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Scabies: A Growing Concern for Public Health

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ABSTRACT

Objectives: Scabies, an infestation affecting individuals of all ages, poses significant public health implications due to its potential for epidemics and transmission within households. The aim of this study was to evaluate the demographic data of patients diagnosed with scabies between the years 2022 and 2023.

Methods: A retrospective analysis of patients admitted to the Infectious Diseases and Dermatology Outpatient Clinics between January 2022 and November 2023 was conducted, with symptoms of itching and rash, and was diagnosed with scabies during the first admission. The patients of all age groups were included in the study.

Results: A total of 1261 patients were included in this study, with a median age of 30.0 (0.0-93.0) years and 669 (53.0%) were male. In 2022, 521 (41.3%) patients were diagnosed with scabies, while in 2023, the number increased to 740 (58.7%). Among the total patients, 167 (13.2%) were admitted from outside the province, with 77 (6.1%) in 2022 and 90 (7.1%) in 2023. Interestingly, 114 (9.0%) patients were diagnosed with scabies while hospitalized for reasons unrelated to scabies itself. This includes 16 (1.3%) patients in 2022 and 98 (7.8%) patients in 2023.

Conclusion: Scabies are an escalating public health concern that has the potential to trigger epidemics. Primary health-care institutions, specialty associations, and the General Directorate of Public Health play vital roles in recognizing the disease, coordinating treatment strategies, and disseminating preventive measures to the public.

Keywords: Parasite infection, sarcoptic mange, scabies

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INTRODUCTION

Scabies is a highly contagious infestation caused by the infestation of the ectoparasite Sarcoptesscabiei var hominis on the skin.[1] It is a global phenomenon that can impact individuals of all ages and socioeconomic backgrounds. Although scabies are observed less frequently in adolescents and adults compared to children worldwide, their incidence rate in developing countries is estimated to range from 5 to 10%.[2,3] This infestation poses an escalating public health concern.

Scabies are typically transmitted through direct and prolonged close contact with an infected person.[2,4,5] The characteristic lesions appear as itchy, red papular eruptions with tunnels measuring 1–10 mm in length. Itching tends to worsen at night and after hot showers. Scabies are more commonly found on the sides of the fingers, around the umbilicus, wrists, armpits, areola, and genital area. While intrafamilial transmission is significant, scabies can also result in outbreaks in settings such as hospitals, military barracks, nursing homes, prisons, and refugee camps.[6,7]

Classical scabies, whose incidence is declining, manifest in clinical forms such as crusty scabies and nodular scabies.[8] When diagnosing scabies, health-care providers should also consider other dermatologic diseases, parasitic infestations, syphilis, allergic reactions, fungal infections, urticaria-related syndromes, and erythema multiforme as potential differential diagnoses. Scabies is a disease that can be diagnosed and treated at various levels of the health-care system. Timely diagnosis, particularly in communal living environments, along with appropriate treatment and the implementation of proper hygiene measures and isolation conditions, plays a crucial role in public health. The point of the study was to increase awareness of scabies in patients administering from itching and rash.

The aim of this study was to evaluate the demographic data of patients diagnosed with scabies between the years 2022 and 2023.

METHOD

A retrospective analysis of patients admitted to the Infectious Diseases and Dermatology Outpatient Clinics between January 2022 and November 2023 with symptoms of itching and rash and diagnosed with scabies at the first admission was conducted. The patients of all age groups were included in the study. Medical records of patients were collected from our tertiary hospital's database. Age, gender, date of admission, and treatment protocols used for the complaint were evaluated as study variables.

The hospital's automation system identified a total of 1398 scabies diagnoses. Re-admissions were excluded and 137 (9.8%) patients were admitted at least twice. As re-admissions were excluded; a total of 1261 (90.2%) patients were included in the analysis.

All analyses were performed on SPSS version 21 (SPSS Inc., Chicago, IL, USA). Frequency, percentage, and mean were used for sociodemographic data.

RESULTS

In this study, 1261 patients were included and the median age of the patients was 30.0 (0.0-93.0) years. Demographic data of patients are summarized in Table 1.

Out of the total patients included in the study, 521 (41.3%) were admitted in 2022, whereas 740 (58.7%) were admitted by the end of November 2023. From outside the province, there were a total of 167 (13.2%) patients, with 77 (6.1%) admitted in 2022 and 90 (7.1%) admitted in 2023. Among the patients in the study, 114 (9.0%) were diagnosed with scabies during consultations specifically requested for pruritus and rash while they were already hospitalized. Of these, 16 (1.3%) were diagnosed in 2022 and 98 (7.8%) in 2023. When comparing the 2 years, it is observed that the number of scabies cases diagnosed in 2023 was higher than in the previous year. Except for August and September, the number of cases in all months of 2023 was higher than the number of cases in 2022. In addition, it is worth noting that the number of cases was higher during the fall and winter months in both years. The distribution of patients by months is shown in Figure 1.

Table 1. Demographic data of patients

	n (%)
Gender	
Female	592 (47.0)
Male	669 (53.0)
Age groups	
0–1 years	57 (4.5)
1–10 years	199 (15.8)
11–20 years	248 (19.7)
21–30 years	254 (20.1)
31–40 years	139 (11.0)
41–50 years	137 (10.9)
51–60 years	69 (5.5)
61–70 years	81 (6.4)
71–80 years	55 (4.4)
>81 years	22 (1.7)
Years	
2022	521 (41.3)
2023	740 (58.7)

Patients and closed contacts were treated with topical permethrin 763 (60.5%), benzyl benzoate 210 (16.6%), sulfur-containing compounds 172 (13.7%), and, in rare cases, oral ivermectin 116 (9.2%) for the management of scabies. Furthermore, in instances where scabies infections were additionally complicated by bacterial agents, oral 32 (2.5%) or topical 99 (7.8%) antibiotic regiments were prescribed. For patients who did not exhibit a satisfactory response to conventional topical treatment, treatment with ivermectin was pursued. The distribution of patients according to age groups is shown in Figure 2.

DISCUSSION

Scabies has emerged as a significant global public health concern, due to its contagious nature and the potential for outbreaks.[9] While a thorough patient history and clinical examination often suffice for diagnosis, it is important to note that scabies can sometimes go undetected in primary health-care settings. The primary symptom experienced by

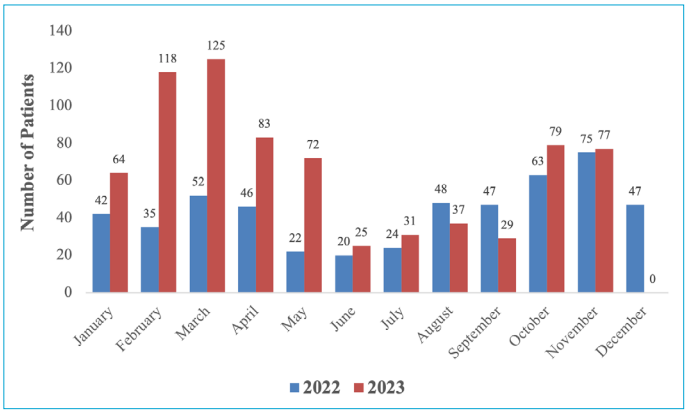

Figure 1. Distribution of patients by months.

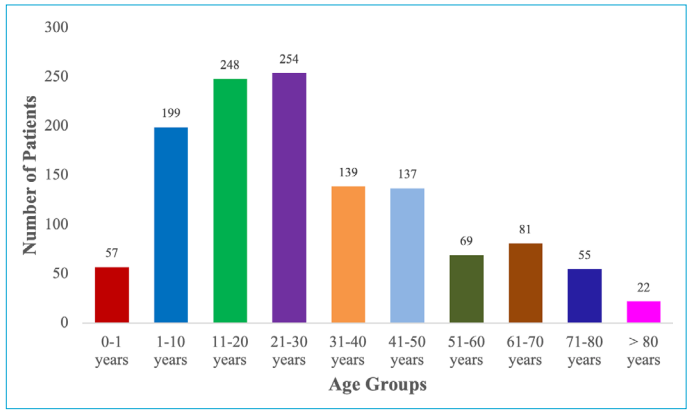

Figure 2. Distribution of patients according to age groups.

patients is intense itching that disrupts their sleep, particularly worsening in warm environments. Patients frequently describe the itching as very intense and satisfying, with scratching providing temporary relief that prompts them to continue scratching.[8] In addition, the presence of similar complaints among other family members further supports the diagnosis of scabies.[8,10] Among our patients, the most commonly reported symptoms were redness and itching on the skin, particularly between the fingers and on the trunk. The diagnosis was primarily based on clinical findings.

Scabies cases are prevalent year-round, but there is a notable surge in patient numbers during the fall and winter months.[11,12] Our study findings revealed a substantial increase in the incidence of scabies patients during both fall and winter, whereas comparatively fewer cases were observed during the summer months.

In addition to conventional topical treatments such as permethrin, benzyl benzoate, malathion, sulfur, lindane, and crotamiton, as well as orally administered ivermectin, some herbal agents have also shown promise in the treatment of scabies.[13,14] However, it is worth noting that there have been reports of cases becoming resistant to these treatments. In immunocompetent adult patients with scabies, our study found that a 5% permethrin cold cream, applied to the entire skin surface once a day for two days, was more effective than a single application. In cases that were crusty, persistent, resistant, or widespread, successful outcomes were achieved with a combination of topical benzyl benzoate and oral ivermectin.[13-16] In our patient cohort, we primarily used topical permethrin, benzyl benzoate, sulfur-containing compounds, and occasionally oral ivermectin for treatment. Among the patients, some experienced recurrent presentations, which were believed to be a result of inadequate isolation, particularly among nursing mothers and their infants, as well as patients with resistant scabies. For those who did not respond to conventional topical treatments, we opted for ivermectin therapy.

Scabies is a highly contagious condition that can affect individuals of any age, gender, or socioeconomic status and can often go unnoticed.[7] Consequently, it is imperative to prioritize early diagnosis and implement prompt control measures. Once diagnosed, patients should be placed in isolation to mitigate the risk of transmission. To ensure effective decontamination, clothing, sheets, and towels should be thoroughly washed, whereas items that cannot be washed must be ironed or entrusted to dry cleaners. In addition, beds, quilts, and blankets should be adequately ventilated for 3–5 days.[8] It is crucial to acknowledge that items such as floors, furniture, children's toys, and belongings of school-aged children such as bags and pencil cases can also serve as potential sources of infestation, and as such should be diligently cleaned. In cases where contaminated laundry is conveyed to hospital laundry rooms, it should be cautiously packaged and labeled. These packages should not be opened before washing and should be subjected to a thorough washing cycle at 50°C for 10 min.[8,17] It is equally vital to emphasize the ironing of all materials, paying particular attention to seams.[17] Furthermore, in inpatient rooms, comprehensive cleaning should be conducted using a vacuum cleaner on all floors and furniture, including curtains. Finally, an acaricide appropriate for the room should be employed to ensure optimal sanitation.[4,17]

In instances of scabies outbreaks within closed communities, such as high-movement endemic areas, nursing homes, prisons, and military barracks, mass treatment is recommended for effective control.[18-20] It is crucial to administer treatment to all individuals, irrespective of whether they display symptoms or not. In larger communities, oral ivermectin treatment is often preferred over topical treatment due to its ease of administration. During the outpatient clinic visits, similar skin lesions were observed

in the mothers of the patients, particularly in children aged between 0 and 1 year. As a result, treatment was provided to the affected family members. In the case of patients diagnosed with scabies while hospitalized, appropriate measures were taken to isolate them to prevent transmission to other patients and health-care personnel. In addition, the materials used by the infected patient, such as bed sheets, pillows, and blankets, were collected separately and washed separately from materials used by uninfected patients. All items that were able to be ironed were properly treated. Once the room of the discharged patient was thoroughly cleaned with an appropriate acaricide, new patients were then allowed to be admitted to the room.

Our study has several limitations. It was performed at a single center. All cases were identified with dermatoscopic examination. Diagnostic tests such as histopathological diagnosis, molecular-based techniques, or serological assays could not be performed at our facility. The duration of the clinical symptoms was not recorded in the patient's medical record. Decontamination measures could not follow-up for close contacts and asymptomatic contacts of patients.

CONCLUSION

Early diagnosis, treatment, hygiene practices, and effective prevention and control measures play a crucial role in preventing outbreaks of scabies. Given that the disease can spread more easily in areas with high population mobility, health-care institutions at all levels need to fulfill their responsibilities in ensuring that the public is well informed in this regard. The Ministry of Health, the General Directorate of Public Health, and specialized associations carry out diverse initiatives aimed at educating the population about the transmission routes and preventive measures of scabies. Sustained efforts in these activities are of utmost importance.

Disclosures

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