ORIGINAL ARTICLE

THE CLINICAL MANIFESTATIONS OF SCABIES IN PATIENTS PRESENTING TO DERMATOLOGY OUTPATIENTS DEPARTMENT AT AYUB TEACHING HOSPITAL, ABBOTTABAD

Durreshehwar Arshad Pirzada[1], Sumaira Abdullah[2], Maria Syed[3], Zarar Bin Jamil[1], Muhammad Khubaib Ullah[1]

[1]Department of Dermatology, Ayub Medical College, Abbottabad-Pakistan
[2]Akbar Niazi Teaching Hospital/Islamabad Medical & Dental College Islamabad-Pakistan
[3]Shifa International Hospital Islamabad-Pakistan

Background: Scabies is a significant skin problem in the developing countries due to its increased incidence, complications and financial implications. The aim of this study is to highlight the endemicity of scabies in our population and its clinical manifestations including various complications. The study was conducted to determine the frequency and clinical manifestations of scabies in patients presented to dermatology outpatient department (opd), Ayub teaching hospital, Abbottabad. **Methods:** This cross-sectional study was conducted on 1404 patients suspected to have scabies. The demographic and clinical features of scabies presentation was recorded on a questionnaire by interview. The skin scrapings were observed under microscope after preparing 10% KOH mount. **Results:** During the study period, out of 1404 patients, 339 patients with scabies were identified, with frequency 24.14%. The mean age calculated was 21.18 years. The frequency of scabies was 56% (190) in males while 44% (149) in females. All studied patients had pruritis (male =190. female =149). 89.1% had papules, 39.8% had excoriations on their bodies, 15.6% had impetiginization, 12.7% had eczema and only 3.2% of total had blisters. It was observed that complications like impetigo, eczema, blisters were more in patients living in unfavorable conditions. **Conclusion:** The results of the study showed that scabies is a common skin infestation in our population. It is recommended that awareness programs be implemented at primary healthcare level so that necessary measures can be taken to control this preventable and communicable disease.

Keywords: Scabies; Eczematization; Impetigo; Papules; Excoriations

Citation: Pirzada DA, Abdullah S, Syed M, Jamil ZB, Ullah MK. The clinical manifestations of scabies in patients presenting to dermatology outpatients department at Ayub teaching hospital, Abbottabad. J Ayub Med Coll Abbottabad 2024;36(2):398–400.

DOI: 10.55519/JAMC-02-12981

INTRODUCTION

Scabies is a common skin infestation caused by a parasite Sarcoptes scabei var. hominis.[1,2] According to WHO scabies is now designated as a neglected disease and large-scale preventive measures are required to achieve its control.[1,5] Scabies effects 200 million people worldwide at any time.[2,5] The disease commonly affects children and older people belonging to poor-socioeconomic class most likely due to poor housing, increased contact with the infected materials, low immunity in childhood and poor compliance with the treatment.[1,4] Scabies is a highly contagious disease which causes pruritic dermatitis in patients belonging to poor socioeconomic class.[1,5] In developed countries the incidence of scabies occurs in hospitals, nursing homes, old homes, prisons and refugee camps.[5] The disease spreads by direct or indirect physical contact like hand-holding or sharing beds.[1,5] The mite forms burrows in the superficial layer of skin, lays eggs and spreads to involve whole body.[2] Hypersensitivity to mite antigens plays an important role in determining the development of papules, eczematous lesions, and excoriations.[3] Studies have shown that scabies are a major risk factor for kidney disease like post streptococcal glomerulonephritis, septicemia and cardiac failure.[4]

Various treatment options for scabies include topical permethrin, topical benzyl benzoate, topical Sulphur, oral ivermectin, topical crotamiton.[5]

The aim of this study was to determine the frequency of scabies and its clinical manifestations in patients presenting to dermatology opd Ayub Teaching Hospital, Abbottabad. As limited research data is available for the disease burden in our country. Furthermore, factors determining the complications of the disease like housing conditions, socioeconomic status, age, gender also need to be determined.

MATERIAL AND METHODS

This cross-sectional study was conducted on 1404 patients with pruritus, suspected of scabies infestation, presenting to dermatology OPD Ayub Teaching Hospital, Abbottabad, from June to November 2023.

The demographic and epidemiologic criteria and clinical symptoms of patients were recorded on a questionnaire by interview. The diagnosis of scabies was made according to 2018 IACS9 (International alliance for control of scabies). The skin scrapings were observed under microscope after preparing 10% KOH mount. However, the diagnosis of scabies was made on the basis of visible burrows in skin creases and flexures, and typical lesions affecting male genitalia.

RESULTS

During the study period, out of 1404 patients presenting with pruritus, 339 patients with scabies were identified [frequency =24.14]. Their ages ranged from 3 months to 80 years, with a SD of 17.28 years. The mean age calculated was 21.18 years. The frequency of scabies was 56% (190) in male while 44% (149) in female. All patients studied had pruritus (male=190, female=149), 89.1% had papules (male=166, female= 136) [*p*=0.253] 39.8% had excoriations (male=73, female=62) [*p*=0.552] on their bodies, 15.6% had impetiginization (male=29, female=24) [*p*=0.832], 12.7% had eczema (male=24, female=19) [*p*=0.974] and only 3.2% (male=8, female=3) [*p*=0.258] of the total had blisters.

55.2% (187) of the patients had unfavorable housing conditions while 44.8% (152) of them had favorable housings. Pruritus was reported in all patients. Among the patients with papules, 164 had unfavorable housings while 138 had favorable conditions [*p*=0.365]. Fifty-nine patients from unfavorable housings had excoriations, while 76 from favorable [*p*=0.001] had the same clinical feature. Impetigo was reported in 34 patients with unfavorable conditions and in 19 patients with favorable conditions [*p*=0.153]. As for eczema, 28 were from unfavorable housings while 15 were from the favorable group [*p*=0.161]. 7 patients from unfavorable housing had blisters, while only 4 were from those with favorable housing [*p*=0.566].

In addition, it was also recorded that how many days after developing itch, the patients consulted the dermatologist, which ranged from 1 day to 365 days, with a standard deviation of 52.43 days. Among the patients presented, 11.8% (40) were reinfected with scabies, and only 7.4% (25) had post scabies itch.

DISCUSSION

Scabies is a very common skin infestation leading to severe pruritus.[1,2] Scabies was included in WHO neglected disease portfolio in 2017.[3] Hence further understanding of the disease, its spread and spectrum of disease manifestation is warranted. Scabies is an ancient disease found in all parts of the world and incidence being more in the less developed tropical countries.[1,3] Results of our study confirmed that scabies is quite a common disease in our population and an important health issue that needs to be addressed at primary care level by incorporating various awareness programs both for healthcare practitioners and general public.

Scabies is caused by sarcoptes scabei[1,3,9] which is an ectoparasite that lives in the epidermis, the adult female measures 0.3x0.4mm and twice the size of male mite. The mite can move 2.5cm/minute. The gravid female mite dig burrows in the stratum corneum with the help of proteolytic enzymes to soften the epidermis[12] and lives there for 4–6 weeks (average lifespan of adult mite). The female lays 2–3 eggs /day that hatches into larva 2–3 days later, the larva develops into nymph which develops into mature adult in the skin wrinkles.[4] The initial skin lesions are visible as papules and burrows[4,9,10] which are presented as whitish grayish or reddish serpiginous linear tracts[9]. The average lifecycle of Sarcoptes scabei is 9–15 days. The most common symptom of scabies is nocturnal itch that occurs due to increased activity of the mite at night.[4,9] Transmission of scabies is by direct physical contact like shaking hands, sharing beds, and sexual contact.[4,10] Hence its incidence is more in individuals living in unsuitable living conditions like poor sanitation, more occupants per room, and lower socioeconomic class, the same is supported by our study. Furthermore, post scabies complications like impetigo, eczematization, excoriations were expected to be found more in patients living in unfavorable housing conditions however this was not statistically supported by our study and warrants further research into the subject.

Indirect transmission via fomites is also possible as the mite can survive outside the human body for 24–36 hours in normal room temperature[10] infestation with scabies results in severely itchy papules nodules and even blisters[6,10] itching and eczematization result from type 4 hypersensitivity reaction to mite antigens and takes as many as 3 to 6 weeks for symptoms to develop in case of primary infestation[10,13] but can develop in 1 to 2 days in cases of reinfestation[10] in immunocompromised individuals like those on chronic glucocorticoid use, HIV infected individuals, malnourished and transplant recipients the scabies take an aggressive course and patients develop large crusted lesions, hyperkeratosis and generalized scales which contain large number of scabies mites, the condition if left untreated can lead to death due to complications like infection and sepsis.[10]

Scabies has a wide array of clinical manifestations and many common dermatoses like psoriasis, eczemas, and even cutaneous T-cell lymphomas need to be ruled out to make a correct diagnosis of scabies.[11] Scabies is usually diagnosed on

the basis of clinical presentation.[11] Consensus criteria have also been made to make a clear diagnosis of scabies, i.e., the 2018 IACS criteria for the diagnosis of scabies[3,12], as there are no available. Laboratory tests for scabies, and microscopy /Dermoscopy are not usually available in field settings[3]. Of all the diagnostic tests available for scabies, skin scrapings, microscopy and adhesive tape tests have an overall specificity of 100%, and 72.7% for Dermoscopy.[11] Other techniques under investigation for the diagnosis of scabies are blood tests including PCR and ELISA, and reflectance confocal microscopy, epiluminescence microscopy and video Dermoscopy[11], and a standard test is still to be designated as a gold standard for the diagnosis of scabies[11].

A number of treatment modalities are available to treat scabies most common being 5% permethrin cream/lotion, oral ivermectin, topical 5% sulfur, topical lindane, malathion and topical ivermectin.[14]

The results of the study showed that scabies is a common skin infestation in our population. It is recommended that awareness programs be implemented at primary healthcare level so that necessary measures can be taken to control this preventable and communicable disease.

AUTHORS' CONTRIBUTION

DAP: Conceptualization of the study design, literature search, data analysis & interpretation, write-up, data collection. SA: Literature search, data interpretation, proof reading. MS: Literature search, write-up. MKU: Data collection, data analysis. ZBJ: Data collection.

REFERENCES

1. Rohr BR, Hossler EW. Scabies (mite). PathologyOutlines.com website.https://www.pathologyoutlines.com/topic/skinnontumorscabies.html. Accessed November 1st, 2023.
2. Thomas C, Coates SJ, Engelman D, Chosidow O, Chang AY. Ectoparasites: Scabies. J Am Acad Dermatol. 2020 Mar;82(3):533-548. doi: 10.1016/j.jaad.2019.05.109. Epub 2019 Jul 13. PMID: 31310840..
3. Engelman D, Fuller LC, Steer AC; International Alliance for the Control of Scabies Delphi panel. Consensus criteria for the diagnosis of scabies: A Delphi study of international experts. PLoS Negl Trop Dis. 2018 May 24;12(5):e0006549. doi: 10.1371/journal.pntd.0006549. PMID: 29795566; PMCID: PMC5991412.
4. Sunderkötter C, Wohlrab J, Hamm H: Scabies: epidemiology, diagnosis, and treatment. Dtsch Arztebl Int 2021; 118: 695–704. DOI: 10.3238/arztebl.m2021.0296.
5. Rasti S, Nazeri M, Kaveh E, Talaee R, Abbas Mousavi S G. Frequency and Clinical Manifestations of Scabies in Suspected Patients Referred to Health Centers of Kashan, Central Iran (2010 - 2014). Zahedan J Res Med Sci. 2017;19(2):e7034
6. Khan RMA, Muzammil A, Siddiqi S, Qasim SM, Nadeem A. Scabies Surrepticius (Bullous Scabies) Presenting as Bullous Impetigo in a Child. *J Coll Physicians Surg Pak* 2022; 32(03):380-382.
7. Welch E, Romani L, Whitfeld MJ. Recent advances in understanding and treating scabies. Fac Rev. 2021 Mar 11;10:28. doi: 10.12703/r/10-28. PMID: 33817697; PMCID: PMC8009191.
8. Richards RN. Scabies: Diagnostic and Therapeutic Update. J Cutan Med Surg. 2021 Jan-Feb;25(1):95-101. doi: 10.1177/1203475420960446. Epub 2020 Sep 30. PMID: 32998532.
9. Al-Dabbagh J, Younis R, Ismail N. The current available diagnostic tools and treatments of scabies and scabies variants: An updated narrative review. Medicine (Baltimore). 2023 May 26;102(21):e33805. doi: 10.1097/MD.0000000000033805. PMID: 37233429; PMCID: PMC10219715.
10. Chandler DJ, Fuller LC. A Review of Scabies: An Infestation More than Skin Deep. Dermatology. 2019;235(2):79-90. doi: 10.1159/000495290. Epub 2018 Dec 13. PMID: 30544123.
11. Shoukat Q, Rizvi A, Wahood W, Coetzee S, Wrench A. Sight the Mite: A Meta-Analysis on the Diagnosis of Scabies. Cureus. 2023 Jan 30;15(1):e34390. doi: 10.7759/cureus.34390. PMID: 36874720; PMCID: PMC9976840.
12. Engelman D, Yoshizumi J, Hay RJ, Osti M, Micali G, Norton S, Walton S, Boralevi F, Bernigaud C, Bowen AC, Chang AY, Chosidow O, Estrada-Chavez G, Feldmeier H, Ishii N, Lacarrubba F, Mahé A, Maurer T, Mahdi MMA, Murdoch ME, Pariser D, Nair PA, Rehmus W, Romani L, Tilakaratne D, Tuicakau M, Walker SL, Wanat KA, Whitfeld MJ, Yotsu RR, Steer AC, Fuller LC. The 2020 International Alliance for the Control of Scabies Consensus Criteria for the Diagnosis of Scabies. Br J Dermatol. 2020 Nov;183(5):808-820. doi: 10.1111/bjd.18943. Epub 2020 Mar 29. PMID: 32034956; PMCID: PMC7687112.
13. Bhat SA, Mounsey KE, Liu X, Walton SF. Host immune responses to the itch mite, Sarcoptes scabiei, in humans. Parasit Vectors. 2017 Aug 10;10(1):385. doi: 10.1186/s13071-017-2320-4. PMID: 28797273; PMCID: PMC5553898
14. Anderson KL, Strowd LC. Epidemiology, Diagnosis, and Treatment of Scabies in a Dermatology Office. J Am Board Fam Med. 2017 Jan 2;30(1):78-84. doi: 10.3122/jabfm.2017.01.160190. PMID: 28062820.

Submitted: February 21, 2024	*Revised: April 21, 2024*	*Corrected: April 22, 2024*

Address for Correspondence:

Durreshehwar Arshad Pirzada, Department of Dermatology, Ayub Medical College, Abbottabad-Pakistan
Cell: +92 321 526 6452
Email: drshehwar@hotmail.com