

# ANALYSIS OF THE EPIDEMIOLOGICAL PROFILE OF PATIENTS TREATED AT THE DERMATOLOGY OUTPATIENT CLINIC OF A PUBLIC HOSPITAL IN THE CENTRAL REGION OF RIO GRANDE DO SUL

ANÁLISE DO PERFIL EPIDEMIOLÓGICO DOS PACIENTES ATENDIDOS NO AMBULATÓRIO DE DERMATOLOGIA DE UM HOSPITAL PÚBLICO NA REGIÃO CENTRAL DO RIO GRANDE DO SUL

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### **ABSTRACT**

Skin diseases are influenced by different factors, allowing the association of the prevalence of certain dermatological pathologies with the epidemiological profile of the patients. This is an observational, retrospective, and descriptive study, with analysis of medical records and care forms, in a Dermatology outpatient clinic of a medium-sized hospital, located in the central region of the state of Rio Grande do Sul. The data refer to the period from January 2020 to December 2022. From the sample of 264 patients, 173 (65.5%) were female, and 91 (34.5%) were male. Regarding the most prevalent diagnoses in the consultations, 16 (6.1%) corresponded to seborrheic keratosis, followed by 15 (5.7%) of acne and actinic keratosis and 12 (4.5%) of psoriasis. There is a possibility of demand bias because this is a low-complexity outpatient clinic, i.e., more serious cases, especially those with suspected malignant skin neoplasms, may be referred to another high-complexity referral center in the city. The analysis of the epidemiological profile of this study allowed us to conclude that the patients seen at the outpatient clinic are mostly women, have a mean age of 45 years, come from all regions of the city, and have systemic arterial hypertension as their main comorbidity.

Keywords: dermatology; disease; health; skin; prevalence.

# **RESUMO**

As doenças cutâneas são influenciadas por diferentes fatores, o que permite associar a prevalência de determinadas patologias dermatológicas ao perfil epidemiológico do paciente. Trata-se de um estudo observacional, retrospectivo e descritivo, com análise dos prontuários e de fichas de atendimento, em um ambulatório de Dermatologia de um hospital de médio porte, localizado na região central do estado do Rio Grande do Sul. Os dados referem-se ao período de janeiro de 2020 a dezembro de 2022. A partir da amostra de 264 pacientes, 173 (65,5%) eram do sexo feminino, e 91 (34,5%) pertenciam ao sexo masculino. Quanto aos diagnósticos mais prevalentes nos atendimentos, 16 (6,1%) corresponderam a ceratose seborreica, seguido

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de 15 (5,7%) de acne e ceratose actínica e 12 (4,5%) de psoríase. Há a possibilidade de um viés de demanda por se tratar de um ambulatório de baixa complexidade, ou seja, casos mais graves, principalmente no que se refere a suspeitas de neoplasias malignas de pele, podem ser encaminhados para outro centro de referência de alta complexidade do município. A análise do perfil epidemiológico deste estudo permitiu concluir que os pacientes atendidos no ambulatório são, em sua maioria, do sexo feminino, tem uma média de idade de 45 anos, são procedentes de todas as regiões da cidade e possui como principal comorbidade a hipertensão arterial sistêmica.

Palavras-chave: dermatologia; doença; saúde; pele; prevalência.

## INTRODUCTION

Reflecting on the skin means thinking about the largest and most external organ of the human body, which is exposed to the gaze of others and which delimits the internal world, according to Montagu, who, in 1988, already brought this concept that remains current (Montagu, 1988). According to SENA and collaborators (2020), skin diseases comprise the top three causes of demand for health services and lead to losses in the quality of life of patients.

As demonstrated by Bernardes and collaborators (2015), in decreasing order, the most frequent pathologies in dermatology consultations were: eczema (11.3%), benign tumors (9%) and pigmentary disorders (8.7%). Atopic eczema, also called "atopic dermatitis", for example, is characterized by being a chronic disease that affects the skin, causing itchy lesions due to cutaneous xerosis; is relapsing and has symptoms triggered mainly by excessive water loss and a permeable epidermal barrier (Lima *et al.*, 2024). In the group that includes benign tumors, dermatofibroma, seborrheic keratosis and acrochordons are commonly found in clinical practice (Pedro, 2014). Among the pigmentary disorders, lentigines can be mentioned, which are pigmented, benign and persistent macules (usually <5 mm in diameter) that result from increased pigment production by epidermal melanocytes (Maganhin *et al.*, 2024).

This healthy impairment leads to several changes in all dimensions of the human being. In this sense, the impact is perceived in both psychiatric illnesses and serious systemic and, therefore, organic diseases. In this sense, the skin, as an organ, goes beyond its protective and barrier functions, as it provides clues for the recognition of some systemic diseases (Sampaio *et al.*, 2021).

Skin diseases are influenced by different factors, such as genetics, age, housing conditions, hygiene, sun exposure and level of education, which allows the prevalence of certain dermatological diseases to be associated with the patient's epidemiological profile (Fasolo *et al.*, 2022). Due to the high frequency of consultations with dermatological complaints, knowing the pattern of dermatoses in a region is highly relevant for planning health policies/actions (Raposo *et al.*, 2011), as well as for reflecting on professional approaches in users' health care settings.

Thus, once the correlation between age, place of birth, sex/gender and complaints from the patients has been established, associating the prevalence of certain dermatological diseases with the



patients' epidemiological profile is not only permitted, but also necessary. It is clear that, despite having specialized dermatology services, cities lack epidemiological studies that characterize the profile of patients. In this sense, not only will patients benefit from the recognition of prevalent diseases, but also health professionals and medical students, allowing early detection through signs and symptoms and promoting prevention strategies in the target population.

In view of the above, the objective of this study was to analyze the epidemiological profile of patients treated at a dermatology outpatient clinic in the central region of Rio Grande do Sul, RS.

# **METHODOLOGY**

# STUDY DESIGN

This is an observational, retrospective, and descriptive study, with analysis of medical records and service forms. The study was developed in a Dermatology outpatient clinic of a medium-sized, municipal, public hospital, located in the central region of the state of Rio Grande do Sul, in the municipality of Santa Maria, RS. The study population included 848 medical records of patients treated in the aforementioned setting, from January 2020 to December 2022. The sample was defined by the sample calculation for finite populations, assuming a sampling error of 5% at a 95% confidence level. Thus, a sample of 264 medical records was determined, randomly selected according to the exclusion criteria. Incomplete medical records or those not located in the system were excluded. The others were included through random sampling. The period covered by the analysis was selected based on the criterion of changing the system used in the hospital (TOTVS). Therefore, medical records from the period prior to 2020 were not available.

The data were obtained by consulting the outpatient medical records in the Dermatology department. The following variables were analyzed: age, sex, profession, place of birth, neighborhood, main complaint, diagnosis, comorbidities, family history of skin cancer, whether the patient underwent a surgical procedure, biopsy and its result.

## **DATA ANALYSIS**

To characterize the sample, a descriptive analysis of the data of the study participants was performed, with the categorical variables presented as percentages and the quantitative variables as means and standard deviations. Initially, the normality of the variables studied was analyzed using the Kolmogorov-Smirnov test. In the analysis of the quantitative variables, the t-test for independent data or the Mann-Whitney test were used, depending on normality. In the study of categorical variables, the chi-square test was used to analyze the association. Differences and associations were



considered significant when the results presented a p-value  $\leq 0.05$ . IBM SPSS Version 25 software was used as a computational tool for statistical analysis of the data.

# ETHICAL ASPECTS

Ethical issues were relevant to developing this study, aiming to avoid the risk of invalidating the research. The study was approved by the Ethics Committee under number 6,189,050. It is important to note that the recommendations of CNS Resolution 466/12, which prescribes ethics in research involving human beings were observed (Brasil, 2012).

# **RESULTS**

From the sample of 264 patients, 173 (65.5%) were female, and 91 (34.5%) were male. Regarding the 264 patients seen, the minimum age found was 1 year old for both groups (male and female), while the maximum age among women corresponded to 96 years old, with a mean of 46 years (standard deviation of 21.4), versus the maximum age of 85 years among men, with a mean of 43 years (standard deviation of 22.3).

Table 1 shows the age characteristics (minimum age, maximum age, mean and standard deviation) in relation to sex.

**Table 1 -** Age characteristics of patients in a public Dermatology service in the State of Rio Grande do Sul, between 2020 and 2022 (n = 264).

Sex	Minimum age (years)	Maximum age (years)	Mean ± SD
Female	1	96	$46.6\pm21.4$
Male	1	85	$43\pm22.3$

Regarding the neighborhood in which the patients live, they were grouped into regions of the city in order to establish whether there is an administrative region that is more covered by the outpatient clinic than the others. As shown in Table 2, in relation to the patients covered by the municipality of Santa Maria - RS, the "urban-center" administrative region was the one most served by the Dermatology specialty during the period analyzed: 50 (21.8%) patients came from the neighborhoods that make up this region.

Table 2 - Administrative regions of the municipality of Santa Maria - RS.

Region	n	%
Central East	32	14%
Central West	17	7.4%
Urban Center	50	21.8%
Northeast	25	10.9%
North	37	16.2%
West	44	19.2%
South	24	10.5%
Total	229*	100%

<sup>\* - 35</sup> patients from other municipalities.

Regarding the complaints of patients who sought this outpatient clinic, 92 (34.8%) did so due to "spots", followed by 61 patients (23.1%) due to "itching" and 27 (10.2%) due to "nodular lesion". The complaints were grouped according to the patients' description in the "main complaint" section of the medical records, so that these totaled 21 groups.

In relation to the cross-section of complaints versus sex, 67 (38.7%) of the women sought care due to "spots", which was the most prevalent complaint in this group. Among men, the main reason for seeking care from a dermatologist was "itching", which corresponded to 27 (29%) patients, as shown in Table 3.

Table 3 - Relationship between patient complaints recorded in medical records versus sex.

Completed	Female		N	Male	
Complaint -	n	%	n	%	Total
Mouth ulcers	0	-	1	100%	1
Itching	34	55.7%	27	44.3%	61
Control	2	100%	0	-	2
Scaling	4	66.7%	2	33.3%	6
Edema	0	-	2	100%	2
Redness (erythema)	1	33.3%	2	66.7%	3
Pimples	12	80%	3	20%	15
Fissure	4	100%	0	-	4
Fungus	1	100%	0	-	1
Bulging lesion	1	100%	1	100%	2
Painful lesion	2	66.7%	1	33.3%	3
Nodular lesion	11	40.7%	16	59.3%	27
Pustular lesion	0	-	2	100%	2
Ulcerous lesion	9	81.8%	2	18.2%	11
Nail lesion	1	100%	0	-	1
Spots	67	72.8%	25	27.2%	92
Hair loss	10	76.9%	3	23.1%	13
Dryness	2	100%	0	-	2
Sweating	1	100%	0	-	1
Nail trauma	1	100%	0	-	1
Wart	10	71.4%	4	28.6%	14
Total	173	65,5%	91	34,5%	264



Regarding the most prevalent diagnoses in the Dermatology outpatient clinic, 16 (6.1%) corresponded to seborrheic keratosis, followed by 15 (5.7%) of acne and actinic keratosis and 12 (4.5%) of psoriasis. Regarding the predominant gender in relation to the aforementioned diagnoses, women made up the majority. In comparison with the male gender, 11 (68.8%) of the patients were diagnosed with seborrheic keratosis, 11 (73.3%) with acne, 12 (80%) with actinic keratosis and 8 (66.7%) with psoriasis.

Among the comorbidities analyzed in the randomly selected medical records, the most prominent was systemic arterial hypertension (SAH), with 76 (28.8%) patients having it. Of these, 54 (71.1%) were female, while 22 (28.9%) were male. The second most prevalent comorbidity found was dyslipidemia, with 43 (16.3%) of the patients affected, of which 30 (69.8%) were female, and 13 (30.2%) were male. Meanwhile, diabetes mellitus (DM) affected 31 (11.7%) patients, of which 21 were female (67.7%) and 10 (32.3%) were male.

As for family history of skin cancer, which includes squamous cell carcinoma (SCC), basal cell carcinoma (BCC) and melanoma, in 128 (48.5%) medical records there was no record of whether the professional who conducted the consultation had questioned its presence; 33 (12.5%) responded positively to the question when this question was asked; while 103 (39%) patients denied the presence of a family history of skin cancer.

Regarding the prevalence in both sexes, disregarding patients who were not asked about the presence of a family history of skin cancer, 10 (25.6%) patients within the "male" group confirmed the presence of this cancer, while 23 (23.7%) patients within the "female" group also did so. It was not possible to establish a statistically significant association between family history of skin cancer and sex (p=0.812).

Regarding the question of service users who underwent surgical procedures, such as biopsy, excision, infiltration or canthoplasty, 51 (19%) of them did so. Of these, 31 people were included in the "biopsy" group, in which 16 (51.6%) of the anatomopathological (AP) results were a malignant lesion (SCC, BCC or melanoma). No association was established between the type of tumor and sex (p=0.372). It was noted that 57.1% (12) women who underwent biopsy had a malignant tumor classification, while 40% (4) of men had the same result (Table 4).

**Table 4** - Cross-tabulation of sex versus anatomopathological.

<b>Biopsied lesion</b>	Malignant [n(%)]	Benign ]n(%)]	p value
Female	12 (57.1%)	9 (42.9%)	0.372
Male	4 (40%)	6 (60%)	0.372
Total	16 (51.6%)	15 (48.4%)	

Regarding the diagnosis of the biopsied lesion when it was classified as malignant, 8 (50%) were diagnosed with BCC, 1 (6.3%) was diagnosed with BCC and SCC simultaneously, 5 (31.2%) were diagnosed with SCC only and 2 (12.5%) with melanoma, as shown in Table 5.



**Table 5** - Lesion classification when the biopsy was classified as "malignant".

Lesion classification	n	%
BCC	8	50%
BCC + SCC	1	6.3%
SCC	5	31.2%
Melanoma	2	12.5%
Total	16	100%

Of the 15 patients with skin cancer (one received both diagnoses), 4 had no record in their medical records regarding the question "Do you have a family history of skin cancer?" Therefore, only the cases in which this question had been asked were selected, resulting in 11 patients diagnosed with skin cancer who answered "yes" or "no" to the aforementioned question. Of these 11, 5 (45.5%) had a family history. Regarding sex, 12 (75%) of the patients diagnosed with skin cancer were women.

Regarding the region of the city of these patients, 4 (25%) were from the "west" region, 3 (18.8%) from the central-east region, 3 (18.8%) from the central-urban region and 2 (12.5%) from the north region. Another 4 (25%) were not from the city analyzed, as shown in Table 6.

**Table 6** - Regions of origin of patients diagnosed with cancer.

Region	N	%
East Center	3	18.8%
Urban Center	3	18.8%
North	2	12.4%
West	4	25%
Not from Santa Maria	4	25%
Total	16	100%

# **DISCUSSION**

The evidence presented should be interpreted considering the limitations of the study. Although this is a dermatology outpatient clinic in the center of the state of Rio Grande do Sul, the diagnoses may not represent the diseases of the general population in its respective proportions. There is the possibility of a demand bias because it is a low-complexity outpatient clinic, that is, more serious cases, especially those with suspected malignant skin neoplasms, may be referred to another high-complexity referral center in the municipality. From this perspective, the study was limited due to the lack of data regarding family history of skin cancer, patient phototype (Fitzpatrick Classification), previous treatments with a dermatologist, lack of a unified record of surgical procedures performed at the hospital and the results of anatomopathological exams when requested. Given this scenario, it was necessary to exclude medical records from the study due to the scarcity of the aforementioned information.

The predominance of women seen in consultations is in line with the epidemiology of consultations also reported in other studies in the literature. This may reflect the greater care women take with their skin, especially in relation to protection against sun exposure (Sociedade Brasileira de Dermatologia, 2006). Despite the apparent greater care taken by women, in agreement with other studies analyzed, women are the most affected by skin lesions (Weber *et al.*, 2007).

In the present study, 75% of the patients who had their lesion removed and analyzed histopathologically, being confirmed as malignant, were women. The disparity in the reasons for consultation between the sexes is also evident in referrals to the dermatology clinic. The most common complaint among female patients was related to "spots", representing 72.8% (34) of cases. On the other hand, among male patients, the predominant complaint was "itching", covering 44.3% (27) of cases. These results suggest a possible correlation between women's search for aesthetic-related dermatological services and the reason for consultation. The search for a dermatologist, especially among women, may be influenced by aesthetic concerns, and not necessarily by presenting symptoms. However, based on this evaluation, even if few symptoms were present, it was also possible to receive the diagnosis of skin lesions.

In this analysis, the women seen were diagnosed three times more (80% of cases) with actinic keratosis, which constitutes precancerous lesions, when compared to men. Regarding the diagnosis of skin cancer, whether melanoma or non-melanoma, women were also ahead of men. It is consolidated in the literature that the occurrence of precancerous lesions has a high prevalence: in a study published by Fasolo *et al.* (2022), in the evaluation of biopsies performed on skin lesions, actinic keratosis was the most observed.

Malignant lesions were also three times more common in women. Despite this, no association was established between the type of tumor and sex (p=0.372). It was noted that 57.1% (12) of women who underwent biopsy were classified as malignant tumors, while 25.6% (4) of men had the same result.

This is in line with what is established in the literature on the subject: in a study published by Figueiredo *et al.* (2022), it was shown that women accounted for 62% of patients who had lesions surgically removed. Regarding malignant skin lesions of the melanoma type, a study published in the Brazilian Journal of Surgeons also found a predominance of women, with 52.5% of corresponding cases (Purim *et al.*, 2020).

Although there is a correlation between profession and incidence of skin cancer (Gallagher and Lee, 2006), it was not possible to demonstrate this association in the present study, since the medical records were incomplete regarding the patient's profession.

Another relevant characteristic of this study was the diversity of diagnoses (100). The most frequent ones found in the literature are inflammatory diseases. This is in line with two prevalent diagnoses in this study: acne (5.7%) and psoriasis (4.5%). However, non-inflammatory diseases, such as seborrheic keratosis (6.1%) and actinic keratosis (5.7%) also had a notable incidence. According to



Pinheiro et al. (2022), the prevalence of acne vulgaris in the dermatology service of a private institution is around 11.94%, with the mean age group being around 25 years. Psoriasis, in turn, is estimated to affect 1.31% of Brazilian women, while it affects 1.47% of men. The regions of the country differed in terms of the prevalence of the disease (p=0.02), with higher rates in the South and Southeast regions (Brasil, 2021).

The main cause of consultation, actinic keratosis, corresponds to less than 6% of diagnoses. The mean age of patients diagnosed with actinic keratosis in women was 65 years ( $\pm$  9 years), while in men, this mean was 59 years (± 15). According to Sociedade Brasileira de Dermatologia (2006), the diagnosis of actinic keratosis is more likely among women, a fact that was also verified in the current investigation.

In order to verify the presence of comorbidities, 28.8% (76) of patients had a record of concomitant systemic arterial hypertension (SAH), while 16.3% (43) had dyslipidemia. These comorbidities were investigated due to their association with dermatological manifestations of inflammatory diseases (Carbonar et al., 2021). Therefore, it was observed that 66.7% of patients diagnosed with psoriasis had also been diagnosed with hypertension, and that 83.3% of these patients also had dyslipidemia. This finding is in line with the bibliographic evidence that patients with psoriatic disease, particularly those with severe psoriasis and psoriatic arthritis, have a higher prevalence of diabetes mellitus (DM), hypertension, and dyslipidemia compared to the general population (Eder et al., 2018).

As this is a descriptive study, we sought to present the most comprehensive data regarding the variables established for analysis. Despite this, we will seek to explore specific diagnoses and their relationship with the literature in future studies. In addition, it was possible to establish a database for the aforementioned service, which makes it possible to understand the reality of the scenario and, thus, develop care strategies aimed at the real needs of the population.

# **CONCLUSION**

The analysis of the epidemiological profile of this study allowed us to conclude that the patients treated at the outpatient clinic are mostly female, have mean age of 45 years, come from all regions of the city proportionally and have hypertension as their main comorbidity.

Through the data collection procedure in electronic medical records between 2020 and 2022, it was possible to confirm the need for better structuring of the elements collected qualitatively. In this sense, the preparation of an anamnesis form that includes data that allow for better epidemiological knowledge of the population treated is relevant.

Due to the significant sample of data collected in this research, other studies will be developed to better explore it, seeking to analyze the profile of specific pathologies and their relationship with the epidemiology of the patients treated at this outpatient clinic. In this area, we intend to delve deeper



into how epidemiological analysis can guide the optimization of the resources offered, as well as not only improve the experience of patients, but also enhance learning on the part of students.

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