

Clinical Profile of Scabies: A Cross-Sectional Study in a Southeastern Nigerian Hospital

Ogochukwu Ifeanyi Ezejiofor^{1,2}, Chibuzo Ifeanyi Okpala^{1,2}, Chetanna Chioma Anaje², Nkechi Anne Enechukwu^{1,2}, Divinefavour Echezona Malachy³, and Chukwudi Christian Umenzekwe²

¹Department of Medicine, Nnamdi Azikiwe University, Nnewi Campus, Anambra State, Nigeria, ²Department of Medicine, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State, Nigeria, ³Faculty of Medicine, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria³

ABSTRACT

Background: Scabies is a common skin infestation caused by ectoparasite, *Sarcoptes scabiei* var. *hominis*. The disease is ubiquitous and affects all age groups. It is spread by direct or indirect contact with an infected person or via fomites. Clinical features frequently vary necessitating occasional missed diagnosis. A knowledge of the diverse clinical patterns will improve diagnostic accuracy especially in atypical presentations. **Objectives:** To evaluate the clinical profile of scabies in patients presenting to the dermatology clinic at Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra, Nigeria. **Materials and Methods:** It was a cross sectional study and was conducted from January to December 2019. All patients diagnosed with scabies during the study period were recruited. The diagnosis was clinical. The clinical features and patient characteristics were documented. **Results:** A total number of 96 patients were enrolled. Two-thirds were males while a third were females. The frequently affected sites were buttocks, genitals, ankles and wrists. Commonest presenting features were itching, papules, scales and nodules. Papular scabies was the commonest type of scabies seen. **Conclusion:** Papular scabies remains the commonest type of scabies. Many cases are often misdiagnosed. Self-medication with triple action creams was a popular practice among our patients, a practice which may mask the typical presentation of the symptoms (itch) and signs (Scabies incognito)

Key words: Scabies, itchy, papular scabies

INTRODUCTION

Scabies, alternatively called seven-year itch, is a skin infestation caused by an ectoparasite, the mite *Sarcoptes scabiei* var. *hominis*. Infestation can be spread through direct contact with an infected family member, friend, or sexual partner, or through fomites. The mites, their faeces, or eggs trigger an allergic response in the skin, resulting in severe pruritus and, more commonly, papules, nodules, and burrows.[1] Excoriations can also be seen. Rarely, scabies can present as crusted scabies, bullous scabies, scabies incognito or erythrodermic scabies.

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*Correspondence:

Dr Chibuzo Okpala.
Department of Internal
Medicine, Faculty of Medicine
Nnamdi Azikiwe University
Nnewi campus
P.M.B. 5025, Nnewi, Anambra
State
Nigeria.

Tel: +2348035080037

Email:

ci.okpala@unizik.edu.ng
bazo10141@yahoo.com

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Scabies continues to be one of the most prevalent skin diseases among all ages and across all social strata in many resource-poor societies, whereas in industrialized societies, its manifestations are different and the infestation is more prevalent among specific groups such as the homeless and the elderly living in institutions.

Scabies prevalence varies by location ranging from 19.2% in Solomon Island to 40.4% in children and 31.6% in adults in Malawi. Sambo *et al.* reported a prevalence of 2.9% in children in a community-based study in northwestern Nigeria.

Typically, scabies affects multiple skin areas, most notably the hands between the fingers, wrists, elbows, shoulders, breasts, genital area, including the penis, scrotum of males and lower legs, particularly the ankles.

Clinical subtypes are classified into papular, crusted or nodular. Atypical presentations are frequent and include bullous, erythrodermic and scabies incognito. The pattern can also be modified by secondary bacterial infections and eczematization due to patient's immune reaction to burrowing mites and the use of harsh irritant topical medication for treatment. This can cause diagnostic confusion and lead to delays in or frequent missed diagnosis.

This study was therefore carried out to evaluate the various clinical profile of scabies among patients presenting to the dermatology clinic of our hospital.

MATERIALS AND METHODS

This was a prospective cross-sectional study conducted at the Dermatology Clinic of Nnamdi Azikiwe University Teaching Hospital in Nnewi, Anambra State, Nigeria. It was conducted between January and December 2019, following ethical clearance by the hospital's ethical committee. A consecutive sampling technique was used.

All patients who presented to the dermatology clinic with features suggestive of scabies were recruited. Women who are pregnant were excluded from the study. All patients provided informed consent, which was followed by the administration of a pre-designed proforma. A dermatologist conducted the clinical examination. Presumptive

diagnosis of scabies was made based on a history of pruritus and/or typical pruritic rashes and the presence of these rashes in characteristic body locations. Definitive diagnosis was made after documentation of symptom resolutions by the patients following treatment, during their subsequent clinic visit in four weeks. Final analysis was only on individuals with a definitive diagnosis of scabies

Statistical analysis was done using SPSS version 20. Socio-demographic and clinical characteristics were presented as numbers and percentages. Other categorical variables were presented as frequencies and percentages.

RESULTS

The study enrolled 96 patients, 62.5 percent of whom were male and 37.5 percent of whom were female. Table 1 summarizes their sociodemographic characteristics.

Majority of the patients had rashes and almost all the participants presented with itching (Table 2). Half of the patients had history of contact with person itching while 28.10% did not have contact with person itching (Fig 1). With regard to self-medication, 33% used triple action creams, 27% used antibiotics (Figure 2).

About 61.5% had classical distribution of rashes while 27.1% did not have rashes distributed in a classical manner (Table 2). The common sites of scabies are highlighted (Table 3). More than half of our patients had prior treatments before presentation (Fig 3), with majority of them unaware of the ailment they were being treated for (Fig 4). Papules were present in 88.5% of participants whereas no bullae were seen in any patient (Table 4)

Table 1: Socio-demographic Characteristics

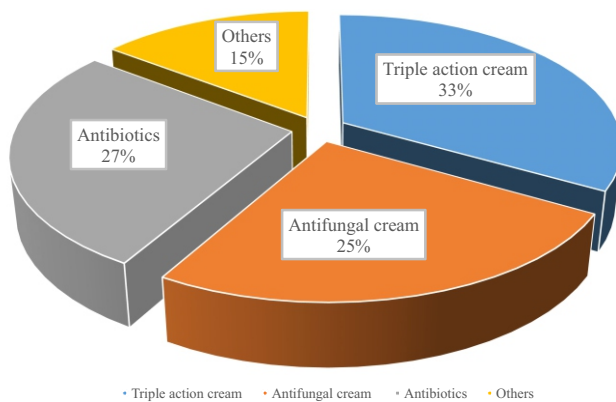
Socio-demographic variables		Frequency	Percentage
Age (years)	<1	2	2.1
	1-5	3	3.1
	6-10	10	10.4
	11-15	8	8.3
	16-20	12	12.5
	>20	61	63.5
Sex	Male	60	62.5
	Female	36	37.5
Educational Status	No formal education	3	3.1
	Primary	14	14.6
	Secondary	24	25
	Tertiary	44	45.8
	Not given	11	11.4
Occupations	Pupil	13	13.5
	Student	25	26
	Civil servant	3	3.1
	Artisan	3	3.1
	Unemployed	3	3.1
	Teaching	3	3.1
	Trader	11	11.5
	Retiree	1	1
	Clergy	1	1
	Not given	33	34.3

Table 3: Site of the body affected

Body site	Frequency	Percentage
Scalp	11	11.5
Face	8	8.3
Breast	16	16.7
Nipples	19	19.8
Armpits	38	39.6
Elbows	47	49
Wrist	51	53.1
Trunk	44	45.8
Belt line	43	44.8
Public prominence	29	30.2
Instep	11	11.5
Buttocks	62	64.6
Knees	34	35.4
Ankles	16	16.7
Finger webs	52	54.5
Toe webs	9	9.4
Palms	10	10.4
Soles	5	5.2
Genital	60	62.5

Table 2: Symptoms and types of scabies diagnosed

Variables	Categories	Frequency	Percentage
Itching (multiple answers)	Worse at night	57	59.4
	Worse at bath	16	16.7
	Worse on sweating	32	33.3
	None	1	1
Rash	Yes	80	83.3
	No rash	16	16.7
Type of rash distribution	Classical	59	61.5
	Not classical	21	27.1
Type of scabies (multiple answers)	No rash	16	11.4
	Papular scabies	72	75
	Scabies Icoognito	6	6.3
	Crusted Scabies	1	1
	Others	20	17.7



Others include: Sulphur ointment, Steroid creams, Oral antifungal, Benzyl benzoate, Calamine lotion, etc.

Fig 2: What have you applied before coming to the clinic?

Table 4: Lesion seen on examination

Lesions	Frequency	Percentage
Burrows	10	10.4
Nodules	19	19.8
Papules	85	88.5
Scales	23	24
Pustules	1	1
Bullae	0	0
Vesicle	1	1
Others	4	4

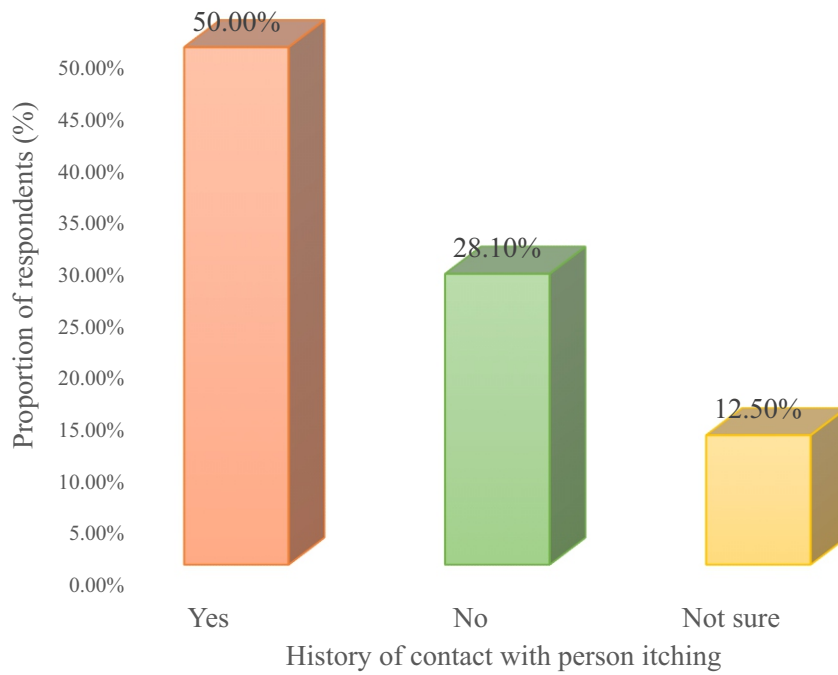


Fig 1: Proportion of respondents with history of contact with persons itching

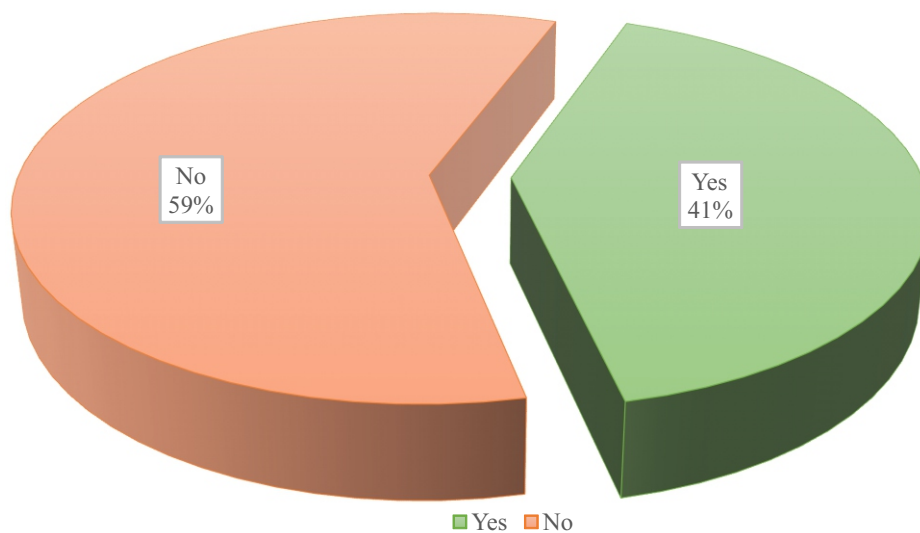


Fig 3: Have you been treated somewhere before coming to the skin clinic?

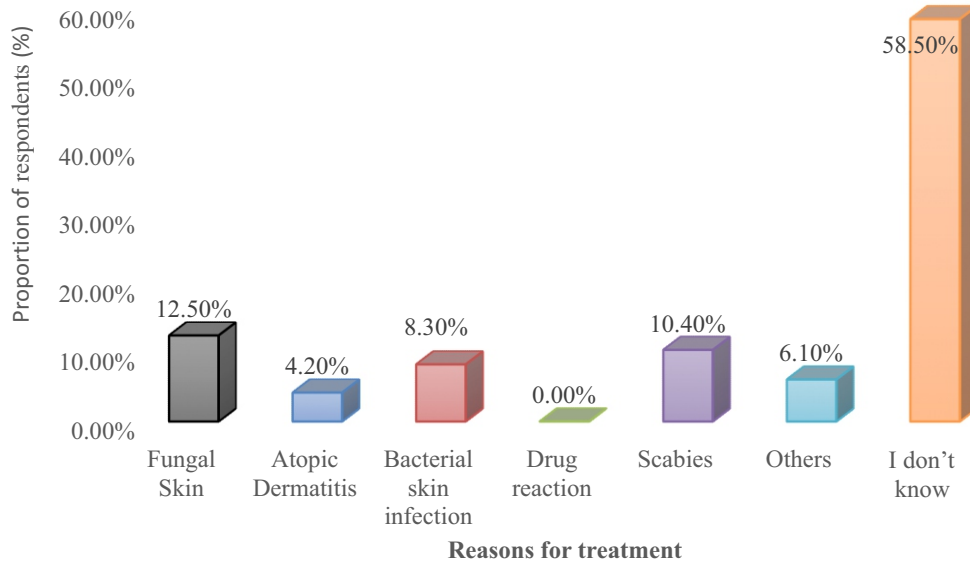


Fig 4: What have you been treated for?

DISCUSSION

This present study found that the majority of the participants (63.5%) were aged 20 years and above whereas the least percentage (2.1%) were infants less than a year old. This is also supported by a study by Ashok Nair et al.[6] Our finding is different from the study by Mason et al,[2] a population survey in Solomon Islands which had the highest prevalence of scabies occurring in infants and school children. This difference may be explained by the fact their study was a community-based study unlike ours which was hospital based. We observed that the number of males (62.5%) were almost one and half that of females (37.5%). This finding match those observed in other studies. [1, 3] Kouotou et al [3] who considered the male sex a risk factor for scabies. However, an Egyptian study [4] amongst school children observed that there is no statistically significant difference between the prevalence in males and females. Almost a half (45.8%) of our study participants completed tertiary education. In contrast, Jin-gang et al, [5], found that nearly two-thirds (62.5%) of their patients completed only secondary education. This emphasizes the fact that scabies affects people of all educational levels and social backgrounds. Scabies is mostly characterized by itching that is

exacerbated at particular periods. About 59.4% of our respondents reported that their pruritus was worse at night, while a third reported that it was worse when they sweated. The fewest (16.7%) reported that itching was worst while they bathed. According to Nair et al, [6], 79.4% of their patients experienced sleep disturbances as a result of aggravation of itching at night time. The itching occurs as a result of delayed hypersensitivity to the mites, their faeces and eggs. Amer et al. [7], discovered that at night, there is an increase in the number of mast cells in skin samples. This led to increased mast cell activation and degranulation and could account for the reason itching is worse at night.

Majority (83.3%) of the participants reported having rashes, while 15.6% reported having none. These rashes are caused by an allergic reaction to the mites or their byproducts. Papules were the most frequently observed lesion (88.5%), while vesicles and pustules were the least frequently encountered. This is consistent with the results of other studies. [1,6,8]

In terms of affected skin areas, the buttocks (64.6%) and genitals (62.5%) were the most affected sites. Das et al. [1] and Kouotou et al. [3] reported that the

genitals and finger webs were the most frequently involved sites, respectively. A possible explanation is that the lipids in the host skin attract mites to specific anatomical locations on the body.[9] The soles (5.2%) were the least frequently affected site, in contrast to the findings of Mason et al.[2] which stated that the feet were the most commonly affected site. Their explanation was that the communities lacked footwear and clothing that covered the ankles and feet. Half of our participants had previous contact with someone who is itching. This is corroborated by a study conducted in Cameroon. [3] Hegab et al [4] also discovered that 22.5% of scabies cases had itchy skin lesions in family members. This adds to the evidence that scabies is spread through close contact.

Regarding self-medication, around a third of participants used triple action creams. These creams are steroid-based and also contain antifungal and antibacterial agents. The high rate of use of these creams was due to the possibility that the steroids would provide temporary relief. According to a Brazilian study, [10], 77.8% of their patients used soaps – yellow and sulfur-based soaps were the most frequently used, followed by herbs, and a quarter used antifungal creams. Their explanation was that the patients believed they had other infections besides scabies and that practicing proper hygiene would improve their symptoms.

Papular scabies was the most prevalent type, accounting for three-quarters of all cases. The least common type of scabies was crusted scabies. This is supported by Yang, Lew, and Sim's study. [11] Crusted scabies is a relatively rare variant that requires a high threshold of suspicion. Notably, most of the patients had been treated for other cutaneous condition which are mimics of scabies due to the predominance of itching in these conditions

The strength of this study relies on the fact it is prospective while its relative small sample size and being hospital based, which may not be generalizable to the community, are some of the limitations.

CONCLUSION

Papular scabies remains the commonest type of scabies. Many cases are often misdiagnosed. Self-medication with triple action creams was a popular practice among our patients, a practice which may mask the typical presentation of the symptoms (itch) and signs (Scabies incognito).

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Author Contributions:

OIE conceptualized and designed the study. CIO, CCA, NAE and CU contributed to the implementation of the project and revision of manuscript. DFE was involved in the statistical analysis. All authors were involved in the writing and revision of the manuscript. The authors read, approved the final manuscript and agree to be accountable for all aspects of the work

Data Availability

The data used to support the findings of this study are available from the corresponding author upon reasonable request

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None declared

Ethical approval:

The study was approved by the institutional Ethics committee

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