Costa Rica") OR LIMIT-TO (AFFILCOUNTRY , "Ecuador"))

- Published documents whose study variables are related to the study of Inequities of Access to the Prevention and Diagnosis and Treatment of Cervical Cancer.
- Limited to the years 2018-2022.
- Limited to Latin America.
- No publication area limit.
- Regardless of type of publication.

Phase 2: Construction of analysis material

The information collected in Scopus during the previous phase is organized and subsequently classified by graphs, figures and tables as follows:

- Co-occurrence of words.
- Year of publication.
- Country of origin of the publication.
- Area of knowledge.
- Type of publication.

Phase 3: Drafting of conclusions and outcome document

In this phase, we proceed with the analysis of the results previously yielded resulting in the determination of conclusions and, consequently, the obtaining of the final document.

RESULTS

Co-occurrence of words

Figure 2 shows the co-occurrence of keywords found in the publications identified in the Scopus database.
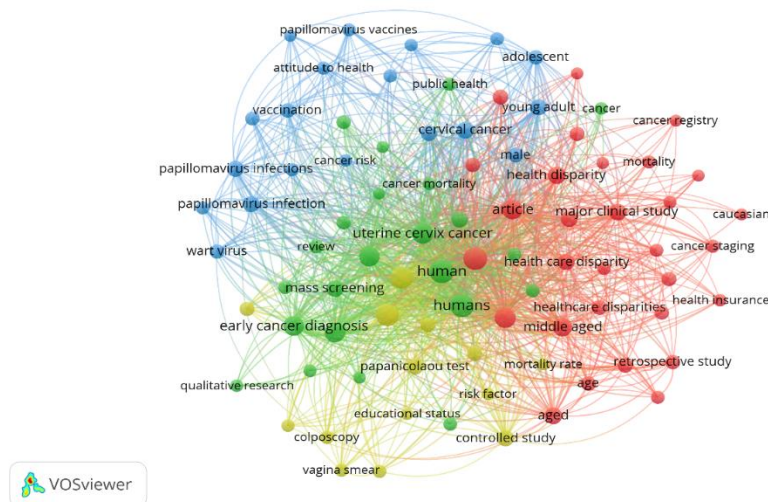
FIGURE 2: Co-occurrence of words

Source: Own elaboration (2023); based on data exported from Scopus.

The data in Figure 2, exported from Scopus, shows us our variables and their relationship corn other terms which we will explain below.

Cervical Cancer is one of the most frequent diseases in women and although it occurs in all countries of the world, it is worth noting that its behavior in developing countries is different from developed countries. This difference lies in the capacity of the latter to offer their inhabitants access to a health system equipped for the Early Detection of diseases that can be considered chronic. Likewise, it should not be ignored that poverty, low schooling, among other factors resulting from social inequalities cause women to be unaware of the seriousness of contracting Cervical Cancer and the studies that must be carried out periodically to detect it.

Distribution of scientific production by year of publication

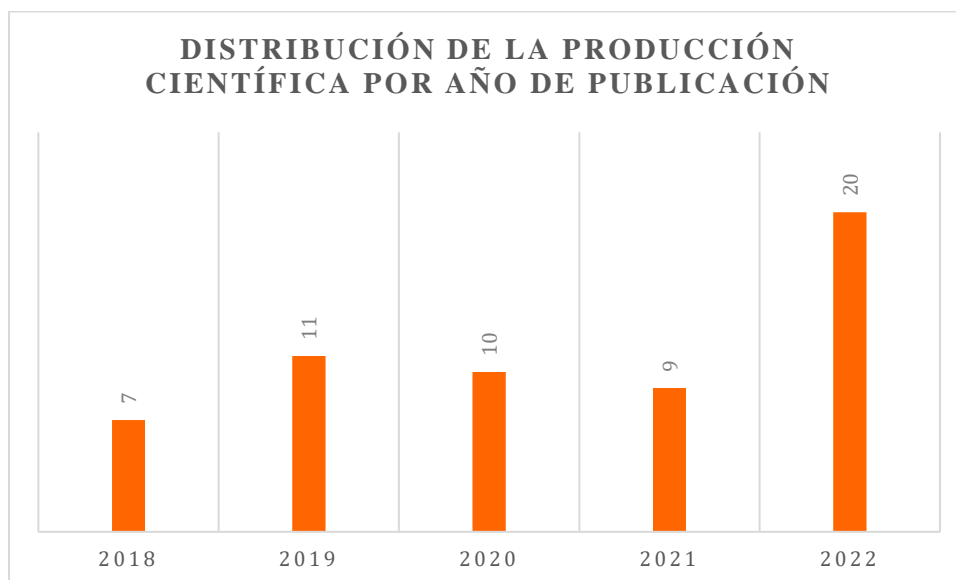Figure 3 shows how scientific production is distributed according to the year of publication.

FIGURE 3: Distribution of scientific production by year of publication.

Source: Own elaboration (2023); based on data exported from Scopus

In figure 3 we find the scientific production concerning the variables Inequities of Access to the Prevention and Diagnosis and Treatment of Cervical Cancer at the Latin American level during the period between 2018 and 2022, which resulted in the publication of 57 documents, in the Scopus database, that contain the keywords. Likewise, we observe that throughout the period there were several changes. We started with the year 2018 with 7 documents, a figure that increases significantly during the following years achieving the largest number of publications in 2022 with a total of 20 documents.

The article "Clinical implementation of a cervical cancer screening program through joint testing in a university hospital" (Avagnina, et al., 2022) shows the need to seek and use new tools that allow the prevention of Cervical Cancer from the detection of infection by high-risk Human Papillomavirus (HPV), specifically in the case of Argentina, a country in which "every year 7,548 new cases of cervical cancer are diagnosed with 3,932 deaths attributed to this cause". (Avagnina, et al., 2022) For this reason, the authors assure that their study "aims to show the clinical implementation of a cervical cancer screening program through simultaneous HPV tests and cervical cytology (co-test)" and then "evaluate the possible scenarios of cervical cancer screening for Latin America, focusing on its performance and average cost" (Avagnina, et al., 2022) managing to establish that the use (Avagnina, et al., 2022) " of co-testing could decrease the burden of cervical cancer in low- and middle-income countries, acting as a tool against health care inequity." (Avagnina, et al., 2022)

Distribution of scientific production by country of origin

Figure 4 shows how scientific production is distributed according to the nationality of the authors.
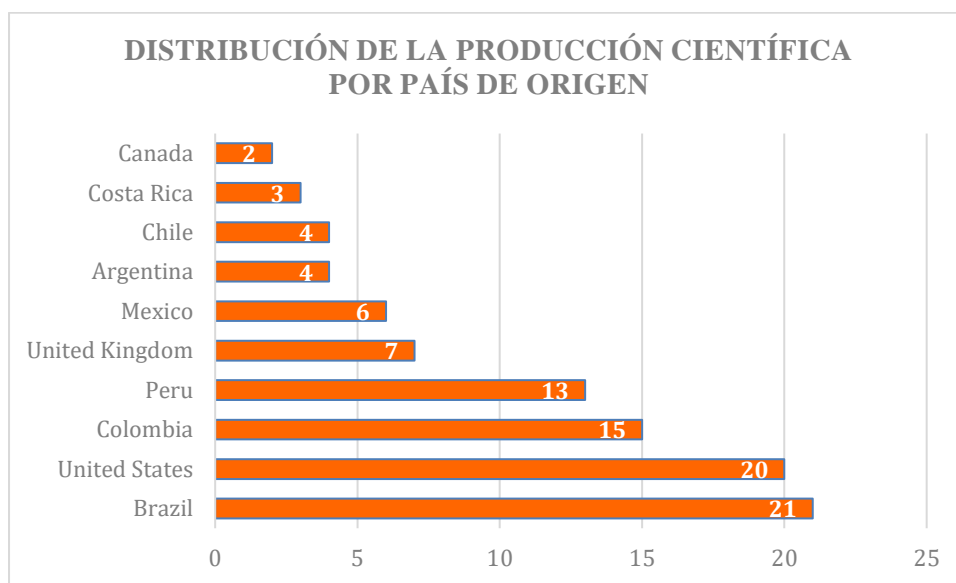

DISTRIBUCIÓN DE LA PRODUCCIÓN CIENTÍFICA POR PAÍS DE ORIGEN

Country	Value
Canada	2
Costa Rica	3
Chile	4
Argentina	4
Mexico	6
United Kingdom	7
Peru	13
Colombia	15
United States	20
Brazil	21

FIGURE 4: Distribution of scientific production by country of origin.
Source: Own elaboration (2023); based on data provided by Scopus.

In the study of Inequities of Access to the Prevention and Diagnosis and Treatment of Cervical Cancer, Brazil identifies the list of published documents with a total of 21 records each in the Scopus database during the period of the years 2018-2022, followed by the United States and Colombia, with 20 and 15 documents respectively.

Precisely refers to Brazil the article entitled "Inequalities in temporal effects on cervical cancer mortality in states of different geographic

regions of Brazil: an ecological study" in which it was sought to meet two objectives, (Bezerra de Souza, et al., 2022)" first, to analyze the effects of age, period and cohort on cervical cancer mortality in women aged 20 years or more from 1980 to 2019 in the Regions North, South and Southeast" of this country(Bezerra de Souza, et al., 2022), secondly "to evaluate whether the implementation of a national screening program and the expansion of access to public health services impacted the period examined and reduced the risk of death" (Bezerra de Souza, et al., 2022) compared to other years and younger women. Because it is a large country with a diversity of conditions in each of its regions,

several analyses were carried out that allowed to verify "that health inequities remain in Brazil and suggest that the health system has limitations in terms of reducing mortality associated with this type of cancer in regions of lower socioeconomic development". (Bezerra de Souza, et al., 2022)

Distribution of scientific production by area of knowledge

Figure 6 shows the distribution of the elaboration of scientific publications from the area of knowledge through which the different research methodologies are implemented.

FIGURE 6: Distribution of scientific production by area of knowledge.
Source: Own elaboration (2023); based on data provided by Scopus.

Figure 6 shows the distribution of the elaboration of scientific publications from the area of knowledge through which the different research methodologies are implemented.
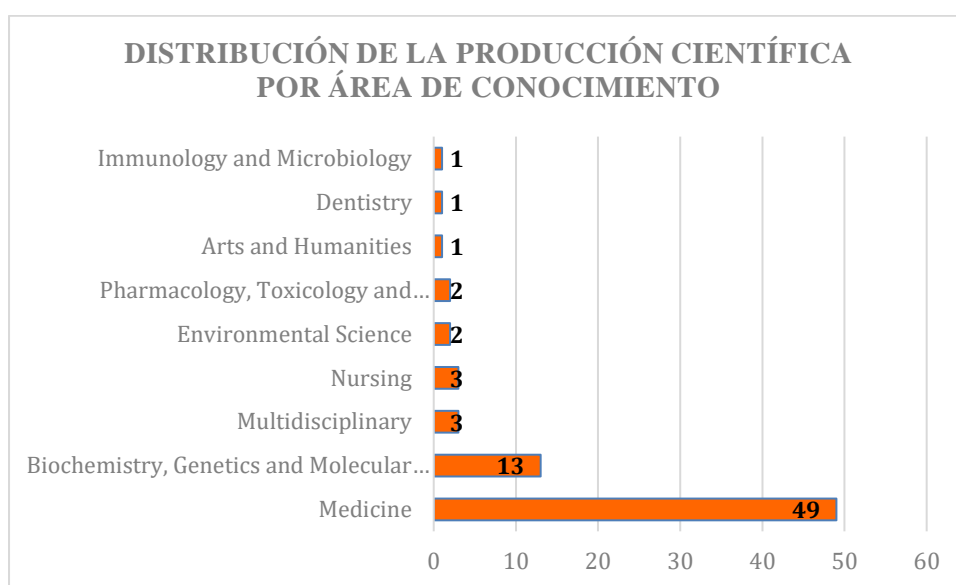
Because Cervical Cancer represents a public health problem due to its high + mortality rate in women, determine the   existing Inequities in its Prevention, Diagnosis and Treatment. it is not strange that most of the publications found in the Scopus database, on these are made from Medicine leading the publication of documents. Additionally, studies are carried out from other

areas such as   biochemistry, genetics and molecular biology as well as multidisciplinary sciences that have contributed to the study of these variables, managing to publish 13 and 3 documentsrespectively.

Although in figure 6 we can see that the variables object of this study are relevant in various areas, it is very noticeable that their study is carried out mainly from the areas that are directly related to health and the study of the chemical and / or molecular composition of the human being.

Type of publication

In the following graph, you will observe the distribution of the bibliographic finding according to the type of publication made by each of the authors found in Scopus.

FIGURE 7: Type of publication.
Source: Own elaboration (2023); based on data provided by Scopus.

Figure 7 clearly shows that the predominant type of publication in the study of Inequities of Access to Prevention and Diagnosis and Treatment of Cervical Cancer was the journal article with a total of 52 documents, followed in second place by reviews with 3 documents.

Of the many articles found, the one named "Policy considerations to promote the screening and equitable treatment of cervical cancer in Peru" was highlighted, one of the (Bond, and others, 2021)countries most affected by this disease due to delays in the delivery of screening results or the lack of "sufficient resources to pay out of pocket for the trip to Lima, the capital city, to receive specialized treatment" (Bond, and others, 2021) which leads to consider that everything established in health policies is not being complied with. For this reason, the objective of the authors was "to understand why national policies and clinical pathways that are aligned with global standards have been insufficient to improve the detection and treatment of cervical cancer in Peru", especially in the (Bond, and others, 2021)case of women who are excluded from the health system for which the search was carried out in multiple databases such as PubMed, Global Health, Scopus, EconLit, Lilacs and Scielo to then analyze the data, determining that there are main and additional barriers that prevent equal access to health insurance, which is why it is established that "systematic policy changes that address the root causes of health inequities and that are implemented at scale to advance health reform efforts". (Bond, and others, 2021)

CONCLUSIONS

From the bibliometric analysis carried out in the present research work, it was established that Brazil was the country with the highest number of records published in relation to the variables Inequities of Access to Prevention and Diagnosis and Treatment of Cervical Cancer with 21 publications in the Scopus database, At the Latin American level, during the period 2018-2022 and that the area of knowledge with the greatest contribution was medicine with a total of 49 publications.

Actually, the information found regarding our variables was of great help to determine that there is a negative relationship between Health Inequity and the Prevention, Diagnosis and Timely Treatment of Cervical Cancer in Women in Latin America and therefore there are many associated risk factors. Undoubtedly, one of the

main causes of this problem is the poor implementation of public policies that guarantee access for the entire population to primary health care, as well as effective promotion and prevention programs that involve the most vulnerable. For this reason it is sensible for Rogelio Calli and Rita Ivanovich to ensure that:

Epidemiological information is essential to carry out an adequate analysis of health priorities, which allows the correct allocation of resources. The problem of inequity goes beyond the health field, so it is important to propose intersectoral work that involves other actors (political, economic and social) with responsibility in the social determinants of health.(Calli Flores, Ivanovich, & Cecilia., 2019)

Likewise, other authors affirm that the gaps can only be reduced if they work together and "articulate both governmental and non-governmental institutional efforts, including the participation and protagonism of women". In textual words, they argue that "initiatives should be promoted in order to determine which and where women with these risk characteristics are located, their needs and preferences, so that services and availability are adapted to them". (Montero-López, Quesada-Leitón, Quirós-Rojas, & Santamaría-Ulloa, 2022)(Montero-López, Quesada-Leitón, Quirós-Rojas, & Santamaría-Ulloa, 2022)

As we had explained before, depending on the inequalities found in a country will be the quality of life of its women, unfortunately "andthis has an impact on a higher risk of developing cervical cancer, given the lack of access or unequal access to early detection. This vulnerability is determined by socioeconomic reality and educational level." (Montero-López, Quesada-Leitón, Quirós-Rojas, & Santamaría-Ulloa, 2022)

Taking into account all of the above and with the sole objective of continuing to raise awareness of the importance of guaranteeing access to this type of information in a transparent manner by anyone, we hope to encourage with this article the participation of scientific communities in the study of these variables from any scientific profile and area of knowledge always seeking to provide more alternatives that contribute to the investigation of topics of general interest. texts.

REFERENCES

1. Afonso Coutinho, J. V., Drumond Muzi, C., Fernandes Rodrigues, C., & Mendonça Guimarães, R. (2021). Reasons for never receiving a pap test among Brazilian women: National health survey. Public Health Nursing, 936-977.

2. Agurto, I., Baezconde-Garbanati, L., Barahona, R., Gallegos, K., Gravitt, P. E., Luciani, S., . . . Rodríguez, Y. (2019). Barriers and innovative interventions for early detection of cervical cancer. Salud Publica de Mexico, 456-460.

3. Alvarez, C. S., Arce-Huamani, M. A., Bazalar-Palacios, J., La Vecchia, C., Ronceros-Cardenas, L., Torres-Roman, J. S., . . . Ybaseta-Medina, J. (2021). Cervical cancer mortality in Peru: regional trend analysis from 2008–2017. BMC Public Health.

4. Arboleda-Ruiz, W. A., Arias-Ortiz, N. E., & Benitez-Restrepo, C. C. (2020). Cervical cancer incidence and patient survival in manizales, colombia, 2008-2012. Revista Peruana de Medicina Experimental y Salud Publica, 438-445.

5. Ardila-Sierra, A., Ortiz-de Oro, P., Puerto-de Amaya, M., & Vásquez-Basallo, C. (2022). Cervical cancer mortality in the Colombian Amazon. Gynecology and Obstetrics of Mexico, 486-495.

6. Arias V, S. (2009). Inequity and cancer: a conceptual review. Rev. Fac. Nac. Public Health, 341-348.

7. Arteaga-Livias, K., Chaupis-Zevallos, J., Dámaso-Mata, B., Panduro-Correa, V., Ramirez-Angel, F., & Rodríguez-Morales, A. J. (2020). Factors associated with the acceptability of the human papillomavirus vaccine, huanuco, peru. Revista Chilena de Infectologia, 694-700.

8. Avagnina, A., Denninghoff, V., Fiorillo, A., Fishkel, V., Fresno, C., Galarza, M., . . . von Petery, F. (2022). Clinical implementation of a cervical cancer screening program via co-testing at a university hospital. PLoS ONE.

9. Avila-Jove, E., Barrenechea-Pulache, A., Hernández-Vásquez, A., & Runzer-Colmenares, F. M. (2021). Socio-demographic inequalities in the uptake of Papanicolaou tests in Peru: analysis of the 2015-2017 Demographic and Family Health Survey. Epidemiology and Health.

10. Azevedo Pellegrini, R., Gössling, G., Rebelatto, T., Sandival Ampuero, G. A., & Werutsky, G.

(2022). Socioeconomic Impact of Cancer in Latin America and The Caribbean: Socioeconomic Impact of Cancer in Latin America. Archives of Medical Research, 818-825.

11. Barrera Ferro, D., Bayer, S., Brailsford, S., Díaz, A., Gutiérrez-Gutiérrez, E. V., & Smith, H. (2022). Understanding no-show behaviour for cervical cancer screening appointments among hard-to-reach women in Bogotá, Colombia: A mixed-methods approach. PLoS ONE.

12. Berti De Azevedo Barros, M., Do Carmo Ferreira, M., & Mori Sarti, F. (2022). Social inequalities in the incidence, mortality, and survival of neoplasms in women from a municipality in Southeastern Brazil. Cadernos de Saude Publica.

13. Bezerra de Souza, D. L., Braga Mendonça, A., Cardoso Meira, K., dos Santos, J., Magnago, C., Oliveira de Freitas, P. H., . . . Soares Duarte, S. F. (2022). Inequalities in Temporal Effects on Cervical Cancer Mortality in States in Different Geographic Regions of Brazil: An Ecological Study. International Journal of Environmental Research and Public Health.

14. Bond, S. J., Dotson, M. E., Garcia, P. J., Krieger, M., Ramanujam, N., & Thoumi, A. (2021). Policy considerations to promote equitable cervical cancer screening and treatment in Peru. Annals of Global Health.

15. Brown, J., Carrillo Jara, L. E., del Cuadro, D. L., Figueredo Escudero, M., Gonzales Díaz, K., Kohler-Smith, A., . . . Vásquez del Aguila, G. (2022). Women's perspectives on the acceptability and feasibility of an HPV screen-and-treat approach to cervical cancer prevention in Iquitos, Peru: a qualitative study. BMC Women's Health.

16. Calli Flores, R., Ivanovich, & Cecilia., R. (2019). Inequities In Mortality From Breast And Cervical Cancer In Argentina In 2001-2016: Ecological Study. Rev Argent Public Health, 16-21.

17. Cuadrado, C., Flores-Alvarado, S., Pacheco, J., & Vidal, F. (2022). Cancer Care Access in Chile's Vulnerable Populations During the COVID-19 Pandemic. American Journal of Public Health, S591 - S601.

18. Da Mota Almeida Peroni, F., Lindelow, M., Oliveira De Souza, D., & Sjoblom, M. (2019). Realizing the right to health in Brazil's Unified Health System through the lens of breast and cervical cancer. International Journal for Equity in Health.

19. Daros Tiensoli, S., Santos Felisbino-Mendes, M., & Velasquez-Melendez, G. (2018). Evaluation of non-attendance for Pap test through the Surveillance System by telephone survey. Revista da Escola de Enfermagem.

20. de Brito Lima Prado, N. M., Campos dos Santos, H. L., Gomes dos Santos Biscarde, D., Gusmão Bittencourt, R., Maia dos Santos, A., & Santos Cerqueira, R. (2022). Control of cervical cancer in the primary care setting in South American countries: systematic review. Revista Panamericana de Salud Publica/Pan American Journal of Public Health.

21. De La Cruz-Ramirez, Y. M., & Olaza-Maguiña, A. F. (2019). Barriers to the non-acceptance of cervical cancer screenings (pap smear test) in women of childbearing age in a rural area of Peru. ecancermedicalscience.

22. Désalliers, J., Evans, A., Graves, L., Macaulay, A. C., Morales, J., & Nugus, P. (2018). Localizing Global Medicine: Challenges and Opportunities in Cervical Screening in an Indigenous Community in Ecuador. Qualitative Health Research, 800-812.

23. Ferrandiz Salazar, J., López Córdova, G., Mendoza-Cervantes, D., Muha, C., Otero, I., Stevens, L., & Zujewski, J. A. (2018). Building a network of health professionals for breast and cervical cancer control in the Andean region. Journal of Global Oncology, 1-8.

24. Ginar da Silva, S., Jacobo, A., & Pecinato, V. (2022). Mortality trends of breast and cervical cancer in Passo Fundo, Rio Grande do Sul: an analysis by age and schooling, 1999-2019. Epidemiologia e Servicos de Saude.

25. Huchko, M. J., Jeronimo, J., Makarushka, C., Melgar, K., Mizelle, C., Pieters, M., . . . Vasudevan, L. (2020). Barriers to the uptake of cervical cancer services and attitudes towards adopting new interventions in Peru. Preventive Medicine Reports.

26. Montero-López, M., Quesada-Leitón, H., Quirós-Rojas, I., & Santamaría-Ulloa, C. (2022). Inequities in the early detection of cervical cancer: a reality in the Costa Rican population. Population and Health in Mesoamerica, 624-644.

27. Pïres Batiston, A., Schiaveto de Souza, A., Vieira Alves, S. A., & Weller, M. (2019). Differential impact of education level, occupation and marital status on performance of the Papanicolaou test among women from various regions in Brazil. Asian Pacific Journal of Cancer Prevention, 1037-1044.