


Prison Dermatoses in Ouahigouya, Burkina Faso: Prevalence, Clinical Profiles, and Associated Factors

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Abstract

Introduction: Dermatoses in prison settings represent a neglected public health issue, particularly in low-resource countries. No data were available regarding the dermatological profile of inmates at the Ouahigouya Prison and Correctional Facility (MACO). This study aimed to determine the prevalence, clinical patterns, and associated factors of dermatoses in this population.

Methods: A cross-sectional study was conducted from December 16 to 18, 2019, among 149 inmates out of the 168 present at MACO. A complete dermatological examination was performed by a dermatologist. Sociodemographic data, detention conditions, and hygiene practices were collected. Statistical analyses were performed using Fisher's exact test (significance threshold $p < 0.05$). **Results:** The overall prevalence of dermatoses was 53.0%. The population was predominantly male (98.7%), young (mean age 29.9 years), with a low educational level (53.2% unschooled), and mainly working in the informal sector (91.1%). Twenty-six distinct conditions were identified. Inflammatory dermatoses (36.7%) were the most frequent, mainly acne (31.6% of inmates). Infectious skin diseases accounted for 34.2% of cases, with mycoses being predominant (pityriasis versicolor: 17.7%). Parasitic dermatoses, including scabies, were uncommon (2.5%). A significant association was found between acne and the 20 - 29 age group ($p < 0.01$), as well as with the frequency

of two daily showers ($p = 0.04$). The distribution of dermatoses varied significantly according to the detention cell ($p < 0.01$). Therapeutic abstention was chosen in 59.1% of cases. **Conclusion:** This study highlights a high prevalence of dermatoses in the prison setting of Ouahigouya, influenced by socioeconomic, environmental, and demographic factors. An integrated approach, including screening, improved hygiene, access to medical care, and better living conditions, is essential for skin health and the well-being of prisoners.

Keywords

Dermatoses, Prison Setting, Prevalence, Associated Factors, Burkina Faso, Prison Health

1. Introduction

Dermatoses in prison settings represent a major yet often neglected public health issue, particularly in low-resource countries. Overcrowding, poor hygiene conditions, and limited access to health care contribute to their occurrence and dissemination [1]-[4]. Beyond their impact on physical health, skin disorders significantly impair the quality of life and the psychological well-being of inmates.

Epidemiological studies have reported variable prevalence rates, ranging from 23% in France [5] to over 70% in certain West African contexts [6] [7]. Recent data confirm the magnitude of the problem: a study conducted in a correctional facility in southern Nigeria reported an overall prevalence of 88.9%, with scabies accounting for 71.8%, along with other infectious and parasitic dermatoses [8]. A recent systematic review and meta-analysis further highlighted the global burden of scabies in prison populations, with a pooled prevalence of 6.57% (95% CI: 2.16 - 19.94), showing marked geographic disparities: 19.55% (95% CI: 9.44 - 40.45) in Africa versus 1.57% (95% CI: 0.77 - 3.19) outside Africa [9].

In Burkina Faso (BFA), a sharp increase in the prison population, combined with overcrowding, creates a favorable environment for the emergence and transmission of dermatoses [10]. In Ouagadougou, a study reported that 55.6% of prisoners at the central prison were affected by dermatoses [11]. Another survey conducted in the country's two largest prisons ranked skin diseases as the second most frequent category of illnesses (17.6%), after digestive disorders [12].

However, to the best of our knowledge, no data have been available regarding the dermatological profile of inmates at the Ouahigouya Prison and Correctional Facility (MACO). This study, therefore, aims to fill this gap by determining the prevalence, types, and associated factors of dermatoses in this specific prison population.

2. Materials and Methods

2.1. Study Setting and Design

A cross-sectional study with prospective data collection was conducted from De-

ember 16 to 18, 2019, at the Ouahigouya Prison and Correctional Facility (MACO). Established in 1966, this penitentiary institution housed 168 prisoners at the time of the study, distributed across three separate units according to sex and age: an adult male unit (comprising five cells, numbered 1 to 5), an adult female unit (one cell, no. 6), and a juvenile unit (one cell, no. 7).

2.2. Study Population and Sampling

All prisoners present during the study period who provided informed consent were included. Prisoners who were absent (e.g., for court hearings) were excluded. Thus, an exhaustive sampling approach was adopted.

2.3. Data Collection

Each participant underwent a structured interview and a complete dermatological examination performed by an experienced dermatologist, assisted by five medical students and two nurses. Data collected included sociodemographic characteristics, detention conditions, hygiene practices (such as bathing frequency), and dermatological findings. Diagnoses were established based on clinical criteria. Appropriate management was offered according to the identified condition and its severity.

2.4. Data Analysis

Data were entered and analyzed using Excel 2019 and R software (version 4.3.0). Qualitative variables were described as counts and percentages (%), while quantitative variables were expressed as means and standard deviations. Fisher's exact test was used to assess associations between dermatoses and categorical variables, given the modest sample size and expected counts sometimes below 5. For inmates presenting with multiple dermatoses, each condition was analyzed independently. The significance threshold was set at $p < 0.05$.

2.5. Ethical Considerations

The study was approved by the institutional medical board as well as by judicial and prison authorities (authorization no. 2019-426CAO/TGI-OHG/PF). Written informed consent was obtained from each participant after a detailed explanation of the study objectives and procedures. Anonymity and confidentiality of data were strictly maintained throughout the study.

3. Results

3.1. Sociodemographic Characteristics of Inmates at the Ouahigouya Prison and Correctional Facility

Of the 168 prisoners present at MACO during the study period, 149 were included, yielding a participation rate of 88.7%. Among them, 79 presented with at least one dermatological condition, corresponding to an overall prevalence of 53.0%.

The study population was predominantly male (98.7%), with a mean age of 29.9 \pm 8.4 years (range: 10 - 60 years). The 20 - 29-year age group was the most represented (53.2%). More than half of the inmates (53.2%) had no formal education, and 21.5% had only primary-level education. Regarding occupation, the vast majority were informal sector workers (91.1%), mainly farmers (24.1%), traders (19.0%), and artisanal gold miners (16.5%). None of the prisoners had ever received a dermatological consultation prior to incarceration, and 96.2% reported no history of skin disease. The sociodemographic characteristics of prisoners are presented in **Table 1**.

Table 1. Sociodemographic characteristics of prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019 (N = 79).

| Sociodemographic characteristics | Number (n) | Percentage (%) |
|------------------------------------|------------|----------------|
| Age (years) | | |
| [10 - 20[| 3 | 3.8 |
| [20 - 30[| 42 | 53.2 |
| [30 - 40[| 23 | 29.1 |
| [40 - 50[| 8 | 10.1 |
| [50 - 60] | 3 | 3.8 |
| Education level | | |
| Not enrolled in school | 42 | 53.2 |
| Elementary school | 17 | 21.5 |
| Middle school | 19 | 24.1 |
| High school | 1 | 1.3 |
| Socio-professional category | | |
| Farmer | 19 | 24.1 |
| Merchant | 15 | 19.0 |
| Gold miner | 13 | 16.5 |
| Laborer | 11 | 13.9 |
| Breeder | 6 | 7.5 |
| Civil servant | 3 | 3.8 |
| Transporter | 3 | 3.8 |
| Unemployed | 2 | 2.5 |
| Pupil/Student | 2 | 2.5 |
| Butcher | 2 | 2.5 |
| Tailor | 1 | 1.3 |
| Scrap metal dealer | 1 | 1.3 |
| Sex worker | 1 | 1.3 |

3.2. Detention Conditions and Symptomatology of Prisoners at the Ouahigouya Prison and Correctional Facility

The mean duration of incarceration was 17.1 months (range: 1 - 144 months), with 54.4% of prisoners incarcerated for less than one year. Most inmates (73.4%) were concentrated in cells 1 (41.8%) and 2 (31.6%). Regarding personal hygiene, 69.7% reported taking two showers per day.

The majority of prisoners (78.5%) presented with a single dermatological condition. Only 26.6% reported subjective symptoms, with pruritus being the most common (8.9%). The conditions of detention and functional symptoms are summarized in **Table 2**.

Table 2. Distribution of prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019, according to detention conditions and clinical symptoms (N = 79).

| Housing conditions/Functional signs | Number (n) | Percentage (%) |
|--|------------|----------------|
| Detention conditions | | |
| Cell number | | |
| Cell 1 | 33 | 41.8 |
| Cell 2 | 25 | 31.6 |
| Cell 3 | 8 | 10.1 |
| Cell 4 | 8 | 10.1 |
| Cell 5 | 3 | 3.8 |
| Cell 6 | 1 | 1.3 |
| Cell 7 | 1 | 1.3 |
| Number of daily baths | | |
| 1 | 11 | 13.9 |
| 2 | 55 | 69.7 |
| 3 | 13 | 16.4 |
| Number of skin diseases per prisoners | | |
| 1 | 62 | 78.5 |
| 2 | 14 | 17.7 |
| 3 | 2 | 2.5 |
| 4 | 1 | 1.3 |
| Functional signs | | |
| Pruritus | 7 | 8.9 |
| Pain/Hypersensitivity | 5 | 6.3 |
| Skin rash | 4 | 5.0 |
| Change in skin color | 3 | 3.8 |
| Nail damage | 1 | 1.3 |
| Swelling | 1 | 1.3 |
| None | 58 | 73.4 |

3.3. Diagnostic Profiles of Dermatoses Identified among Prisoners

In all, 26 distinct skin conditions were identified and grouped into five categories. **Figure 1** shows a case of lip vitiligo. It is a well-defined, irregularly shaped depigmented patch located on the lower lip and adjacent skin area. **Figure 2** shows genital fixed pigmented erythema. It is a single, well-defined patch of purple-brown coloration located in the inguinal-genital region, corresponding to the pigmented phase of a fixed pigmented erythema. **Figure 3** shows a case of pityriasis versicolor. These are multiple macules and fine hypopigmented patches, finely scaly, oval in shape, converging in patches on the trunk. These three photos provide a representative overview of the skin conditions observed in prisoners.

Inflammatory dermatoses were the most common (36.7%), followed by infectious skin diseases (34.2%) and tumoral/genodermatoses (29.1%).

Acne was the most frequent condition (31.6% of prisoners), representing 86.2% of inflammatory dermatoses. Pityriasis versicolor (17.7%) and palmoplantar hyperhidrosis (11.4%) were the next most common. Among infectious dermatoses, fungal infections accounted for 74.1% of cases, with pityriasis versicolor predominating. Parasitic dermatoses, including scabies, were rare (2.5%). The diagnostic profile of the identified dermatoses is detailed in **Table 3**.

Table 3. Distribution of prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019, according to diagnostic categories (N = 79).

| Pathological groups | Etiologies | Number (n) | Percentage (%) |
|--|--------------------------------|------------|----------------|
| Inflammatory skin conditions | Acne | 25 | 31.6 |
| | Eczema | 2 | 2.5 |
| | Fixed pigmented erythema | 1 | 1.3 |
| | Eczematous dermatitis | 1 | 1.3 |
| Infectious skin diseases | | | |
| Mycosics | Pityriasis versicolor | 14 | 17.7 |
| | Onychomycose | 4 | 5.1 |
| | Dermatophytie | 2 | 2.5 |
| Viral | Cold sore | 2 | 2.5 |
| | Myrmeciasis | 2 | 2.5 |
| Ectoparasitic | Scabies | 2 | 2.5 |
| Bacterial | Folliculitis | 1 | 1.3 |
| Tumor dermatoses and genodermatoses | Keloid | 8 | 10.1 |
| | Nevus | 6 | 7.6 |
| | Lipoma | 4 | 5.1 |
| | Cyst | 4 | 5.1 |
| | Bourneville tuberous sclerosis | 1 | 1.3 |
| Autoimmune dermatosis | | 1 | 1.3 |

Continued

| | | | |
|-------|------------------------------|---|------|
| Other | Palmar-plantar hyperhidrosis | 9 | 11.4 |
| | Keratosis | 3 | 3.8 |
| | Cutaneous xerosis | 2 | 2.5 |
| | Benign exfoliative glossitis | 2 | 2.5 |
| | Guttate hypomelanosis | 2 | 2.5 |
| | Pruritus nu | 1 | 1.3 |



Source: MAC Ouahigouya.

Figure 1. Lip vitiligo.



Source: MAC Ouahigouya.

Figure 2. Genital fixed pigmented erythema.



Source: MAC Ouahigouya.

Figure 3. Pityriasis versicolor.

3.4. Factors Associated with the 10 Most Common Dermatoses

A significant association was found between age and acne ($p < 0.01$), with a marked predominance in the 20 - 29-year age group (64.0% of cases). The factors associated with the 10 most common skin diseases according to age are presented in **Table 4**.

Table 4. Factors associated with the 10 most common dermatoses among prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019, according to age group (N = 79).

| Skin diseases | Age groups in years (n) | | | | | p value |
|------------------------------|-------------------------|-----------|-----------|-----------|-----------|---------|
| | [10 - 20[| [20 - 30[| [30 - 40[| [40 - 50[| [50 - 60] | |
| Acne | 2 | 16 | 5 | 1 | 1 | <0.00 |
| Pityriasis versicolor | 1 | 9 | 3 | 1 | 0 | 0.06 |
| Palmar-plantar hyperhidrosis | 0 | 5 | 4 | 0 | 0 | 0.10 |
| Keloid | 0 | 5 | 2 | 1 | 0 | 0.35 |
| Nevus | 0 | 3 | 2 | 1 | 0 | 0.72 |
| Lipoma | 0 | 1 | 2 | 1 | 0 | 0.66 |
| Onychomycosis | 0 | 3 | 0 | 1 | 0 | 0.22 |
| Cyst | 0 | 1 | 2 | 0 | 1 | 0.49 |
| Keratosis | 0 | 1 | 1 | 1 | 0 | 0.94 |
| Scabies | 0 | 0 | 0 | 1 | 1 | 0.15 |

No significant association was found with educational level, although a trend was observed toward higher prevalence among inmates with no schooling or only primary education. The factors associated with the 10 most common skin diseases according to level of education are presented in **Table 5**.

Table 5. Factors associated with the 10 most common dermatoses among prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019, according to educational level (N = 79).

| Skin diseases | Level of education (n) | | | p value | |
|------------------------------|------------------------|-------------------|---------------|---------|-------------|
| | Not enrolled in school | Elementary school | Middle school | | High school |
| Acne | 14 | 5 | 6 | 0 | 0.11 |
| Pityriasis versicolor | 8 | 2 | 4 | 0 | 0.52 |
| Palmar-plantar hyperhidrosis | 3 | 4 | 2 | 0 | 0.36 |
| Keloid | 3 | 2 | 3 | 0 | 0.84 |
| Nevus | 3 | 2 | 1 | 0 | 0.75 |
| Lipoma | 2 | 0 | 1 | 1 | 0.27 |
| Onychomycosis | 3 | 0 | 1 | 0 | 0.30 |
| Cyst | 3 | 0 | 1 | 0 | 0.30 |
| Keratosis | 3 | 0 | 0 | 0 | 0.20 |
| Scabies | 2 | 0 | 0 | 0 | 0.49 |

A significant association was identified between bathing frequency and certain dermatoses: taking two showers per day was associated with acne ($p = 0.04$), while three or more daily showers were associated with lipomas ($p = 0.01$). No association was observed between bathing frequency and infectious dermatoses. The factors associated with the 10 most common skin diseases according to frequency of showering are presented in **Table 6**.

Table 6. Factors associated with the 10 most common dermatoses among prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019, according to daily bathing frequency (N = 79).

| Skin diseases | Number of showers per day (n) | | | p value |
|------------------------------|-------------------------------|----|---|---------|
| | 1 | 2 | 3 | |
| Acne | 4 | 16 | 5 | 0.04 |
| Pityriasis versicolor | 2 | 10 | 2 | 0.39 |
| Palmar-plantar hyperhidrosis | 2 | 6 | 1 | 0.90 |
| Keloid | 1 | 6 | 1 | 0.24 |
| Nevus | 0 | 6 | 0 | 0.10 |
| Lipoma | 0 | 1 | 3 | 0.01 |
| Onychomycosis | 0 | 3 | 1 | 0.57 |
| Cyst | 0 | 4 | 0 | 0.13 |
| Keratosis | 0 | 2 | 1 | 0.42 |
| Scabies | 1 | 0 | 1 | 0.18 |

The distribution of dermatoses varied significantly by cell. Cells 1 and 2 accounted for the majority of cases of acne ($p < 0.01$), pityriasis versicolor ($p = 0.01$),

palmoplantar hyperhidrosis ($p < 0.01$), keloids ($p < 0.01$), and keratosis ($p = 0.04$). Onychomycosis was present in cells 1 and 2 but showed a significant association with cell 5 ($p < 0.01$). The factors associated with the 10 most common skin diseases according to cell number are presented in **Table 7**.

Table 7. Factors associated with the 10 most common dermatoses among prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019, according to cell number (N = 79).

| Skin diseases | Cell numbers (n) | | | | | | | p value |
|------------------------------|------------------|----|---|---|---|---|---|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Acne | 7 | 11 | 3 | 2 | 0 | 1 | 1 | <0.01 |
| Pityriasis versicolor | 5 | 3 | 3 | 3 | 0 | 0 | 0 | 0.01 |
| Palmar-plantar hyperhidrosis | 7 | 2 | 0 | 0 | 0 | 0 | 0 | <0.01 |
| Keloid | 5 | 2 | 1 | 0 | 0 | 0 | 0 | <0.01 |
| Nevus | 3 | 2 | 0 | 1 | 0 | 0 | 0 | 0.58 |
| Lipoma | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0.12 |
| Onychomycosis | 1 | 1 | 0 | 0 | 2 | 0 | 0 | <0.01 |
| Cyst | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0.25 |
| Keratosis | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.04 |
| Scabies | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.18 |

3.5. Management of Dermatoses among Prisoners

Therapeutic abstention was the most frequent approach (59.1%), reflecting the often benign nature of the conditions. Topical treatments (antiseptics, antihistamines) were used in 35.1% of cases. Only 3.5% of prisoners were referred to the regional university hospital center for specialized care. The therapeutic management of dermatoses is described in **Table 8**.

Table 8. Distribution of prisoners at the Ouahigouya Prison and Correctional Facility, Burkina Faso, 2019, according to therapeutic management.

| Treatment | Number (n) | Percentage (%) |
|----------------------------|------------|----------------|
| Therapeutic abstention | 51 | 59.1 |
| Local antiseptic | 18 | 21.1 |
| Antihistamine | 12 | 14.0 |
| Referral to CHUR | 3 | 3.5 |
| Antiparasitic (Ivermectin) | 2 | 2.3 |

CHUR: Regional University Hospital Centre.

4. Discussion

This cross-sectional study provides the first description of the spectrum and asso-

ciated factors of dermatoses among prisoners of the Ouahigouya Prison and Correctional Facility (MACO). It highlights a high overall prevalence of 53%, underscoring the dermatological challenges specific to the Burkinabe prison context and their multifactorial determinants.

4.1. Sociodemographic Characteristics of Prisoners

Of the 168 prisoners incarcerated during the study period, 149 were included, yielding a participation rate of 88.7%. This figure is comparable to that reported by Zida *et al.* in Burkina Faso (92.2%) [13]. In contrast, lower rates have been reported by Diendéré *et al.* in Burkina Faso (32.6%) [12], Kouotou *et al.* in Cameroon (58.8%) [14], and Kuruvila *et al.* in India (73%) [15]. The high participation rate observed here may be explained by the provision of free medical care during the survey.

The overall prevalence of dermatoses was 53%, similar to findings from the central prison in Ouagadougou (55.6%) [11] and in Cameroon (57.1%) [14]. Higher prevalence has been reported in Nigeria (72.5%) [6], whereas lower rates have been noted in other Burkinabe prisons (17.6%) [12], France (23%) [5], and Guinea (27.3%) [7]. A recent Nigerian study even reported scabies prevalence as high as 71.8% [8]. Such variations may be explained by differences in hygiene conditions, health care systems, climate, overcrowding, and prison promiscuity, which facilitate the transmission of infectious skin diseases [8] [9] [12]. The timing of the present study (December), coinciding with the Harmattan season, may also have influenced the occurrence of certain skin conditions. The Harmattan period, characterized by cold, dry, and dusty weather, may have contributed to an increase in skin xerosis and exacerbation of irritative dermatoses, while reducing the prevalence of certain fungal or parasitic infections that thrive in humid environments.

The mean age of prisoners was 29.9 years, with 86.1% under 40. These findings align with previous studies in Burkina Faso [11] [12], elsewhere in Africa [7] [16], and globally [17] [18], reflecting the predominance of youth in prison populations, itself mirroring national and global demographic structures [19] [20]. The overrepresentation of young adults may be linked to unemployment, a major factor of social and economic vulnerability [19] [20].

The prison population was overwhelmingly male (98.7%), consistent with reports from Burkina Faso [11]-[13], other African countries [6] [14], and Europe [19]-[21]. This gender imbalance is attributable to higher-risk behaviors among men, such as alcohol and drug use, and greater involvement in criminal activities [20] [21].

Low educational attainment was also notable, with 53.2% of inmates unschooled and only 21.5% having primary-level education. This profile reflects the disadvantaged socioeconomic background of African prison populations [8] [9] [14] [19], and may contribute to limited knowledge of basic hygiene practices. Most prisoners (91.1%) were employed in the informal sector, further confirming the link between socioeconomic precarity and incarceration.

Overall, the profile of inmates at MACO-young (mean age 29.9 years), male (98.7%), poorly educated (53.2% unschooled), and predominantly from the informal economy (91.1%) is consistent with West African prison demographics [6]-[9] [11]-[14] [16] [19] and with Bénézech's rule linking crime, male gender, and youth [22]. This underscores the role of social determinants of health, where illiteracy and economic precarity act as vulnerability factors for both incarceration and the development of skin diseases, as recently confirmed by a meta-analysis on scabies [9].

The average incarceration duration was 17.2 months, with more than half of prisoners (54.4%) detained for less than one year. These figures are in line with the African Prison Association report, which ranks Burkina Faso among the countries with the shortest average detention periods [23].

4.2. Clinical Characteristics

None of the inmates had received dermatological consultation prior to incarceration, in contrast with reports from Guinea [7] and Morocco [2]. This difference may reflect the limited availability of dermatologists in the region before 2015.

Most prisoners (69.7%) reported bathing twice daily, a hygiene level higher than that observed in other African prison settings [2] [7]. While 73.4% of prisoners reported no dermatological complaints, pruritus was the most common symptom among those affected, consistent with findings from Togo [13] and Europe [24] [25].

4.3. Diagnostic and Etiological Profiles

Inflammatory dermatoses (36.7%) and infectious dermatoses (34.2%) were the most frequent. The predominance of inflammatory conditions, in contrast to studies where infectious skin diseases were more common [6] [11] [26], may be explained by stress, poor hygiene, and overcrowding [8] [9] [12]. Acne accounted for 89.2% of inflammatory dermatoses, an expected finding given the youthful prison population [6] [24] [27]. However, beyond age-related prevalence, the prison environment may exacerbate acne through chronic psychological stress, anxiety, and disruption of personal care routines. Severe acne can further impair mental health, self-esteem, and social interactions, worsening the burden of incarceration [19] [26].

Among infectious dermatoses, fungal infections predominated (74.1%), in agreement with studies from India [15] and Nigeria [6]. Pityriasis versicolor was the most common fungal infection (51.8%), favored by cell overcrowding, heat, and humidity, which create an ideal environment for yeast proliferation. Conversely, studies in Cameroon, Guinea, and India have reported a higher prevalence of parasitic dermatoses [7] [14] [15], possibly reflecting different climatic and hygienic conditions. Viral and parasitic dermatoses were relatively rare in this study (7.4% each). The low prevalence of scabies (7.4%) contrasts with much higher rates reported elsewhere [15] [26] [28] and may be explained by relatively better

hygiene practices at MACO.

Tumoral dermatoses and genodermatoses (23.2%), notably keloids (34.8%), may reflect poorly healed skin trauma predating incarceration.

4.4. Associated Factors

Acne was significantly associated with the 20 - 30-year age group ($p < 0.001$), consistent with epidemiological data [27]. Although not statistically significant, a trend was observed between dermatoses and low educational attainment, highlighting the potential role of social determinants.

Bathing frequency was associated with certain conditions: two daily showers with acne ($p = 0.04$), likely reflecting oily skin rather than a causal link; and three daily showers with lipomas ($p = 0.01$), likely a statistical artifact. No significant associations were observed between bathing frequency and infectious dermatoses, suggesting that overcrowding and environmental contamination are stronger risk factors. The link between two showers a day and acne could reflect oily skin, as people with seborrheic skin wash more frequently without any direct causal link. The association between three showers and lipomas seems to be more of a statistical artifact. This link could reflect an interpretation bias, as people with oily skin tend to wash more often to reduce seborrhea, without any direct causal effect. The association between frequent showering and lipomas is probably coincidental, with no pathophysiological basis, suggesting a statistical artifact related to the small size of the subgroups.

Dermatoses were unevenly distributed across cells. Cells 1 and 2 concentrated most cases of acne ($p < 0.01$), pityriasis versicolor ($p = 0.01$), hyperhidrosis ($p < 0.01$), and keratosis ($p = 0.04$), suggesting environmental influences (humidity, overcrowding, stress). Onychomycosis was concentrated in cell 5 ($p < 0.01$), possibly indicating a localized infectious cluster. These findings highlight cell-specific disparities and call for targeted sanitary interventions.

4.5. Therapeutic Management

Therapeutic abstention was the most common management strategy (59.1%), given the benign nature of most dermatoses. One inmate with scabies received ivermectin, and three were referred for specialist care.

5. Implications

This study underscores the high prevalence of dermatoses in Ouahigouya prison and the need to strengthen access to dermatological care, hygiene, and living conditions. While therapeutic abstention (59.1%) reflected the benign nature of most conditions, visible chronic lesions such as keloids (34.8%) carry psychosocial consequences, acting as long-term stigmas that hinder post-release reintegration. Access to corrective treatments (e.g., intralesional corticosteroids, compression therapy) should therefore be considered as part of a reintegration-focused prison health strategy [20]-[22] [26].

Dermatoses also pose an economic burden to already fragile prison health systems. Delayed or absent treatment may lead to complications (secondary infections, chronicity), ultimately increasing costs through topical treatments, hospital referrals (3.5% of cases), and reduced prisoners productivity in training or work activities [20]-[22] [26].

Public health recommendations arising from this study include:

- Systematic screening: Dermatological examination upon prison entry to detect contagious cases (e.g., scabies) and initiate early treatment [8] [9] [12].
- Standardized protocols: Provision of basic topical (antifungals, antiseptics, emollients) and systemic treatments (ivermectin, antibiotics for severe acne) in prison infirmaries [12]. Although the severity of acne has not been assessed, the high prevalence makes it likely that severe forms are present, sometimes requiring systemic treatment.
- Staff training: Training prison health staff in the recognition and management of common dermatoses [8] [27].
- Structured referral: Establishing formal links with dermatology services at the regional university hospital for complex cases [12].
- Environmental improvements: sanitation measures (cleaning, disinfection), improved access to water and soap, ventilation, and reduction of overcrowding in high-risk cells [8] [9] [12].
- Holistic care: Integration of psychosocial support, recognizing the impact of incarceration-related stress on skin conditions and the effect of visible lesions on mental well-being [20]-[22] [26] [27].

This study fills a gap in data on skin health in sub-Saharan African prisons and calls for stronger integration of dermatology into prison health programs.

6. Limitations

This study has several limitations: small sample sizes for individual dermatoses (except acne), limiting statistical power; potential selection bias due to the exclusion of absent prisoners (court hearings); the short duration of the survey (3 days), preventing seasonal comparisons; timing during the dry Harmattan season, which is less favorable to parasitic infections; monocentric design, limiting generalizability; lack of severity assessment; absence of complementary laboratory tests (parasitological, mycological), reducing diagnostic precision; and possible underreporting of symptoms, leading to underestimation of prevalence. The dry and dusty Harmattan season can aggravate skin xerosis and certain irritative dermatoses, while reducing the frequency of moisture-related skin infections.

7. Conclusion

This study provides valuable new data on prison health in Burkina Faso, showing that dermatoses are a major health concern at MACO, influenced by three main factors: the disadvantaged socioeconomic profile of inmates, poor environmental conditions, and the youthful age of the prison population. Beyond symptomatic

treatment, an integrated approach combining systematic screening, primary care, specialist expertise, and improved living conditions is essential to improve skin health and, ultimately, the overall well-being and reintegration prospects of prisoners.

Authors' Contributions

F. Traoré, S. Traoré, and ABI Ouattara contributed equally to this work and share first authorship.

F. Traoré and A.K. Savadogo conceived the study idea and drafted the protocol.

F. Traoré, S. Traoré, and N.N. Korsaga/Somé revised and validated the study protocol.

A.K. Savadogo and T. Sib collected the study data.

F. Traoré, S. Traoré, ABI Ouattara, N. Sawadogo, H. Tiéno, A. Zoungrana, R. Bognounou, and O. Guira supervised the data collection.

F. Traoré, S. Traoré, ABI Ouattara, A.K. Savadogo, T. Sib, N. Sawadogo, H. Tiéno, A. Zoungrana, R. Bognounou, and O. Guira analyzed and interpreted the study data.

S. Traoré drafted the first version of the manuscript.

F. Traoré, A.BI Ouattara, A.K. Savadogo, T. Sib, N. Sawadogo, H. Tiéno, A. Zoungrana, R. Bognounou, and O. Guira performed a critical revision of the manuscript.

N.N. Korsaga/Somé approved the final version of the manuscript.

All authors read and approved the final version of the manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest.

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