Nosological profile in a dermatology referral center in the State of Amazonas - Brazil *

Perfil nosológico de centro de referência em dermatologia no estado do Amazonas - Brasil

Adriana Andrade Raposo[1]
José Carlos Gomes Sardinha[1]
Antônio Pedro Mendes Schettini[2]
Valderiza Lourenço Pedrosa[3]

Abstract: BACKGROUNDS: Fundaments: Skin diseases are associated wih high morbidity, low mortality and low rate of hospitalization. However, they can cause considerable interference in physical and emotional well-being of the individual. Several of them reach large population, requiring specific interventions for their control.
OBJECTIVE: To describe the frequency of skin disease diagnosed in the dermatology service in Manaus, capital of Amazonas State.
METHODS: We collected data on registered sex, age, origin and diagnostics for the first consultation of patients attended between January 2000 and December 2007.
RESULTS: Of the 56.024 recorded visits, we obtained 56.720 cases of dermatological diagnoses, being the most common sexually transmitted diseases (25,12%), allergic skin disesases (14,03%), unspecified dermatoses (13,01%), leprosy (6,34%) and acne, seborrhea and related diseases (5,05%). The frequency was similar for both sexes, aged 20-29 years predominated and Manaus the origin most reported.
CONCLUSIONS: The pattern of skin diseases identified in this study may serve as a baseline to managers of health system in the region develop strategies for prevention and control of dermatoses, with emphasis on sexually transmitted diseases, allergic skin diseases, leprosy and acne.
Keywords: Dermatology; Epidemiology; Sexually transmitted diseases; Skin; Skin diseases

Resumo: FUNDAMENTOS: As doenças de pele estão associadas a alta morbidade, baixa mortalidade e baixa proporção de hospitalização. Entretanto, podem causar considerável interferência no bem-estar físico e emocional do indivíduo. Várias delas atingem grandes contingentes populacionais, havendo necessidade de intervenções específicas para seu controle.
OBJETIVO: Descrever a frequência das dermatoses diagnosticadas em serviço de dermatologia na cidade de Manaus, capital do estado do Amazonas.
MÉTODOS: Coletaram-se dados registrados sobre sexo, idade, procedência e diagnósticos referentes à primeira consulta dos pacientes atendidos entre janeiro de 2000 e dezembro de 2007.
RESULTADOS: Das 56.024 consultas registradas, obtiveram-se 56.720 diagnósticos dermatológicos, sendo mais comuns as doenças sexualmente transmissíveis (25,12%), as dermatoses alérgicas (14,03%), as dermatoses não especificadas (13,01%), a hanseníase (6,34%) e acne, seborreia e afins (5,05%). A frequência foi semelhante para ambos os sexos, a faixa etária de 20-29 anos foi predominante e Manaus foi a procedência mais referida.
CONCLUSÕES: O padrão das doenças cutâneas identificadas neste estudo pode servir como linha de base para que gestores do sistema de saúde da região desenvolvam estratégias de prevenção e controle das dermatoses mais comuns, com ênfase nas doenças sexualmente transmissíveis, doenças cutâneas alérgicas, hanseníase e acne.
Palavras-chave: Dermatologia; Dermatopatias; Doenças sexualmente transmissíveis; Epidemiologia; Pele

Received on 26.04.2010.
Approved by the Advisory Board and accepted for publication on 08.08.2010.
* Work conducted at Alfredo da Matta Foundation (FUAM) - Manaus (AM), Brazil.
Conflict of interest: None / *Conflito de interesse: Nenhum*
Financial funding: None / *Suporte financeiro: Nenhum*

[1] (a) Dermatologist, Alfredo da Matta Foundation (FUAM) - Manaus (AM), Brazil.
[2] MSc in Tropical Pathology - Dermatologist, Alfredo da Matta Foundation (FUAM) - Manaus (AM), Brazil.
[3] Social worker specialized in epidemiology - Manager of the Department of Epidemiology and Disease Control, Alfredo da Matta Foundation (FUAM) - Manaus (AM), Brazil.

INTRODUCTION

The skin is the largest organ in the human body. Its extent and condition of external covering of the body allows an easy exposure to environmental aggression. In addition, several pathological processes in internal organs show skin manifestations. As a result, a large number of skin diseases is observed. In general, they are responsible for numerous visits to basic health units and are associated with high morbidity, low mortality and low rate of hospitalization.[1] However, they can cause considerable interference in the physical and emotional well-being of the individual, leading to stress, anxiety and depression. [2]

A study conducted in the UK found a prevalence rate of skin diseases of 22.5%, and eczema was most commonly found - 6.1% of cases. [3] In the United States, 36.5% of patients seen in a basic health unit had at least one skin disease, with an average of 2.3 skin diseases per patient. [4] In Bamako, the capital of Mali, it was identified that 11.7% of visits to specialized centers were due to skin diseases [5].

In Brazil, *Bechelli* found prevalence rates of skin diseases between 21 and 81% in a study conducted with school-age children in the area of Vale do Purus, in the state of Acre, in 1981. Talhari [6] *et al.,* from 1979 to 1982, detected 95,267 cases of skin diseases among 100,939 students in the state of Amazonas. [7] In 1985, Pizzol found that 30.5% of the diagnoses made ??by doctors in day care centers in the municipality of Viana, in the State of Espirito Santo, were of skin diseases. [8] In 2006, a census conducted by the Brazilian Society of Dermatology identified a total of 57,343 cases of skin diseases, with acne being the disorder most frequently observed. [9]

Due to this high frequency, knowledge about the pattern of skin diseases in a region has great relevance for the planning of health policies. Since these patterns can vary from one country to another and even within a single city, as they suffer influences of genetic, racial, nutritional, cultural, climatic, social and economic factors, there is a need for local studies. [10] The frequency of diseases in a region may be determined by large-scale population surveys, but these are difficult to conduct because they are time-consuming and expensive. [11] Studies in ambulatory and hospital services, despite not reflecting the exact situation of a disease in the community, provide indicators of the magnitude of the problem and can be used to develop strategies for its control. [10]

There are few published studies on the frequency of skin diseases in Northern Brazil. In a research conducted on February 22, 2010 on the website of the Virtual Health Library, using the keywords dermatosis, frequency and Brazil, 52 articles were identified, but none were related to skin diseases in this region. In Pubmed, using the search words skin disease, frequency and Brazil, 1433 references were identified on January 3, 2010. When the location was changed to the Brazilian Amazon, the number of references dropped to 18, and most works dealt with leishmaniasis.

The purpose of this study was to describe the frequency of skin diseases diagnosed in a specialized treatment center located in Manaus. The profile of the patients was identified in relation to gender, age and place of origin, and the results were compared with those of other studies in Brazil and abroad.

Manaus, capital of the state of Amazonas, is located in northern Brazil at the confluence of the rivers Negro and Solimoes. It has an area of 11,401 km^2 and is considered one of the gates to the largest tropical rainforest: the Amazon. Its climate is equatorial, hot and humid, with an average annual temperature of 27 °C, relative humidity around 80% and average rainfall of 2,300 mm per year. It has two seasons: rainy (winter) and dry or less rainy (summer). [12] Its population comprises 1,646,602 inhabitants (IBGE, 2007), [13] which makes it the eighth most populous city in Brazil. It accounts for 98% of the economy of the State of Amazonas and 55% of the economy of Northern Brazil. [12]

Alfredo da Matta Foundation (FUAM), located in Manaus, is the institution where this work was conducted. Inaugurated in 1955 with the purpose of providing outpatient care to patients diagnosed with leprosy, the foundation later expanded its services to assist patients with other skin and sexually transmitted diseases. [14] In conjunction with the Tropical Medicine Foundation and Araújo Lima Outpatient Clinic at the Federal University of Amazonas, Alfredo da Matta Foundation is one of the reference services in secondary health care specialized in dermatology.

MATERIAL AND METHODS

A descriptive, retrospective study was conducted evaluating the frequency of skin diseases diagnosed at Alfredo da Matta Foundation from January 2000 to December 2007.

Information was obtained from the database of the Bureau of Epidemiology and Disease Control of the Foundation, in the archives of the Notifiable Diseases Information System (SINAN) and the archives of the Enhanced Surveillance System for Sexually Transmitted Diseases (STD-SIVA). The medical records evaluated refer to the patient's first visit to the institution. Data on gender, age, place of origin and diagnosis were collected. Records showing

more than one diagnosis per patient were found.

In these databases, the skin diseases diagnosed belonged to the following groups: acne, seborrhea and associated diseases, alopecia, bullous diseases, atopic dermatitis, allergic skin diseases, autoimmune skin diseases, viral skin disorders, dermatozoonosis, dyschromias, hereditary diseases, metabolic diseases, sexually transmitted diseases (STDs), leprosy, leishmaniasis, lichens, subcutaneous and deep mycoses, superficial mycoses, nevi, pyoderma, psoriasis, pityriasis rosea, cutaneous tuberculosis and other atypical cutaneous mycobacterial diseases, benign tumors, malignant tumors, and other unspecified infectious and noninfectious skin diseases. The group of other infectious and noninfectious diseases corresponded to diagnosed diseases that did not fit in any of the groups mentioned. Unspecified dermatoses referred to diseases not diagnosed at first visit.

As for STDs, data refer only to cases of cutaneous involvement presented in the form of condyloma acuminatum, herpes simplex, candidiasis, chancroid, lymphogranuloma venereum, syphilis and donovanosis, thus excluding urethral, cervical, and vaginal discharge and HIV infection.

RESULTS

Throughout the study, 56,024 patients were seen and 56,720 dermatological diagnoses were recorded. Of this total, 51.68% were women and 48.32%, men.

The age range 20-29 years was the most frequent (26.17%), followed by patients aged 10-19 years (19.26%), 50 years old or older (17.21%), 30 to 39 years (14.74%) and 40 to 49 years (11.2%). We identified 5,396 children under 10 years of age, corresponding to 9.63% of first-time medical visits.

89.32% of the patients came from Manaus, 4.63% from municipalities in the interior of the state of Amazonas and a small group, 1.19%, from other states. In 4.86% of the cases there was no record of place of origin.

STDs were the most diagnosed group (25.12%), followed by allergic skin diseases (14.03%), unspecified skin diseases (13.01%), leprosy (6.34%), and acne, seborrhea and associated diseases (5.05%) (Table 1). The less frequent diseases were autoimmune skin diseases (0.83%), pityriasis rosea (0.54%), metabolic diseases (0.23%), bullous diseases (0.21%), subcutaneous and deep mycoses (0.16%), hereditary diseases (0.14%), and cutaneous tuberculosis and other atypical cutaneous mycobacterial diseases (0.06%).

Upon individually assessing the most frequent group in this study, that of STDs, we found that 14,071 patients were seen, with the same number of diagnoses recorded. Of these patients, 50.15% were men and 49.85%, women. The most frequent age range was that of young adults aged 20 to 29 years (46.02%), followed by children and adolescents aged 10 to 19 years (30.79%). As for place of origin, 90.34% of the patients reported coming from Manaus (Table 2).

Condyloma acuminatum was the most frequent diagnosis among STDs, affecting 53.48% of the patients, followed by herpes simplex (19.57%) and candidiasis (12.60%). Donovanosis was the least frequent, accounting for 0.06% of diagnoses (Table 3).

DISCUSSION

The higher incidence of STDs observed in this study differentiates it from other similar works, in which allergic skin diseases or acne [15,16,17 9] are more common. In other studies, there is a predominance of infectious and parasitic skin diseases, [5,18,19] but most of them exclude STDs from research. Since the service studied is a reference center for the treatment of STDs, this may have been bias that influenced the results found.

A survey conducted in 2005 in six Brazilian capital cities with men and women who sought treatment in STD clinics identified a prevalence rate of these diseases of 51.0%; 14.4% of the infections were of bacterial origin and 41.9%, of viral etiology. [20] Taking into account the fact that a proportion of infected individuals are asymptomatic and many symptomatic cases may go unnoticed by both patients and doctors, the magnitude of the problem may be greater. [21] STDs have great health importance because they may be related to cases of pelvic inflammatory disease, male and female infertility, cervical cancer, congenital and neonatal infections and increased risk of HIV infection. [20]

Among STDs, condyloma acuminatum was the most commonly diagnosed disease, occurring in 53.48% of the cases. This is in agreement with data from the literature. In the aforementioned study, [20] there was a high prevalence of HPV infection - 41.2% among men and women who sought care at STD clinics. When we considered only the results of Manaus, one of the six cities studied, the prevalence rate rose to 61.3%, the highest among these locations. [20] In another study conducted in Rio de Janeiro between 1998 and 2000, the prevalence rate of HPV DNA in women was 50.1%. [22] The relevance of this information increases when we recall that there are HPV subtypes that carry a high risk of carcinogenicity and are associated with the development of intraepithelial neoplasms.

Allergic skin diseases were the second most diagnosed illnesses; cases of atopic dermatitis were

Table 1: Frequency of dermatological diagnoses in patients treated from 2000 to 2007

Skin diseases	Frequency	%
Sexually transmitted diseases	14.071	25.12
Allergic skin diseases	7.861	14.03
Unspecified skin diseases	7.289	13.01
Leprosy	3.554	6.34
Acne, sebohrrea and associated diseases	2.829	5.05
Other infectious and non-infectious skin diseases	2.321	4.14
Dischromia	2.198	3.92
Malignant tumors	2.193	3.91
Benign tumors	1.887	3.37
Superficial mycosis	1.532	2.73
Leishmaniasis	1.469	2.62
Atopic dermatitis	1.459	2.60
Psoriasis	1.308	2.33
Viral skin diseases	1.063	1.90
Pyoderma	1.024	1.83
Alopecia	970	1.73
Dermatozoonosis	839	1.50
Líchens	837	1.49
Nevus	799	1.43
Autoimmune skin diseases	465	0.83
Pityriasis rosea	302	0.54
Metabolic diseases	128	0.23
Bullous diseases	119	0.21
Deep and subcutaneous mycosis	89	0.16
Hereditary diseases	80	0.14
Cutaneous tuberculosis and atypical cutaneous mycobacterial diseases	34	0.06
Total	56.720	

Table 2: Distribution in relation to gender, age, and place of origin of cases of sexually transmitted diseases from 2000 to 2007

Variables	Frequency (n = 14.071)	%
Gender		
Male	7.056	50.15
Female	7.015	49.85
Age (years)		
0-9	133	0.95
10-19	4.332	30.79
20-29	6.476	46.02
30-39	2.025	14.39
40-49	718	5.10
≥50	363	2.58
Sem registro	24	0.17
Place of origin		
Capital of Amazonas (Manaus)	12.712	90.34
Interior of Amazonas	785	5.58
Other States	512	3.64
No Record	62	0.44

not included in this group and were evaluated separately. In research conducted in South Africa, Saudi Arabia [15 16 17] and Greece, allergic skin diseases were the most common, identified with a frequency of 37%, 35.7% and 31.9% respectively, while in Iran and [18] Nigeria,[19] they were the second most common group, with 24.5% and 14% of the diagnoses. This has been associated with factors such as industrialization, increased use of chemicals in occupational and domestic environments, exposure to low quality products containing irritants and allergens, changes in diet, and extensive and uncontrolled use of drugs. [10, 19, 23] In Brazil, a study conducted at Santa Casa de Sao Paulo in 1977 showed the prevalence of eczematous dermatitits, which occurred in 30.25% of the reported cases. [24] Despite the high prevalence of this disease, there are no specific programs to treat allergic dermatitis as there are for STDs and leprosy.

The group of unspecified skin diseases is in third place, affecting 13.01% of the patients. In these patients, we could not establish the diagnosis of the disease in the first visit; therefore, additional tests and clinical monitoring are probably necessary.

Leprosy was fourth in frequency distribution, being diagnosed in 6.34% of the patients examined. Since FUAM is also a reference center for the treatment of this disease, this may explain why it was one of the most commonly recorded diagnosis. In 2007, 729 new leprosy cases were diagnosed in the state of Amazonas, out of which 372 (51.0%) were from Manaus, with a detection rate of 2.15 cases/10000 inhabitants, an index still considered very high. However, there has been a downward trend in this indicator, since in 1987 the detection rate of leprosy in Manaus was higher, with 9.06 cases/10000 inhabitants. [25]

Acne, seborrhea and associated diseases were the fifth most commonly treated diseases (5.05%). This could contrast with information from the Census of the Brazilian Society of Dermatology in 2006, in which acne was the most common disease (14%) [9] and with studies conducted in South Africa in 1999 and [15] in Saudi Arabia in 2000-2001, [16] in which acne was the second most common disorder, with 15.9% and 12.75% of the cases, respectively. However, it is important to mention that only patients with moderate to severe acne are treated in the foundation.

Malignant tumors were detected in 3.91% of the patients treated. In a work conducted by Hartshorne in 1999 in South Africa, 2.8% of the skin diseases identified corresponded to malignant tumors, [15] while in New Zealand in 1984, Oakley et al. showed that skin cancer was the primary skin disease treated in the public health care system, with 18.5% of cases. As for [26] benign tumors, they were diagnosed in 3.37% of visits, a rate close to that of malignant tumors.

Leishmaniasis was found in 2.62% of the

Table 3: Distribution in relation to the specific diagnosis of cases of sexually transmitted diseases from 2000 a 2007

Diagnosis	Frequency	%
Condyloma acuminatum	7.525	53.48
Herpes simplex	2.754	19.57
Candidiasis	1.773	12.60
Syphilis	1.586	11.27
Chancroid	350	2.49
Lymphogranuloma venereum	74	0.53
Donovanosis	09	0.06
Total	14.071	100.00

patients at first visit and, in order of frequency, it was the eleventh disease treated overall. This may be related to the fact that, in Manaus, the reference service for the treatment of leishmaniasis is located in another institution.

Atopic dermatitis was recorded in 2.60% of cases. Studies that consider atopic eczema as a common dermatosis are generally conducted with the pediatric population, such as a study carried out in Switzerland by Wenk *et al.* which showed that this was the most prevalent disease in this population, with 33.5% of cases. [27] There is a need for further studies in the city, especially among children, in order to determine the frequency and relevance of the disease.

Psoriasis occurred in 2.33% of the patients, similar to data from the literature which estimates that between 1-2% of the population in Germany, Britain and the United States are affected. [28] In contrast, studies conducted in New Zealand and [26] Australia [29] showed a higher frequency of psoriasis, 7.6% and 6.6% respectively, showing that there may be variations in this pattern.

The low frequency of dermatozoonosis, pyoderma, viral infections and superficial mycoses contrasts with data from studies in other countries, where infectious and parasitic skin diseases were the most frequently diagnosed skin diseases. [5,18,19] This may be related to the fact that the study in Manaus was conducted in a secondary health care service, and most patients with these diseases, considered simple, were referred to the primary care network for treatment. But this can also be related to the registration in databases that compute these diagnoses separately. When you add up all the results of groups of infectious and parasitic diseases reported separately, except for leprosy and sexually transmitted diseases, you get a total of 6,050 cases, representing 10.67% of visits; this group then becomes the fourth group of skin diseases most frequently diagnosed. Adding the group of STDs and leprosy, a total of 23,675 cases is obtained, accounting for 41.74% of cases, becoming the most common group of skin dermatosis, similar to what is found in several other studies. [5,8,18,19]

In comparison with other studies in the literature, there were many variations in the results of the frequency of skin diseases in cities throughout Brazil and abroad, depending on where these studies were conducted, whether they were carried out in primary or specialized health care services and on the methodology for the classification of the diseases studied. Some excluded STDs and leprosy, for example. However, it is emphasized that in most of these studies, [15,16,17] allergic skin diseases, infectious and parasitic skin diseases, and acne [5,8,18,19 9, 15, 16] are among the three most common causes of dermatologic care. There was a similar result in the present study.

CONCLUSION

The frequency of dermatologic diseases and the profile of the patients analyzed in this study allow us to conclude that:

STDs, allergic skin diseases, unspecified skin diseases, leprosy, and acne, seborrhea and associated diseases were the five most diagnosed groups. Among STDs, condyloma acuminatum was the most frequently diagnosed dermatosis.

The five groups that were least diagnosed were metabolic diseases, bullous diseases, subcutaneous and deep mycoses, hereditary diseases, cutaneous tuberculosis and atypical cutaneous mycobacterial diseases.

There was a similar frequency in both sexes; the age range 20-29 years was the most commonly affected and most patients reported Manaus as their place of origin.

Data from the literature, despite variability in relation to the most common diagnoses, show that infectious and parasitic diseases, allergic skin diseases and acne are usually among the most commonly found, similar to what was identified in this study. With regard to STDs and leprosy, this comparison is more difficult because, in many studies, they were excluded from evaluation.

With this study it can be stated that STDs, especially condyloma acuminatum, allergic skin diseases, leprosy and acne are a major public health issue in Manaus, predominantly affecting young and economically active individuals.

These results may serve as a baseline for health system managers to develop strategies for the prevention and control of skin diseases in the region, with particular emphasis on sexually transmitted diseases, allergic skin diseases, leprosy and acne. ❑

REFERENCES

1. Grob JJ, Stern RS, Mackie RM, Weinstock WA. Epidemiology, Causes and Prevention of Skin Diseases. Londres: Blackwell; 1997.
2. Koenig TW, Garnis-Jones S, Rencic A, Tausk F. Psychological aspects of skin diseases. In: Freedberg IM, Eisen AZ, Wolff K, Austen KF, Goldsmith LA, Katz SI. Fitzpatrick's Dermatology in general medicine. 6th ed. New York :McGraw-Hill; 2003. p.389-98.
3. Rea JN, Newhouse ML, Halil T. Skin disease in Lambeth. A comunity study of prevalence and use of medical care. Br J Prev Soc Med. 1976;30:107-14.
4. Lowell BA, Froelich CW, Federman DG, Kirsner RS. Dermatology in primary care: Prevalence and patient disposition. J Am Acad Dermatol. 2001;45:250-5.
5. Mahé A, N'Diaye HT, Bobin P. The proportion of medical consultations motivated by skin diseases in health centers of Bamako (Republic of Mali). Int J Dermatol. 1997;36:185-6.
6. Bechelli LM, Haddad N, Pimenta WP, Pagnano PM, Melchior E Jr, Fregnan RC, et al. Epidemiological Survey of Skin Diseases in Schoolchildren Living in Purus Valley (Acre State, Amazonia, Brazil). Dermatologica. 1981;163: 78-93.
7. Talhari S, Torrecila MAA, Talhari A. A study of leprosy and other skin diseases in school children in the state of Amazonas, Brazil. Lepr Rev. 1987;58:233- 7.
8. Pizzol JL. Incidência de Dermatoses em Crianças de Zero a Seis Anos de Idade no Município de Viana - Espírito Santo - no Ano de 1985. An Bras Dermatol.1988;63:15-7.
9. Sociedade Brasileira de Dermatologia. Perfil nosológico das consultas dermatológicas no Brasil. An Bras Dermatol. 2006;81:549-58.
10. Ogunbiyi AO, Daramola OOM, Alese OO. Prevalence of skin diseases in Ibadan, Nigeria. Int J Dermatol. 2004;43:31-6.
11. Goh CL, Akarapanth R. Epidemiology of skin disease among children in a referral skin clinic in Singapore. Pediatr Dermatol. 1994;11:125-8.
12. Manaus.am.gov [internet]. Prefeitura de Manaus. Nossa cidade - informações gerais. [Acesso: 18 Abr. 2009]. Disponível em: http://www.manaus.am.gov.br/culturaeturismo/nossa-cidade/informacoes-gerais
13. Ibge.gov [internet]. Instituto Brasileiro de Geografia e Estatística. Contagem da população 2007. [Acesso: 17 Abr. 2009]. Disponível em: http://www.ibge.gov.br/cidadesat/xtras/ perfil.php? codmun=130260&r=1.
14. Fuam.am.gov [internet]. Fundação Alfredo da Matta. Histórico. [Acesso: 9 Dez. 2009]. Disponível em: http://www.fuam.am.gov.br/pagina interna.php?cod=3.
15. Hartshorne ST. Dermatological disorders in Johannesburg, South Africa. Clin Exp Dermatol. 2003;28:661-5.
16. Shelleh HH, Al-Hatiti HS. Pattern of skin diseases in a hospital in Southwestern Saudi Arabia. Saudi Med J. 2004;25:507-10.
17. Symvoulakis EK, Krasagakis K, Komninos ID, Kastrinakis I, Lyronis I, Philalithis A, et al. Primary care and pattern of skin diseases in a Mediterranean island. BMC Fam Pract. 2006;7:6.
18. Baghestani S, Zare S, Mahboobi A. Skin disease patterns in Hormozgan, Iran. Int J Dermatol. 2005;44:641-5.
19. Onayemi O, Isezuo SA, Njoku CH. Prevalence of different skin conditions in an outpatients' setting in north-western Nigeria. Int J Dermatol. 2005;44:7-11.
20. Ministério da Saúde, Secretaria de Vigilância em Saúde, Programa Nacional de DST e Aids. Prevalências e freqüências relativas de Doenças Sexualmente Transmissíveis (DST) em populações selecionadas de seis capitais brasileiras, 2005. Brasília: Ministério da Saúde; 2008. 224 p.
21. Carret MLV, Fassa AG, Silveira DS, Bertoldi AD, Hallal PC. Sintomas de doenças sexualmente transmissíveis em adultos: prevalência e fatores de risco. Rev Saúde Pública. 2004;38:76-84.
22. Carvalho MO, Carestiato FN, Perdigão PH, Xavier MP, Silva K, Botelho MO, et al. Human papillomavirus infection in Rio de Janeiro, Brazil: a retrospective study. Braz J Infect Dis. 2005;9:398-404.
23. Naafs B. Allergic skin reaction in the tropics. Clin Dermatol. May-Jun 2006;24:158- 67.
24. Zaitz C, Proença NG, Ferreira AM, Arns VL. Estatísticas do Ambulatório de Dermatologia da Santa Casa de São Paulo (1977). An Bras Dermatol. 1979;54:311-24.
25. Secretaria Estadual de Saúde. Fundação Alfredo da Matta. Boletim Epidemiológico 2007.
26. OakleyA, Hannan S, Hodge L. Aspects of dermatology practice in Auckland. N Z Med J. 1986;99:193-6.
27. Wenk C, Itin PH. Epidemiology of pediatric dermatology and allergology in the region of Aargau, Switzerland. Pediatric Dermatology. 2003;20:482-7.
28. Consenso Brasileiro de Psoríase e Guias de Tratamento. Rio de Janeiro: Sociedade Brasileira de Dermatologia; 2006. p.16.
29. Plunkett A, Merlin K, Gill D, Zuo Y, Jolley D, Marks R. The frequency of common nonmalignant conditions in adults in central Victoria, Australia. Int J Dermatol. 1999;38:901-8.

MAILING ADDRESS / ENDEREÇO PARA CORRESPONDÊNCIA:
Adriana Andrade Raposo
Rua 21, nº 646 - Parque 10, Conjunto Castelo Branco
69055-390 Manaus – AM
E-mail: big@argo.com.br

How to cite this article/*Como citar este artigo*: Raposo AA, Schettini APM, Sardinha JCG, Pedrosa VL. Nosological profile in a dermatology referral center in the state of Amazonas - Brazil. An Bras Dermatol. 2011;86(3):463-8.