

International Journal of Health Science

Acceptance date: 14/10/2024

Submission date: 28/09/2024

EPIDEMIOLOGICAL PROFILE OF PATIENTS TREATED FOR ACQUIRED SYPHILIS AT THE NOVA IGUAÇU GENERAL HOSPITAL

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Abstract: The purpose of this study was to carry out a critical evaluation of the cases of acquired syphilis at the Nova Iguaçu General Hospital (HGNI) between 2015 and 2020. The data was collected from the medical records of patients who underwent treatment for acquired syphilis notified in the Notifiable Diseases Information System (SINAN). A total of 865 cases of people infected with acquired syphilis were analyzed. It was found that until 2017 there was an annual increase in the recording of syphilis cases with a drop in the number of cases in 2018, 2019 and 2020. In 2020 there was a reduction equivalent to 1/5 of the total number of records compared to the previous year, probably due to underreporting as a result of the Covid-19 pandemic. Young men were slightly more affected than women, possibly due to the risk-taking behavior of men, however, women showed worrying numbers due to the stability of the relationship, without using condoms. Despite the limitations of the study, acquired syphilis can be easily treated, but it still remains a public health problem in Brazil. More attention needs to be paid by the health authorities to building well-defined strategies for more prevention campaigns, such as those already carried out with the free distribution of condoms by the Ministry of Health (MS) and, above all, the search for health education with a view to the increasing reduction of acquired syphilis and its evolution, as well as spreading the word about the complications that can occur when the disease is not properly treated, as a warning to the population.

Keywords: Syphilis; Treponema infection; Sexually transmitted bacterial diseases.

INTRODUCTION

According to Carrara (1996), the years that followed the resurgence of epidemic outbreaks of syphilis in Brazilian society in the mid-19th century were seen by medicine as a time of the “anti-venereal struggle”.

Syphilis is a structured, slowly evolving infection caused by the anaerobic bacterium *Treponema Pallidum* (Souza, 2017). A sexually transmitted infection (STI), *Treponema Pallidum* is responsible for the disease, shaped like spirochetes (Reinehr, Célia and Reinehr, 2017).

The pathogenesis of syphilis involves the invasion of the body by the spirochete *Treponema pallidum* through small lesions in the skin or mucosa. After the initial infection, the bacterium spreads throughout the body and can invade various organs and tissues. The disease progresses through three main clinical stages: primary, secondary and tertiary syphilis, each with distinct clinical manifestations (Holmes et al., 2008).

Transmission is sexual (anal, vaginal, oral), with the potential for recurrence in the event of direct contact with lesions, which can occur through blood transfusion and accidents with contaminated biological material (Reinehr, Célia & Reinehr, 2017; Andrade et al, 2018). The diagnosis of syphilis in the absence of clinical manifestations is a combination of serological, clinical and epidemiological examination, through anamnesis and the appearance of the lesions (Brasil, 2016).

Individuals who are systematically exposed to the bacillus will be contaminated, as there is no vaccine for treponemiasis and no vaccine for *treponema pallidum* (Amaral et al., 2022).

The medication used to treat the infection is Benzathine Penicillin, which is cheap and easy to administer. This treatment must be followed, always observing the clinical stages (Silva, 2016). Despite the existence of treatment, syphilis is seen as a worldwide problem due to the high rate of reinfection (Cavalcante et al.,

2012; Dorado, Arellano & Pichardo, 2014).

The World Health Organization (WHO) estimates that syphilis has returned as a highly prevalent disease, present in all social strata, in developed and developing countries, and in HIV-positive people, without gender restrictions. The figures are higher in countries with low-income populations and among young men. There are also 36 million cases and 11 million new cases per year in developing countries (WHO, 2016).

It is essential to continuously qualify epidemiological information, with the aim of knowing the magnitude and measuring the trend of diseases in order to plan surveillance, prevention and control actions. The health system needs to be prepared to implement preventive strategies and immediate therapeutic intervention, guaranteeing the availability of supplies, as well as confidentiality and non-discrimination (Brazil, 2018).

The PCDT (Clinical Protocol and Therapeutic Guidelines for Comprehensive Care for People with Sexually Transmitted Infections) established in 2015 is a document that establishes criteria for diagnosing infections/diseases or health problems; recommended treatment with medicines and other appropriate products; recommended dosages; clinical control mechanisms; monitoring and verification of therapeutic results to be followed by health professionals and managers of the Unified Health System (SUS). They need to be based on scientific evidence and take into account the criteria of efficacy, safety, effectiveness and cost-effectiveness of those recommended (Brasil, 2017).

Acquired syphilis has been a compulsorily notifiable disease since 2010 (Brazil, 2017). Despite the link between epidemiological surveillance and health services and the recommendation of compulsory notification for syphilis, there is still frequent underreporting of this condition. The results of a study carried

out in Palmas and São Paulo show that three times as many cases are identified than notified (Lafetá et al., 2016).

The Ministry of Health emphasizes that nursing care for acquired syphilis is related to the diagnosis of the infection through rapid tests, where the execution, reading and interpretation of the result occur within 30 minutes, with no need to send it to the laboratory and thus enhance the detection of syphilis, whole blood is required through digital or venous puncture, in addition to a serum or plasma sample (Brazil, 2016).

Acquired syphilis and its wide spectrum of clinical and symptomatic symptoms have very precarious statistics with high rates and serious consequences for the infected population. The factors contributing to the vulnerability of being infected with syphilis, together with the inadequate use or non-use of condoms in sexual relations, lack of information, use of illicit and licit drugs, prostitution, precarious information, precarious social conditions and non-adherence to treatment all contribute to the intensification of syphilis. The disease, when treated or not treated properly, leads to serious complications such as cancer, abortions and infertility, affecting almost the entire body. Despite the low cost of effective treatment, it is unfortunately still a serious public health problem. Thus, there is a need for relevant studies on acquired syphilis with the aim of early diagnosis, plausible information, guidance and education in the fight against acquired syphilis, as well as prevention, control and correct treatment.

GENERAL OBJECTIVE

To study the number of cases of acquired syphilis at the Nova Iguaçu General Hospital in the municipality of Nova Iguaçu over the last five years. Based on the data collected so far, the following guiding question emerged: What is the epidemiological profile of patients with acquired syphilis at the Nova Iguaçu General Hospital?

METHODOLOGY

This is a descriptive, qualitative, retrospective study. The study was carried out in the municipality of Nova Iguaçu in the state of Rio de Janeiro, Brazil. According to Gil (2010), the qualitative approach is concerned with interpreting information and phenomena and does not require statistical techniques. According to Neuman (1997), descriptive research aims to describe the processes, mechanisms and relationships that exist in the reality of the phenomenon studied, using a set of categories or various types of classifications. In retrospective research, the study is designed to explore facts from the past, and can be designed to go back from the present moment to a certain point in the past, several years ago (Fontelles et al, 2009).

The data collected were from the medical records of patients who underwent treatment for acquired syphilis between 2015 and 2020 at the General Hospital of Nova Iguaçu, notified on SINAN (Information and Notifiable Diseases System) and DATASUS. The references were made available by the Epidemiological Surveillance, located at the Vasco Barcelos Health Center, in October 2021. The Hospital Geral de Nova Iguaçu was chosen because it is a recommended entity for STIs and contributes to the care of the Municipality of Nova Iguaçu, as well as the residents of Rio de Janeiro.

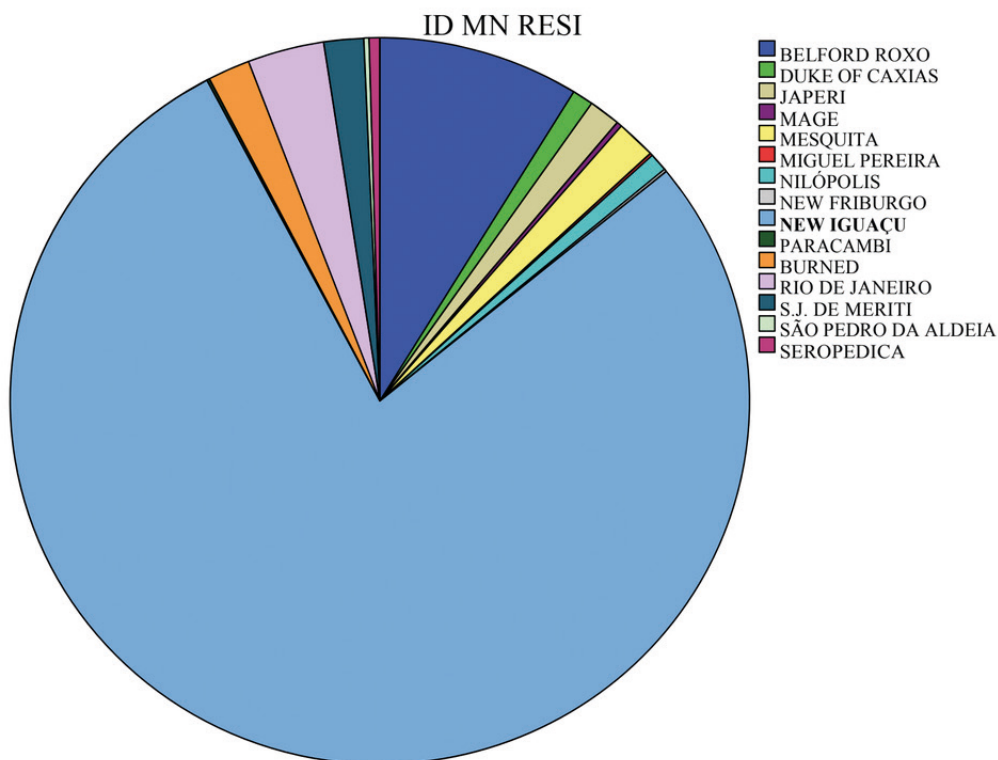


Table 1-Map showing the locations of patients treated at the Nova Iguaçu General Hospital between 2016 and 2020.

Source: Epidemiological Surveillance of Nova Iguaçu (2021).

Race	Frequency	Percentage
White	51	5,9
Black	59	6,8
Yellow	5	0,6
Brown	303	35,0
Indigenous	2	0,2
Ignored	445	51,4
Total	865	100,0
Education		
Illiterate	16	1,8
E. Fund. 1 segment incomplete	12	1,3
E. Fund. 1 segment complete	7	0,8
E. Fund.2 segment incomplete	44	5,1
E. Fund. 2 segment complete	15	1,7
E. High school incomplete	47	5,4
E. Completed high school	41	4,7
E. Higher education incomplete	2	0,2
E. Higher Education Completed	2	0,2
Ignored	678	78,4
Not applicable	1	1

Total 865	865	100,0
Sex		
Female	422	48,8
Male	443	51,2
Total	865	100,0
Age		
12 to 30 years	439	50,7
31 to 50 years old	239	33,9
51 to 65 years old	120	13,9
66 to 86 years old	13	1,3
Total	865	100,0
Years		
2016	234	27,1
2017	376	43,5
2018	143	16,5
2019	94	10,9
2020	18	2,01
Total	865	100,0

Table 2- Sociodemographic and analytical profile from 2016 to 2020 of patients reported with acquired syphilis at the Nova Iguaçu General Hospital (HGNI).

Source: Epidemiological Surveillance of Nova Iguaçu

The variables surveyed were the sociodemographic data of the population infected with acquired syphilis: municipality of origin, age, color, sex, schooling. According to Moresi (2003), a variable is a value that can be given by quantity, quality, characteristic, magnitude, varying in each individual case.

RESULTS

According to the data provided by the Epidemiological Surveillance of the Municipality of Nova Iguaçu RJ, based on the SINAN, we can see in the graph the patients treated for acquired syphilis at the General Hospital of Nova Iguaçu, with the inhabitants of Nova Iguaçu standing out with 676 (78.2%), followed by Belford Roxo 78 (8.8%), Rio de

Janeiro 29 (3.4%). The information for 2015 was not recorded on SINAN, showing that the institution was underreporting.

In the table above, we can see that although males had a high percentage, females also had a worrying rate. As for the ethnicity profile of the patients seen and notified at HGNI, we can see a peak in the percentage of those who were ignored, followed by the brown race. There was also an increase in the percentage of patients with no schooling. As for the age range of the patients treated, we can see a higher percentage of young people between 12 and 30 years old, followed by those between 31 and 50 years old.

DISCUSSION

The results found that 865 people were infected with acquired syphilis in the notified population. With a peak in 2016 (27.1%) and 2017 (43.5%), there was an annual increase in the recording of syphilis cases, with a drop in the number of cases in 2018, 2019 and 2020. In 2020 there was a reduction equivalent to 1/5 of the total number of records compared to the previous year, probably due to underreporting as a result of the Covid-19 pandemic. Young men, 443 (51.2%), were slightly more affected than women, possibly due to men's risk-taking behavior, but women had worrying numbers due to the stability of their relationship, without using condoms.

The prevalent age group was between 12 and 30 years old, 439 (50.7), race was unknown, 445 (51.4%), education was unknown, 678 (78.4%), followed by incomplete secondary education, 47 (5.4%).

A similar study carried out by the Ministry of Health showed that 36.5% of notifications were filled in as unknown or no field was filled in, and 1.2% were illiterate. The majority of the notified population was brown (36.8%), followed by white (36.2%) and black (10.3%); considering brown and black people, the percentage was 47%. In the entire historical series, the notification of yellow and indigenous individuals separately did not exceed 1% of cases (Brazil, 2018).

The prevalence in young people aged between 20 and 39 in Minas Gerais shows a contrast with our results (Carneiro et al, 2023).

The lack of awareness related to the dangers of sexual behavior without condoms in adolescents has been shown to be linked to a lack of introduction to knowledge about sexual and reproductive health, as well as mismatches in communication and financial resources that restrict entry into the health system, intensifying socioeconomic disparity (Saraiva, Lima, Silva, 2024).

Diverging from our analysis, the public investigated was predominantly male 203 (69%), incomplete elementary school 54 (18.4%), white 157 (53.4%) Freitas et al., 2019). In another study, it was shown that males prevailed (86.9%), with eight years or more of completed studies, average age 31.9 years, minimum of 15 and maximum of 74 years (Hozzmann et al. 2022).

The prevalence of acquired syphilis among men and women has fallen alarmingly by approximately 1:1 (Pasqual, 2021). This demonstrates the current state of the disease.

While men are willing to seek health services, they do not prioritize the practice of prevention in their daily lives (Veiga et al, 2023).

The age group fosters vulnerability in affective and sexual behavior, being able to relate to expansion, affirmation, conduct of full sexuality, experimentation and exchange of partners (Pasqual et al., 2021).

Lack of knowledge of preventive measures restricts access to information and has the potential to affect reading and comprehension skills, which is proportional to low levels of schooling. This public is regularly served by the public service (Ayala TAA, Moreira MR, 2023).

It is necessary to designate tactics, guidelines and care not only for individuals at risk, but for all the inhabitants of the Municipality, as well as preventive practices, clarification to the public with impactful campaigns through strategies aimed at leading to sexual behavioral change, condom use in relationships, thus avoiding reinfection, since a small proportion of people with STIs reach a cure. (Veiga et al., 2023).

FINAL CONSIDERATIONS

The epidemiological profile of the patients treated for acquired syphilis at the Nova Iguaçu General Hospital is that they are low-income, young, mostly male (51.2%), mostly residents of Nova Iguaçu (78.2%), with a low level of education and little or no access to information, showing a lack of understanding of preventive health measures, denoting a society susceptible to infection.

Although there was no significant disproportion between males and females, it is clear that there is no specific group in which acquired syphilis predominates. There is a need for resolutions aimed at the public, whether male or female, based on educational actions in care and self-care, lectures with educational guidance on the disease and the use of condoms in sexual relations, whether in public or private schools with adolescents, as a goal to advance in the prevention of problems in the diagnosis of acquired syphilis.

The age group (50.7%), unknown ethnicity (51.4%), unknown schooling (78.4%) thus indicate a range of illiterate people. The worrying number of cases calls for reinforcement of disease surveillance, prevention and control actions.

It is of the utmost importance that nurses build a bridge of communication, acceptance and bonding with the patient and their partner, as well as empathy, with the aim of adherence and development of syphilis treatment (Moreira et al., 2020).

The research was limited, with a lack of data such as: sexual behavior, partners, treatment, case classification. This is similar to underre-

porting, in addition to the fact that 2015 was not reported on the SINAN forms. The lack of registration on the notification form indicates the importance of proper bookkeeping for patients, with the aim of developing health care for these vulnerable citizens.

The number of cases of acquired syphilis in Nova Iguaçu is worrying, as it shows that the number of infected people was higher, and it was not possible to measure them due to underreporting in 2015, while 2020 was compromised by the emergence of covid-19, causing health services to be careless with the disease.

Despite the limitations of the study, we understand the need for strategies, planning with guidance and the search for health education, with a view to reducing the growing proliferation of acquired syphilis, especially for low-income citizens, young people with restricted access to health services, as well as competing factors.

More attention needs to be paid by the health authorities to building well-defined prevention campaigns, such as those already carried out with the distribution of free condoms by the Ministry of Health (MS) and, above all, the search for an increasing reduction in acquired syphilis and its evolution, as well as spreading the word about the complications that can occur when the disease is not properly treated, as a warning to the population.

Although the General Hospital of Nova Iguaçu provides relevant services to this population infected with the multifaceted acquired syphilis, there are still shortcomings on the part of the professionals when it comes to filling in notification records, and they need to be trained.

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