

## Cutaneous disorders in the “bairro Inhamudima” of Beira, Mozambique

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### Abstract

**Background** There are no reliable data on the prevalence of skin diseases in Mozambique.

**Aim** To address this issue and to apply the findings to the dermatology teaching program at the Universidade Católica de Moçambique.

**Methods** Medical students attempted to identify the most common skin disorders in the “bairro Inhamudima” of Beira, Mozambique by conducting a population survey. During a 3-month period, the students visited families in a slum area. Information on gender, age, human immunodeficiency virus status, cutaneous abnormalities, diagnosis, treatment, and clinical course was recorded.

**Results** Eleven per cent of the study population suffered from cutaneous disease. More than half the patients (57%) sought medical assistance, but 39% could not be diagnosed by the medical students. The most common disorder was scabies. Other problems included fungal infections, viral infections, allergies, and dermatitis with or without secondary bacterial infection.

**Conclusions** There is a major dermatologic need in the slum areas of Beira, Mozambique. The dermatology teaching program should pay particular attention to training in the diagnosis and management of infections and infestations.

### Introduction

Medical education at the Universidade Católica de Moçambique (UCM), Beira, Mozambique takes 6 years. The first 4 years are preclinical, and students work as interns at the Hospital Central da Beira during the final 2 years. The medical school was founded in 2000, and the first students will have finished their training in 2007.<sup>1</sup> UCM in Beira applies the “Problem and Project Based Learning” methodology. There is no dermatologist in Beira. Dermatology training is provided by Dutch “visiting dermatologists.” The curriculum is still being developed and adapted. Didactic dermatology education is presented in the third year, including instruction in common outpatient cutaneous problems. The list of diseases (Table 1) covered in these lectures is selected by a Cuban dermatologist who previously worked in Beira.

In 2005, students conducted a pilot study on 62 patients to assess the prevalence of skin diseases in a slum area adjacent to UCM. In almost one-half of cases (47%), no dermatologic diagnosis was made. The most common diagnosis was scabies (24%). Various treatments were prescribed, and seven patients did not receive any treatment. In 25 patients, the type of treatment could not be verified. Although 15 patients had a diagnosis of scabies, only five received appropriate therapy. It is probable that many patients were

treated incorrectly. These results motivated the students to proceed with a population survey.

### Methods

The programme of “saúde familiar” (family health) is part of the standard educational curriculum of UCM. During visits to “bairro” homes, students share their knowledge about disease prevention, basic hygiene, and community health with families. The “bairro” is located just behind the medical facility. It lacks a sewage system and garbage collection, and most of the families do not have electricity or running water. Each student visited three families (designated by the “bairro” chief in Inhamudima) on three occasions. The period between family visits varied from 2 to 4 weeks. The objective was to gather information about skin problems, gender, age, human immunodeficiency virus (HIV) status, medical service provider, dermatologic diagnosis, treatment (if any), and clinical course.

### Results

The 115 students who conducted the survey visited a total of 345 families. The study population consisted of 539 (51%) females (infancy to 80 years) and 527 (49%) males (infancy

**Table 1** Dermatology education in Beira

<b>Infections and infestations</b>
• Scabies
• Various fungal infections
• Candidiasis
• Pityriasis versicolor
• Impetigo
• Folliculitis
• Leprosy
• Sexually transmitted diseases
Nongonococcal urethritis
Gonorrhea
LGV
Syphilis
Chancroid
• Viral infections and viral-related dermatoses
Condylomata acuminatum
Herpes zoster
Herpes simplex
Papular pruritic eruption
Kaposi's sarcoma
Molluscum contagiosum
<b>Dermatitis</b>
• Atopic eczema
• Seborrheic dermatitis
• Pityriasis alba
<b>Drug eruptions</b>
<b>Miscellaneous</b>
• Acropustulosis of infancy
• Vitiligo
• Lichen planus
• Psoriasis

**Table 2** Cutaneous diagnoses in Beira

Diagnosis	Number of cases	Percentage
Unknown	72	39
Scabies	65	35
Mycotic infection	13	7
Allergy	7	4
Viral	5	3
Ulcer	5	3
Eczema	4	2
Abscess	2	1
Bacterial infection	2	1
Elephantiasis	1	1
Kaposi's sarcoma	1	1
Keloid	1	1
Vitiligo	1	1
Other	5	3

to 82 years). The average age was 21 years (females, 21 years; males, 21 years), which is representative of the mean age in a typical African developing country; 43% of the population is aged under 15 years, 15% under 5 years, and only 7% 50 years or older. The overall response rate was 73%, with

**Table 3** Type of medical service provider

<b>Medical service</b>	<b>76</b>
Central Hospital – Hospital Central da Beira	44
Health center	19
Universidade Católica de Moçambique clinic	13
<b>Other</b>	<b>101</b>
Home	34
Traditional doctor	2
None	65

251 of the 345 questionnaires returned. One hundred and seventy-seven patients reported some type of skin problem (Table 2). The prevalence of skin disorders (cases/1000 people), calculated from the number of cases found during the first visit (99/1634), was 61. The incidence (new cases per month/1000 people) was approximately 32 (78 new cases in 6 weeks in a study population of 1634). Eleven per cent (177/1634) of the study population had a skin disorder. There were 109 female patients (age, infancy to 70 years; average, 18 years) and 68 male patients (age, infancy to 72 years; average, 15 years). The age was not recorded in seven cases. These 177 patients had a total of 184 skin problems. In 27 cases, the diagnosis was not disclosed to the patient, not recalled, or the medical staff were unable to make a diagnosis. These 27 undetermined diagnoses were most often made by physicians (seven) and nurses (six). The undetermined diagnoses were found in a variety of settings, including 10 in the central hospital of Beira, seven in a health center, one in the university clinic, and seven at home. The most common skin disease was scabies (35%), followed by mycotic infection (7%).

Seventy-six people consulted a medical service provider (Table 3). Most patients (57%) did not seek medical advice. Thirty-four people consulted a relative or friend, or asked the medical student for advice during a home visit. Two people went to a “traditional doctor.” Sixty-five subjects did not consult anyone regarding their skin problems.

The treatments (or lack thereof) are summarized in Table 4. Antimicrobials and antimycotics were often prescribed inappropriately. For example, antimicrobials were prescribed for 60% of viral infections.

Patients were asked about the course of their skin problems (Table 5), but this information was not reported in 25 cases. Treatment outcome could not be determined in eight cases, because of an insufficient observation time. During the 3-month study period, skin problems improved in 21 patients and resolved in 14. There was a deterioration of skin disease in 13 patients.

## Discussion

The aim of our study was to determine the types and number of skin diseases in Beira through a survey performed by

**Table 4** Treatment of cutaneous diseases in Beira

Number of cases	Diagnosis	Treatment	Number treated
72	Undetermined	None	44
		Undetermined	11
		Antimicrobials	10
		Traditional	5
		Corticosteroid	5
		Other	5
65	Scabies	Antiscabetic	24
		None	20
		Undetermined	5
		Hygiene	12
		Corticosteroid	4
		Antimycotics	5
		Antimicrobials	5
		Other	5
		Antimycotics	8
13	Mycosis	None	3
		Undetermined	1
		Paracetamol	1
		Antiscabetic	1
		Corticosteroid	1
7	Allergy	None	5
		Paracetamol	2
		Multivitamins	4
		Other	2
5	Viral	Antiviral	1
		Antimicrobials	3
		Aspirin	1
		Other	1
4	Dermatitis	Antimycotic	1
		Hygiene	1
		Undetermined	1
2	Bacterial infection	Antimicrobials	2
5	Ulcer	None	3
		Undetermined	1
2	Abscess	Hygiene	2
1	Elephantiasis	None	1
1	Kaposi's sarcoma	None	1
1	Keloid	None	1
1	Vitiligo	Sun protection	1
5	Other	None or undetermined	5

medical students, and to incorporate the experience into the dermatology teaching program at the Universidade Católica de Moçambique. Participating students became familiar with the research process. The “bairro” inhabitants are poor, worry more about shelter and food than their health, and typically lack money to seek help for dermatologic problems. Their educational level is low, and they have limited knowledge about skin diseases. Almost all dermatologic conditions are described as “comichão” (itch) and “borbulhas” (blisters). Patients and students were asked to describe the cutaneous disorders; however, these descriptions were of such poor quality that it was not possible to base a

**Table 5** Duration and course of skin problems

Status	Number	Percentage
Undetermined	25	14
Less than 1 week	10	6
1 week to 1 month	6	3
1–3 months	23	13
3–6 months	25	14
6 months to 1 year	1	1
More than 1 year	15	8
Resolved	14	8
Improved	21	12
Treatment ongoing	8	5
Recurred	16	9
Deteriorated	13	7

diagnosis on the information. In 39% of the study population, the skin disorder could not be diagnosed by the students. Only fourth-year students had received a dermatology education, and they were able to make a diagnosis in some cases. Medical staff often lack training in dermatology. Many patients do not receive any treatment for their skin disorders, and those who do are often treated inappropriately. Thus, many skin problems persist or recur. Furthermore, unnecessary treatment with antimicrobials or corticosteroids results in unintended adverse effects.

Scabies is so common in the community that it is accepted as a part of life. Although scabies is easy and inexpensive to treat, it is often left alone. The prevalence of HIV infection is 16% in Mozambique, but 33% in Beira. HIV impacts on the average life expectancy (40 years) of the population. There are many HIV-associated skin disorders, and patients with these conditions require special attention.<sup>2</sup> Leprosy is common in Mozambique, especially in the Northern provinces; in the year 2005, almost 5000 new cases were diagnosed nationwide.<sup>3,4</sup> Leprosy may lead to serious deformations and disabilities, and therefore is an important part of dermatology teaching.

Dermatologic disorders are common in Mozambique, affecting males and females of all ages. Cutaneous infections represent the majority of skin problems. Many patients remain undiagnosed and many do not receive adequate treatment. The dermatology training program should pay particular attention to education concerning infections and infestations. We conclude that there is a major unmet dermatologic need in Beira.

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### Conflicts of interest

The authors have declared no conflicts of interest.

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