

# **Mini Review**

# **Scabies in a Hospital Setting: Protocol Suggestion**

Ana Duarte<sup>1,\*</sup>, Mafalda Bica Tavares<sup>2</sup>, Renato Matos Barbosa<sup>2</sup>, Amanda Dias<sup>2</sup>, Rita Gil Duarte<sup>2</sup>, João Coutinho de Sousa<sup>2</sup>, Nuno Augusto Saldanha<sup>3</sup> and Sara Alves de Matos<sup>4</sup>

<sup>1</sup>Senior resident in Occupational Medicine, ULS Santo António

<sup>2</sup>*Resident in Occupational Medicine, ULS Santo António* 

<sup>3</sup>Ocupational Health Specialist, ULS Santo António

<sup>4</sup>Head of Occupational Service, ULS Santo António

\***Corresponding author:** Ana Duarte, Senior resident in Occupational Medicine, Address: Rua Feira Nova 1127, 4625-003, Marco de Canaveses, Porto

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# Abstract

**Introduction:** Scabies, caused by the mite Sarcoptes scabiei, is a highly contagious parasitic disease that affects all ages and is of great relevance in hospital settings due to the high risk of outbreaks.

**Objectives:** To clarify and describe the approach to individuals exposed to scabies in a hospital setting by developing a protocol with updated scientific evidence.

**Methodology:** A search and reading of articles in the PubMed scientific database was carried out, using the search terms "scabies", "diagnosis", "treatment", "management" and recommendations from the Centers for Disease Control and Prevention.

**Results:** The implementation of treatments with topical permethrin and oral ivermectin has shown efficacy in controlling symptoms and reducing transmission. Simultaneous treatment of close contacts is crucial, both at home and in hospital settings. Collective and individual protective measures minimize hospital outbreaks.

**Conclusion:** Adequate management of scabies, especially the crusted variant, requires an integrated approach involving multidisciplinary protocols. This is essential to protect vulnerable populations and mitigate institutional risks. The approach to scabies focuses on early detection, appropriate treatment, strict isolation measures and implementation of infection control protocols.

Keyword: Outbreak; Treatment; Isolation; Hospital; Occupational health

#### Introduction

Scabies, commonly known as scabies, is a highly contagious parasitic disease caused by the mite Sarcoptes scabiei var. hominis. This condition affects individuals of all ages worldwide, and is of particular relevance in institutionalized environments, due to the proximity and high risk of outbreaks [1]. The occurrence of scabies outbreaks in hospitals, with an increase in prevalence in developed countries, has served as a warning of the importance of early diagnosis and correct contact management by Occupational Health, although concrete data is not known [2]. The approach to patients with scabies includes early detection, appropriate treatment, strict isolation measures and the implementation of infection control protocols [3]. The aim is to describe the approach to individuals exposed to scabies in a hospital environment by developing a protocol with up-to-date scientific evidence.

# **Materials and Methods**

Articles were searched and read in the PubMed scientific database, using the search terms "scabies", "diagnosis", 'treatment', "management" and recommendations from the Centers for Disease Control and Prevention (CDC).

#### Results

**Epidemiology:** Scabies affects approximately 200 million people globally, with higher prevalence in regions with limited

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resources. Factors such as overcrowded conditions increase the likelihood of transmission, and it is common in households [4-6].

**Transmission:** It occurs mainly through direct skin-to-skin contact, and is even more contagious in cases of crusted scabies, due to the high parasite load [7].

**Immunocompromised:** Immunocompromised individuals are at greater risk of developing a severe form of scabies, called crusted scabies, characterized by thick crusts and a high parasite load, making it highly contagious, and may not show typical signs and symptoms [1,2].

**Symptoms:** Classic scabies: manifests as intense itching, particularly at night, associated with small erythematous papules and acarine furrows under the skin. These furrows are pathognomonic of scabies, but are not normally present. The average time for the onset of symptoms is two to six weeks after the first contact, or one to four days in reinfections.

**Crusted scabies:** characterized by ill-defined lesions that develop into thick crusts, fissures and eventually secondary infection. Itching may be absent and the condition can involve the whole body if left untreated [2,8].

**Most Affected Body Sites:** The most common areas include the interdigital spaces, volar region of the wrists, armpits, periumbilical region and waist, periareolar particularly in women, male genital region, lateral region of the foot and, in young children, the plantar face. The head is generally spared, except in infants and/or the elderly [9].

**Diagnosis:** This is a presumptive diagnosis based on the clinical history and physical examination: erythema with intense itching, essentially nocturnal in the patient and their cohabitants, with lesions with the characteristic distribution. The use of a dermatoscope can be useful for better visualization of the acarine grooves [1,9].

The differential diagnosis is broad, and scabies can be similar to common pruritic disorders such as atopic dermatitis, contact dermatitis, nummular eczema and arthropod bites. Less common diagnoses include dermatitis herpetiformis and bullous pemphigus [10].

**Approach:** The approach to caring for patients with scabies is based on four pillars: early detection, treatment, isolation and infection control measures, with the aim of preventing outbreaks [1,8,9].

**Early detection:** Surveillance of symptoms, such as itching and rashes, of other patients and/or healthcare workers who have been in close contact in the six weeks prior to diagnosis [1,2].

# Treatment

## **Classical Scabies:**

1<sup>st</sup> line: 5% topical Permethrin all over the body distally to the neck and maintain for 8-14 hours followed by body washing or oral Ivermectin 200mcg/Kg single dose (contraindicated in children < 15Kg and pregnant women). Both procedures should be repeated one week later. Studies report similar efficacy between the two.  $2^{nd}$  line: Benzyl benzoate 277 mg/ml skin solution, on the entire body surface distally to the neck, two consecutive days and repeated one week later, with high efficacy.

 $3^{rd}$  line: topical sulphur in concentrations of 2-10% applied in the evening for three consecutive days, and can be repeated seven to 14 days later [11].

However, permethrin and sulphur formulations are not available in all hospital pharmacies, and to a lesser extent in community pharmacies.

**Crusted scabies:** 1st line: Combination therapy with topical Permethrin 5% applied every three days for up to two weeks and oral Ivermectin 200mcg/Kg administered for three, five or seven non-consecutive days, depending on severity [11].

**For both:** Simultaneous treatment of contacts - cohabitants and/or health professionals with close contact up to six weeks before diagnosis.

Symptomatic treatment of pruritus with an oral antihistamine/ topical corticoid

Treatment should be strongly considered even in ambiguous situations, due to the complexity of controlling outbreaks in a hospital setting and the low risk of adverse effects associated with treatment [1,11].

**Isolation:** Physical isolation of scabies patients should be instituted from the time the diagnosis is suspected until 24 hours after starting treatment. Patients' personal clothing, bedding and towels should be transported in an insulated plastic bag and put directly into a washing machine at a temperature above 50°C. If washing is not possible, they should remain in a closed plastic bag for one week [1,2,12]. Close contact with patients should be avoided until 24 hours after the start of treatment.

# **Infection control**

# **Collective protection measures**

- Isolation of outpatients and healthcare workers with scabies
- Notification to the Occupational Health Service
- Restriction of visits
- Teaching residents how to care for clothes at home

- Assigning a limited group of caregivers can reduce the potential for transmission

- Keeping up-to-date records of the scabies patient and the names of the healthcare professionals who cared for them before implementing infection control measures

# Individual protection measures

- Thorough hand hygiene

- Wear gloves and an apron when in contact with the patient and avoid skin-to-skin contact

- Temporary incapacity of healthcare workers for at least 24 hours after starting treatment

This set of measures helps to interrupt the chain of transmission of the parasite, preventing outbreaks and protecting vulnerable individuals.

In addition to the measures proposed, in the case of crusted scabies, in the event of an uncontrolled outbreak, multidisciplinary meetings should be held with the service involved, the Occupational Health service, Infeciology and Dermatology, in order to determine the extent of the outbreak and assess risk factors for spreading [1,12,13].

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# Discussion

Controlling the spread of scabies involves fundamental steps, such as early diagnosis, forming a multidisciplinary team, assessing the extent of the outbreak and the risk factors for spread, implementing infection control measures, educating exposed individuals and simultaneously disinfecting the environment. In the case of typical scabies, the advice is to treat cases and their contacts, even if they are asymptomatic. In the case of atypical scabies, mass prophylaxis should be considered due to the severity of the disease. In the event of temporary unfitness for work, even for just one day, after returning to work, they should be observed in the Occupational Health Service in order to assess clinical improvement in symptoms and lesions. Prolonged surveillance should be promoted until the clinical picture has completely resolved, in order to guarantee the extinction of outbreaks. In addition, during the occasional health check-up, the occupational disease should be notified and the worker explained the procedure for reporting it to the Department for Protection against Occupational Risks, even though scabies is not on the List of Occupational Diseases. In addition, awareness-raising work should be carried out among health professionals in order to identify infected patients early in the future.

#### Conclusion

The Occupational Health Service plays an important role in controlling scabies outbreaks in a hospital environment. The approach to scabies therefore focuses on early detection, appropriate treatment for patients, cohabitants and healthcare professionals, strict isolation measures and the implementation of infection control protocols, as well as multidisciplinary meetings in cases of crusted scabies.

#### **Author Contributions**

Ana Duarte- responsible for the work; concept and design of study; drafting the case report

Mafalda Bica Tavares - article analysis and help with writing the work

Renato Matos Barbosa - acquisition of data/ articles

Amanda Dias – acquisition of data/ articles

Rita Gil Duarte - acquisition of data/ articles

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