Profile of patients admitted to a triage dermatology clinic at a tertiary hospital in São Paulo, Brazil

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Abstract: Background: Knowledge of epidemiological data on skin diseases is important in planning preventive strategies in healthcare services.
Objective: To assess data from patients admitted to a triage dermatology clinic.
Methods: A retrospective study was performed of patients admitted over a one-year period to the Triage Dermatology Clinic at the Hospital das Clínicas of the University of São Paulo Medical School. Data were obtained from record books. The variables analyzed were: patient age, gender, dermatologic disease (initial diagnosis), origin (from where the patient was referred) and destination (where the patient was referred to).
Results: A total of 16,399 patients and 17,454 diseases were identified for analysis. The most frequent skin disorders were eczema (18%), cutaneous infections (13.1%), erythematous squamous diseases (6.8%) and malignant cutaneous neoplasms (6.1%). Atopic dermatitis was the most common disease in children. Acne was more common among children and adults, as were viral warts. Basal cell carcinoma and squamous cell carcinoma were more common in the elderly. Contact dermatitis and acne predominated in women. The most frequent origins were: the primary/secondary health system (26.6%), other outpatient specialties (25.5%), emergency care (14.9%); while the destinations were: discharged (27.5%), follow-up in our Dermatology Division (24.1%), return (14.1%) and the primary/secondary health system (20.7%).
Conclusion: Understanding the incidence of skin diseases is fundamental in making decisions regarding resource allocation for clinical care and research. Thus, we believe our findings can contribute to improving public health policies.

Keywords: Dermatology; Eczem; Epidemiology; Public health; Triage

INTRODUCTION

The skin is the outermost part of the human body and there is a huge variety of skin disorders. However, it is difficult to determine the exact prevalence or incidence of skin diseases due to a lack of epidemiologic studies on the general population. Many skin diseases are treatable but have a detrimental effect on quality of life. Knowledge of these epidemiological data is important in planning therapeutic and preventive strategies in healthcare services.1,2

This is highlighted to a greater or lesser degree in various studies. Penâte et al. conducted a study evaluating 3,144 applications for inpatient dermatology consultations at the Insular de Las Palmas de Gran Canaria University Hospital, Spain, concluding that the most frequent diagnoses were: contact dermatitis (8.9%), drug reactions (7.4%), candidiasis (7.1%) and seborrheic dermatitis (5.3%).3

At the Hospital das Clínicas of the University of São Paulo Medical School (HC-FMUSP), 313 requests for referral to the dermatology division were evaluated; the most frequent diagnostic groups were infectious diseases, eczema and drug reactions.4

Inpatient treatment plays a fundamental role in managing complex and severe dermatological diseases. Rapid detection and diagnosis of findings can decrease morbidity, mortality, length of hospital stay and hospitalization costs. As with the data on inpatients, we analyzed the medical records of 3,308 patients.
hospitalized in the dermatology ward at the HCFMUSP for 8 years. Most admittances were for eczematous disease/dermatitis and skin infections. Bale J et al. conducted a survey at a tertiary referral hospital in New South Wales, Australia, examining 97 inpatient admissions in their dermatology unit during 2011. The most frequent reasons for admission were dermatitis or eczema and ulcers; the latter diagnosis accounted for the longest length of stay.

Moreover, it is important to analyze skin disease patterns in the community outpatient setting to discuss strategies and the population’s health demands. Some studies have been conducted in different countries based on this approach. In Japan, a nationwide multicentric survey was carried out, leading to the observation that the vast majority of the 67,448 cases evaluated involved miscellaneous eczema, atopic dermatitis and tinea pedis.

Brazil has a decentralized public health system divided into three levels of care (primary, secondary and tertiary), in which patients are referenced according to the severity and complexity of the diagnosis. With this in mind, the General and Didactic Dermatology Clinic (AGDD) – a triage service - was developed at the HCFMUSP. This clinic is used to screen patients at the three different levels. Dermatology residents, medical students and residents of other specialties, supervised by assistant professors and chief residents, provide patient care. This study sought to assess epidemiologic data for patients admitted to the AGDD of the Dermatology Division at the HCFMUSP. The survey was designed as a relevant source of information for evaluating the frequency of dermatologic diseases at a public health service in Brazil.

METHODS

We performed a retrospective study of patients admitted to the AGDD of the HCFMUSP during a period of one year, from January 21st, 2011 to January 21st, 2012.

As a triage clinic, the AGDD experiences significant daily demand. Patients are evaluated and data are gathered in record books. Each patient can have up to three appointments, but most of them can be treated at the first visit. Patients can be referred from: the HCFMUSP’s emergency unit, other outpatient specialties at the HCFMUSP or the primary and secondary health systems. Following the consultation, patients can be sent to the primary health system or the secondary health system. Alternatively, they can return for another evaluation at AGDD, follow-up in a specific group at the HCFMUSP’s Dermatology Division or be discharged.

Data were obtained from record books. The variables analyzed were: patient age, gender, dermatologic disease (initial diagnosis), origin (from where the patient was referred) and destination (where the patient was referred to after the appointment). Initial diagnoses were performed based on anamnesis and clinical signs. Direct microscopies of skin scrapings were carried out for relevant patients. We excluded patients who were on their return visit (repeated subjects) and those whose information regarding gender, age and diagnosis was unclear and/or missing.

Continuous variables were expressed as means with the respective standard deviation (SD). The descriptive analysis of categorical variables was calculated as absolute (n) and relative (%) frequencies. We used two softwares, Microsoft Excel and SPSS 20.0 for MAC, to perform the analyses.

The HCFMUSP’s Ethics Committee approved this study.

RESULTS

Demographics

During this one-year period under study, a total of 19,445 appointments were made at the AGDD, with 18,016 patients evaluated. Meanwhile, 302 subjects were excluded due to incomplete data and 1,315 were excluded because of indefinite diagnoses, meaning that the diagnostic hypotheses for the same skin lesion were from different categories of diagnosis, or that patients presented with uncharacteristic skin lesions which hampered the categorization of diagnosis. The remaining 16,399 subjects and their 17,454 diseases were also analyzed. There were 10,364 (63.2%) females and 6,035 (36.8%) males. The average age of subjects was 43.9 years (42.7 for males and 44.5 for females) with a SD of 22.1 (Table 1). The most frequent origins of patients were: the primary/secondary health system (26.6%), other outpatient specialties (25.5%) and Emergency Care (14.9%). Their most common destinations were: discharged (27.5%), follow-up in Dermatology Division of HCFMUSP (24.1%), return (14.1%) and the primary/secondary health system (20.7%).

| Table 1: Characteristics of patients |
|--------------------------------------|
| Subjects, n                          | 16,399    |
| Diseases, n                          | 17,454    |
| Patient age, years, mean ± SD        | 43.9 ± 22.1 |
| Gender considering subjects, n (%)   |           |
| Female                               | 10,364 (63.2%) |
| Male                                 | 6,035 (36.8%) |

SD = standard deviation

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Dermatologic diagnosis

All appointments were assigned to one or two of the following 15 categories of diagnosis: eczema, cutaneous skin infections, erythematous squamous diseases, malignant cutaneous neoplasms, benign cutaneous neoplasms, dyschromias, pruritic papular eruptions, nevi, trichosis, folliculosis, connective tissue disorders, nail disorders, asteatosis, other skin diseases and without skin disease. Eczema was the most frequent (18.1%), and in most cases Non-specified (7.4%), followed by: cutaneous infections (13.1%; mostly superficial mycosis – 6.8%), erythematous squamous diseases (6.8%, primarily psoriasis – 3.5%), miscellaneous malignant skin tumors (6.1%, including basal cell carcinoma (BCC) - 3.8%) and miscellaneous benign skin tumors (6.1%, predominantly seborrheic keratosis – 3.6%) (Table 2).

| Frequency (n) | Frequency % | Frequency (n) | Frequency % |
|---------------|-------------|---------------|-------------|
| Eczema        | 3,153       | 18.1          | Pruritic papular eruption | 620 | 3.5 |
| Non-specified eczema | 1,301       | 41.3          | Insect bite reactions | 252 | 37.5 |
| Atopic dermatitis | 593        | 18.8          | Graft-Versus-Host Disease (GVHD) | 122 | 19.7 |
| Contact dermatitis | 476        | 15.1          | Lichen Striatus | 115 | 18.6 |
| Lichen simplex chronicus | 315      | 10.0          | Lichen nitidus | 114 | 18.4 |
| Others        | 468         | 14.8          | Others     | 35 | 5.7 |
| Cutaneous infections | 2,293     | 13.1          | Nevi       | 590 | 3.4 |
| Superficial mycosis | 1,182     | 51.5          | Melanocytic nevi | 222 | 37.7 |
| Viral warts    | 372         | 16.2          | Melanosis Solar | 145 | 24.5 |
| Abscess, furuncle and anthrax | 120     | 5.2           | Non-specified nevi | 138 | 23.5 |
| Molluscum contagiosum | 112      | 4.9           | Ephelis    | 13 | 2.2 |
| Others        | 507         | 22.1          | Others     | 72 | 12.2 |
| Erythematous Squamous Dermatosis | 1,197    | 6.9           | Trychosis  | 587 | 3.4 |
| Psoriasis      | 646         | 54.0          | Alopecias areata | 173 | 29.4 |
| Seborrheic dermatitis | 363       | 30.3          | Androgenic alopecia | 103 | 17.6 |
| Pityriasis rosea | 136        | 11.4          | Telogen effluvium | 90 | 15.3 |
| Non-specified erythematous squamous dermatosis | 24     | 2.0           | Non-specified trychosis | 82 | 13.9 |
| Others        | 27          | 2.3           | Others     | 139 | 23.8 |
| Malignant cutaneous neoplasms | 1,071 | 6.1          | Foliculosis | 556 | 3.2 |
| Basal cell carcinoma | 665       | 62.1          | Acne       | 433 | 77.8 |
| Squamous cell carcinoma | 203       | 19.0          | Rosacea    | 103 | 18.5 |
| Melanoma       | 106         | 9.9           | Dermatitis perioralis | 20 | 3.6 |
| Non-specified malignant cutaneous neoplasms | 96     | 9.0           | Non-specified malignant cutaneous neoplasms | 24 | 2.0 |
| Others        | 27          | 2.3           | Connective Tissue Disorders (Fat, Muscular or Neural) | 530 | 3.0 |
| Benign cutaneous neoplasms | 1,060 | 6.1          | Soft fibroma/acrochordon | 157 | 29.6 |
| Seborrheic keratosis | 628      | 59.2          | Keloid     | 152 | 28.6 |
| Actinic keratosis | 291       | 27.5          | Lipoma     | 83 | 15.6 |
| Dermatosis papulosa nigra | 38       | 3.6           | Dermatofibroma | 56 | 10.5 |
| Non-specified benign cutaneous neoplasms | 38     | 3.6           | Others     | 83 | 15.6 |
| Others        | 65          | 6.1           | Nail Disorders | 417 | 2.4 |
| Dyschromias | 748         | 4.3           | Non-specified nail disorders | 138 | 37.8 |
| Vitiligo vulgaris | 298       | 39.9          | Onicocriptosis | 103 | 24.7 |
| Melasma        | 212         | 28.4          | Chronic Paronychia | 89 | 21.3 |
| Pityriasis alba | 98         | 13.1          | Onychodystrophy | 46 | 11.1 |
| Non-specified dyschromias | 82     | 10.9          | Others     | 21 | 5.1 |
| Others        | 58          | 7.7           | Asteatosis  | 365 | 2.1 |
| Without skin disease | 620     | 3.5           | Asteatosis/Xerosis | 365 | 100.0 |
| Without skin disease | 620 | 100.0        | Others     | 3,647 | 20.9 |

Table 2: Prevalence of skin diseases (n=17,454).
Skin disorders according to gender

The most prevalent diagnoses we found in males were: mycosis (8.0%), non-specified eczema (7.6%), BCC (4.6%), atopic dermatitis (4.1%), psoriasis (4.0%), seborrheic keratosis (3.1%), without skin disease (2.9%), seborrheic dermatitis (2.7%), acne (2.6%), viral warts (2.3%) and lichen simplex chronicus (2.3%). Among females, the most common were: non-specified eczema (7.3%), mycosis (6.0%), without skin disease (3.9%), seborrheic keratosis (3.9%), BCC (3.4%), psoriasis (3.3%), contact dermatitis (3.1%), atopic dermatitis (3.0%) acne (2.4%) and asthenosis (2.1%) (Table 3).

Skin disorders according to age group

Age groups were defined according to World Health Organization criteria (0-18 years for children; 19-60 years for adults; and over 60 years for the elderly).

The most common skin disorders in children were: atopic dermatitis (17.2%), acne (6.2%), non-specified eczema (5.8%), superficial mycosis (3.7%) and viral warts (3.6%). In adults, they were: non-specified eczema (7.7%), superficial mycosis (7.2%), psoriasis (4.1%), without skin disease (3.8%) and contact dermatitis (3.7%). Finally, in the elderly, they were: BCC (9.8%), seborrheic keratosis (8.8%), non-specified eczema (7.8%), superficial mycosis (7.7%) and actinic keratosis (4.7%) (Table 4).

Skin disorders according to destination

The main skin disorders that resulted in follow-up at the HCFMUSP’s Dermatology Division were: BCC (14.5%), squamous cell carcinoma (4.5%), non-specified eczema (4.2%), superficial mycosis (2.8%) and psoriasis (2.5%).

Table 3: Main disorders according to gender

| Female | 10,961 | 62.8 | Male | 6,493 | 37.2 |
|--------|--------|------|------|--------|------|
| Non-specified eczema | 801 | 7.3 | Superficial mycosis | 519 | 8.0 |
| Mycosis | 657 | 6.0 | Non-specified eczema | 493 | 7.6 |
| Without skin disease | 428 | 3.9 | Basal cell carcinoma | 298 | 4.6 |
| Seborrheic keratosis | 427 | 3.9 | Atopic dermatitis | 266 | 4.1 |
| Basal cell carcinoma | 372 | 3.4 | Psoriasis | 259 | 4.0 |
| Psoriasis | 361 | 3.3 | Seborrheic keratosis | 203 | 3.1 |
| Contact dermatitis | 340 | 3.1 | Without skin disease | 189 | 2.9 |
| Atopic dermatitis | 328 | 3.0 | Seborrheic dermatitis | 175 | 2.7 |
| Acne | 264 | 2.4 | Acne | 168 | 2.6 |
| Asthenosis/xerosis | 231 | 2.1 | Viral warts | 149 | 2.3 |
| Viral warts | 221 | 2.0 | Lichen simplex chronicus | 149 | 2.3 |
| Actinic keratosis | 221 | 2.0 | Contact dermatitis | 136 | 2.1 |
| Melasma | 187 | 1.7 | Asteatosis/xerosis | 129 | 2.0 |
| Vitiligo vulgaris | 187 | 1.7 | Vitiligo vulgaris | 112 | 1.7 |
| Seborrheic dermatitis | 187 | 1.7 | Squamous cell carcinoma | 104 | 1.6 |
| Residual lesions | 164 | 1.5 | Folliculitis | 92 | 1.4 |
| Lichen simplex chronicus | 164 | 1.5 | Nummular eczema | 86 | 1.3 |
| Melanocytic naevi | 164 | 1.5 | Pruritus | 86 | 1.3 |
| Urticaria | 153 | 1.4 | Epidermal cysts | 86 | 1.3 |
| Pruritus | 142 | 1.3 | Actinic keratosis | 78 | 1.2 |
| Solar melanosis | 132 | 1.2 | Stasis dermatitis | 72 | 1.1 |
| Epidermic cysts | 132 | 1.2 | Urticaria | 65 | 1.0 |
| Nail disorders | 120 | 1.1 | Residual Lesions | 65 | 1.0 |
| Acrochordon | 109 | 1.0 | Onicocriptosis | 65 | 1.0 |
| Alopecia areata | 110 | 1.0 | Alopecia areata | 65 | 1.0 |
| Squamous cell carcinoma | 98 | 0.9 | Drug reactions | 65 | 1.0 |
| Pityriasis rosea | 98 | 0.9 | Keloid | 65 | 1.0 |
| Nevi | 88 | 0.8 | Melanocytic nevi | 65 | 1.0 |
| Dyshidrosis | 88 | 0.8 | Abscess, furuncle and anthrax | 50 | 0.8 |
| Others | 3,989 | 36.4 | Others | 2,143 | 33.0 |

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The most common skin disorders referred to the secondary or primary health system were: psoriasis (7.9%), superficial mycosis (6.8%), seborrheic keratosis (6.2%), acne (5.9%) and non-specified eczema (5.1%). Furthermore, the diagnoses that needed more than one appointment at the AGDD were: non-specified eczema (16.2%), contact dermatitis (5.6%), atopic dermatitis (5.2%), superficial mycosis (4.2%) and without skin disease (4.0%) (Table 5).

**DISCUSSION**

Understanding the incidence of skin diseases is fundamental in making decisions regarding allocating resources for clinical care and research. Population-based studies are essential in this respect. At the HCFMUSP, we have already studied data on consultations and inpatient dermatology. This research is the first to analyze a triage clinic in which patients are treated at the three levels of care (primary, secondary and tertiary), seeking to complete the epidemiological analysis in our service.

The most common skin disorder in our study was eczema. In all cases, we observed non-specified eczema (41.3%), followed by atopic dermatitis (18.8%), contact dermatitis (15.1%), lichen simplex chronicus (10%), nummular eczema (5.6%), stasis dermatitis (4.9%) and dyshidrosis (4.4%). Eczema is a major health problem worldwide, mainly in developed countries, where higher prevalence is influenced by socioeconomic and environmental factors. It is also associated with atopic dermatitis prevalence. Our data on eczema (18%) are close to the proportion observed among the US population (17.1%). In addition to climatic factors, the increasing use of cleaning products, especially in developing countries undergoing improvement in their populations’ quality of life and socio-economic conditions, could be a reason for the comprehensive increase in eczema prevalence.

We observed that the frequency of eczema was higher than the frequency of cutaneous infections, probably reflecting improvements in hygiene and the expansion of sewerage in Brazil. However, our data show that cutaneous infections still represent an important group of dermatoses among the population. We noted that the most common cutaneous infections were: superficial mycosis (51.5%), viral warts (16.2%), abscesses, furuncle and anthrax (5.2%), molluscum contagiosum (4.9%), herpes zoster (3.7%), impetigo (3.5%), herpes simplex (3.3%), cellulitis/erysipelas (3.1%) and leprosy (2.7%). Indeed, leprosy is a major endemic disease in Brazil, with more than 80% of cases in the Americas. The point prevalence is 2.6 per 10,000 inhabitants, and over 40,000 new cases each year. A high prevalence of leprosy was observed in our study. We believe that this prevalence is likely not higher only because many patients were evaluated and treat-

| Table 4: Most common skin disorders according to age group |
|-----------------------------------------------------------|
| Child (0 - 18 years) | 2,846 | Adult (19 - 59 years) | 9,714 | Elderly (>60 years) | 4,894 |
|----------------------|-------|------------------------|-------|---------------------|-------|
| Atopic dermatitis    | 490   | 17.2                   | 748   | 7.7                 | 481   | 9.8 |
| Acne                 | 176   | 6.2                    | 697   | 7.2                 | 431   | 8.8 |
| Non-specific eczema  | 165   | 5.8                    | 394   | 4.1                 | 384   | 7.8 |
| Superficial mycosis  | 105   | 3.7                    | 373   | 3.8                 | 377   | 7.7 |
| Viral warts          | 104   | 3.6                    | 360   | 3.7                 | 232   | 4.7 |
| Vitiligo vulgaris     | 91    | 3.2                    | 251   | 2.6                 | 169   | 3.5 |
| Molluscum contagiosum| 87    | 3.0                    | 213   | 2.2                 | 165   | 3.4 |
| Psoriasis            | 82    | 2.9                    | 200   | 2.0                 | 161   | 3.3 |
| Pityriasis alba      | 81    | 2.8                    | 197   | 2.0                 | 143   | 2.9 |
| Without skin disease | 76    | 2.7                    | 191   | 2.0                 | 101   | 2.1 |
| Insect bite reactions | 66    | 2.3                    | 186   | 1.9                 | 89    | 1.8 |
| Seborrheic dermatitis| 61    | 2.1                    | 180   | 1.9                 | 88    | 1.8 |
| Contact dermatitis   | 56    | 2.0                    | 171   | 1.8                 | 85    | 1.7 |
| Alopecia areata      | 53    | 1.9                    | 169   | 1.7                 | 79    | 1.6 |
| Nummular eczema      | 51    | 1.8                    | 162   | 1.7                 | 77    | 1.6 |
| Melanocytic nevi     | 44    | 1.6                    | 158   | 1.6                 | 76    | 1.5 |
| Residual Lesions     | 43    | 1.5                    | Melanocytic nevi | 148 | 1.5 |
| Impetigo             | 42    | 1.5                    | Pruritus | 139 | 1.4 |
| Non-specified nevi   | 41    | 1.4                    | Folliculitis | 138 | 1.4 |
| Others               | 930   | 32.7                   | Others | 4,639 | 47.7 |
|                       |       |                        |        | 4,894 | 28.0 |

Baseline carcinoma 481 9.8 Seborrheic keratosis 431 8.8 Non-specified eczema 384 7.8 Superficial mycosis 377 7.7 Actinic keratosis 232 4.7 Without skin disease 169 3.5 Asteatosis/Xerosis 165 3.4 Squamous cell carcinoma 161 3.3 Psoriasis 143 2.9 Lichen simplex chronicus 101 2.1 Pruritus 89 1.8 Seborrheic dermatitis 88 1.8 Stasis dermatitis 85 1.7 Epidermal cysts 79 1.6 Viral warts 77 1.6 Non-specified malignant cutaneous neoplasms 76 1.5 Solar melanosis 71 1.4 Contact dermatitis 58 1.2 Melanoma 53 1.1 Others 1,575 32.2
### Table 5: Patient destination

| Discharged                                | 32.7 | Return                               | 16.0 |
|-------------------------------------------|------|--------------------------------------|------|
| Superficial mycosis                       | 434  | Non-classified eczema                 | 405  |
| Non-specified eczema                      | 383  | Contact dermatitis                    | 141  |
| Without skin disease                      | 311  | Atopic dermatitis                     | 131  |
| Seborrheic keratosis                      | 298  | Superficial mycosis                   | 106  |
| Asteatosis/Xerosis                        | 235  | Without skin disease                  | 100  |
| Atopic dermatitis                         | 152  | Urticaria                             | 89   |
| Seborrheic dermatitis                     | 149  | Lichen simplex chronicus              | 74   |
| Contact dermatitis                        | 141  | Pruritus                              | 73   |
| Residual lesions                          | 134  | Nummular eczema                       | 67   |
| Psoriasis                                 | 117  | Pityriasis rosea                      | 62   |
| Lichen simplex chronicus                  | 102  | Abscess, furuncle and anthrax         | 56   |
| Acne                                      | 97   | Impetigo                              | 49   |
| Viral warts                               | 88   | Dyshidrosis                           | 47   |
| Solar melanosism                          | 87   | Herpes Zoster                         | 44   |
| Pruritus                                  | 86   | Seborrheic dermatitis                 | 43   |
| Melasma                                   | 82   | Telogen effluvium                     | 43   |
| Actinic keratosis                         | 81   | Psoriasis                             | 40   |
| Melanocytic nevi                          | 72   | Cellulitis/Erysipelas                 | 40   |
| Folliculitis                              | 69   | Residual lesions                      | 39   |
| Vitiligo vulgaris                         | 67   | Stasis dermatitis                     | 38   |
| Pityriasis alba                           | 59   | Epidermal cysts                       | 37   |
| Soft fibroma /acrochordon                 | 56   | Prurigo                               | 36   |
| Nummular eczema                           | 54   | Insect bite reactions                 | 36   |
| Insect bite reactions                     | 52   | Non-specified nail disorders          | 25   |
| Non-specified nevi                        | 51   | Non-specified drug reactions          | 25   |
| Epidermal cysts                           | 49   | Asteatosis/Xerosis                    | 25   |
| Urticaria                                 | 49   | Herpes simplex                        | 24   |
| Non-classified nail disorders             | 48   | Folliculitis                          | 23   |
| Pityriasis rosea                          | 46   | Scabies                               | 18   |
| Others                                    | 1.469| Others                                | 565  |

| Follow-up at HCFMUSP                      | 25.9 | Primary/secondary health system       | 25.4 |
|-------------------------------------------|------|--------------------------------------|------|
| Basal cell carcinoma                      | 588  | Psoriasis                             | 315  |
| Squamous cell carcinoma                   | 184  | Superficial mycosis                   | 272  |
| Not classified eczema                     | 168  | Seborrheic keratosis                  | 248  |
| Superficial mycosis                       | 112  | Acne                                  | 236  |
| Psoriasis                                 | 103  | Not classified eczema                 | 204  |
| Lichen planus                            | 100  | Atopic dermatitis                     | 192  |
| Non-specified malignant cutaneous neoplasms | 87  | Viral warts                           | 161  |
| Non-specified tumor or vascular malformation | 82  | Vitiligo vulgaris                     | 157  |
| Viral warts                               | 81   | Actinic keratosis                     | 135  |
| Melanoma                                  | 80   | Seborrheic dermatitis                 | 113  |
| Non-specified lupus erythematosus         | 68   | Contact dermatitis                    | 103  |
| Onicorritiosis                            | 66   | Melanocytic nevi                      | 102  |
| Atopic dermatitis                         | 66   | Melasma                               | 100  |
| Acne                                      | 65   | Lichen simplex chronicus              | 91   |
| Non-specified drug reactions              | 55   | Soft fibroma /acrochordon             | 84   |
| Contact dermatitis                        | 52   | Epidermal cysts                       | 80   |
| Keloid                                    | 47   | Alopecia areata                       | 66   |
| Vitiligo vulgaris                         | 47   | Stasis dermatitis                     | 59   |
| Actinic keratosis                         | 39   | Asteatosis/Xerosis                    | 58   |
| Molluscum contagiosum                    | 39   | Keloid                                | 56   |
| Cutaneous horn                            | 36   | Without skin disease                  | 53   |
| Hansen disease                            | 34   | Androgenic alopecia                   | 48   |
| Non-specified collagen diseases           | 34   | Solar melanosis                       | 43   |
| Scleroderma                               | 34   | Nummular eczema                       | 38   |
| Erythema nodosum                          | 34   | Folliculitis                          | 35   |
| Hidradenitis                              | 33   | Pruritus                              | 35   |
| Discoid lupus erythematosus               | 32   | Callus                                | 34   |
| Alopecia areata                           | 32   | Dyshidrosis                           | 34   |
| Non-specified bullous diseases            |     |                                      |      |
ed at other reference centers, and in the primary and secondary healthcare units.

Erythematous squamous conditions were also common in our study (6.8%). Among them, psoriasis and seborrheic dermatitis were the most frequently observed, present in 54% and 30%, respectively. These data were expected, since psoriasis affects approximately 2% of the population worldwide and seborrheic dermatitis is also a common skin condition, whose prevalence in adults is estimated at 5%.\(^\text{1,3-15}\) Further, the results are closer to those in Japan, where Furue et al. found a prevalence of 4.4% for psoriasis and 3.2% for seborrheic dermatitis.\(^\text{1}\) Moreover, they are in line with results obtained in Eskisehir, Turkey, where Bilgili et al. listed psoriasis as the fifth most common skin disease (5.5%), while seborrheic dermatitis appeared in 2.2% of all cases.\(^\text{16}\) Additionally, our study was performed at a hospital with a phototherapy unit, so we expected to find a considerable prevalence of psoriasis, as many patients are referred to our clinic for this treatment.\(^\text{1,16}\)

Likewise, we observed a high incidence of malignant cutaneous neoplasm (6.1%), 62.1% of which were BCC cases, as expected. Data from The National Cancer Institute (INCA) show that non-melanoma skin cancer represents 25% of all cases and BCC is the most frequent type, accounting for 70% of cases.\(^\text{17}\) These findings are similar to those of Katalinic et al., who conducted a study in Germany, finding that over 80% of all skin tumors were BCC.\(^\text{18}\)

Analyzing skin disorders by age group, non-specified eczema, superficial mycosis and psoriasis were frequently observed in all groups as predicted, because these disorders are very common. Atopic dermatitis was the predominant disease for children. Acne was more frequent in children and adults, as well as viral warts. BCC and squamous cell carcinoma were more common in the elderly. These findings are comparable to countries such as Japan, where the top five diseases for each age group were listed. Miscellaneous eczema occurred in every age group, whereas atopic dermatitis was among the top five diseases in individuals aged under 50. Molluscum contagiosum and impetigo were frequent among patients aged 0–10 years. Viral warts were among the top five diseases for individuals aged 6–45 years. Acne was common in groups aged 11–35 years. Urticaria/angioedema were among the top five diseases in groups aged 11–70 years. Tinea pedis was common in groups aged above 41 years. Psoriasis appeared in the top five diseases among the middle-aged and elderly, with ages ranging from 46 to 80 years.\(^\text{1}\)

The category ‘without skin disease’ was prevalent in all age groups. This may reflect a possible forward error and the difficulty patients face in accessing specialists in the Brazilian public health system. Specifically, when patients undergo specialized medical evaluation after a long waiting period, the disease has disappeared. This is significant and highlights the need to reduce the time taken to arrive at hospitals and adopt better referral criteria.

In our study, there was little difference in disease prevalence between men and women. The three most frequent disorders identified in males were mycosis, non-specified eczema and BCC. In females, we noted non-specified eczema, mycosis and ‘without skin disease’. Contact dermatitis and acne predominated in women rather than men, similarly to the findings of Bilgili et al. and to epidemiological data published on these diseases.\(^\text{19-21}\)

Regarding the destination analysis, the main skin disorders that resulted in patient follow-up at our service were: malignant cutaneous neoplasm (mainly BCC and squamous cell carcinoma), non-specified eczema, superficial mycosis, psoriasis, lichen planus, other skin tumors, viral warts, lupus, atopic dermatitis, drug reactions, keloid and vitiligo. The majority of these diseases were also the most common disorders among the population and therefore some cases were monitored at our service for residents and medical students to learn. Another reason why common diseases are monitored at the HCFMUSP is that the Brazilian health system is deficient, with a lack of specialists and infrastructure, mainly at the primary and secondary levels of care.\(^\text{2}\) Furthermore, the most complex and/or severe cases like skin cancer and other skin tumors must be monitored at our service, since the HCFMUSP is among the biggest and best equipped tertiary, public hospitals in Latin America.

**CONCLUSION**

Understanding the incidence of skin diseases is fundamental in making decisions regarding resource allocation for clinical care and research. Population-based studies are essential in this respect.

In our study, the most common diseases were eczema, cutaneous infections, erythematous squamous diseases and cutaneous neoplasms. The high prevalence of some diseases with low complexity, as observed at the triage service of a tertiary hospital, partly reflects the lack of specialists and scarce resources in the primary and secondary Brazilian health system. Thus, we believe our findings can contribute to improving public health policies.\[a\]
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