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Clinico-Epidemiological Profile of Scabies among Children in a Peripheral Health Centre in Kashmir, India

Ishfaq Ahmad Pir[1*], Bilkees Gani[2], Jawahar ul Islam[3]
[1,2]*Medical Officer, Department of Health and Family Welfare, DHSK, Srinagar, India*
[3]*Resident Doctor, Sheri Kashmir Institute of Medical Sciences, Srinagar, India*

***Abstract*: This research paper is about the occurrence of scabies among the children of a rural region of Kashmir. *Methods:* This was cross-sectional study of scabies diagnosed in children below 3 monthsto16 years of age from June 2021to Dec 2021.The clinical and epidemiological characteristics were retrieved, recorded in preformed performa and analyzed using Microsoft excel and SPSS software. *Results:* Prevalence of scabies in children was 6.1%. Among 100 children enrolled, mean age of the children with scabies was 2.4 years. Majority (89.5%) was from rural community and was of lower income. Clustering of disease was seen in colder months. Common site of involvement due to scabies was abdomen, web-space and genitalia in both male and female. Pruritus was the most common symptom. *Conclusion:* Scabies is disease of public health importance with high prevalence and high socio-economic burden in children. To improve the quality of life associated with scabies, we need to improve hygiene, clean drinking water, appropriate treatment and public awareness.**

***Keywords*: Scabies, Children, Peripheral Study, Kashmir**

1. Introduction

Scabies is a contagious skin disease caused by burrowing and release of toxic or antigenic substances by the female mite Sarcoptes scabiei var.hominis. it is also known as seven year itch and is endemic in most rural communities of developing world. The most important factor that determines spread of scabies is the extent and duration of physical contact with an affected individual. Children and sexual partners of affected individuals are most at risk. Scabies is transmitted only rarely by fomites because the isolated mite dies within 2-3 days.

An adult female mite measures approximately 0.4 mm in length,has 4 sets of legs,and has a hemispheric body marked by transverse corrugations, brown spines,and bristles on the dorsal surface. A male mite is approximately half her size and is similar in configuration. After impregnation on the skin surface,a gravid female exudes a keratolytic substance and burrows into the stratum corneum, often forming a shallow well within 30 min. She gradually extends this tract by 0.5-5.0 mm/24hr along the boundary with the stratum granulosum. She deposits 10-25 oval eggs and numerous brown fecal pellets (scybala) daily. When egg laying is completed, in 4-5 wk, she dies within the burrow. The eggs hatch in 3-5 days, releasing larvae that move to the skin surface to molt into nymphs. Maturity is achieved in approximately two to three weeks. Mating occurs, and the Gravid female invades the skin to complete the lifecycle

In an immunocompetent host, scabies is frequently heralded by intense pruritus, particularly at night. The first sign of the infestation often consists of 1-2 mm red papules, some of which are excoriated, crusted, or scaling. Threadlike burrows are the classic lesion of scabies but may not be seen in infants. In infants, bullae and pustules are relatively common. The eruption may also include wheals, papules, vesicles, and a superimposed eczematous dermatitis. In older children and adolescents, the clinical pattern is similar to that in adults, in whom preferred sites are the interdigital spaces, wrist flexors, anterior axillary folds, ankles, buttocks, umbilicus and belt line, groin, genitals in men, and areolas in women. The head, neck, palms, and soles are generally spared. Infants will often have a diffuse eczematous eruption that will involve the scalp, neck, and face. Red-brown nodules, most often located in covered areas such as the axillae, groin, and genitals, predominate in the less common variant called nodular scabies. Additional clues include facial sparing, affected family members, poor response to topical antibiotics, and transient response to topical steroids. Untreated, scabies may lead to eczematous dermatitis, impetigo, ecthyma, folliculitis, furunculosis, cellulitis, lymphangitis and id reaction. Glomerulonephritis has developed in children from streptococcal impetiginization of scabies lesions. In some tropical areas, scabies is the predominant underlying cause of pyoderma. A latent period of approximately one month follows an initial infestation.

Thus, itching may be absent and lesions may be relatively inapparent in contacts who are asymptomatic carriers. However, on reinfestation, reactions to mite antigens are noted within hours. Diagnosis of scabies can often be made clinically but is confirmed by microscopic identification of mites, ova, and scybala in epithelial debris. Scrapings most often test positive when obtained from burrows or fresh papules. A

*Corresponding author: ipir569@gmail.com

reliable method is application of a drop of mineral oil on the selected lesion, scraping of it with a No. 15 blade, and transferring the oil and scrapings to a glass slide. We performed this study to find clinic- etiological profile of scabies in children in a peripheral health centre of Kashmir.

1) Objective

The main objective was to study the clinico-epidemiological profile of scabies in children in a peripheral health centre of Kashmir.

2. Methods

This was a hospital based cross sectional study done in sub district hospital Kupwara from june2021-dec 2021.The study included children from 3 months -16 yrs of age.

1) Exclusion criteria

- Infants <3 months age, atypical and Norwegian scabies.
- Patients with chronic systemic diseases, other developmental or congenital disorders & patients on chronic medications.
- Socioeconomic class was determined by using modified Kuppuswamy scale (updated for 2021).

Diagnosis was made clinically and the diagnostic criteria included:

- Classical lessions like papules, burrows (white-gray threadlike lines), vesiculopustules, nodules, (primarily in infants).
- Areas include interdigital spaces, wrists, ankles, axillae, waist, groin, palms, and soles.
- Pruritus (often most intense at night).
- Family history of scabies.
- Scalp involvement may be seen in infants.

Further all data was analyzed statistically using SPSS software and Microsoft excel.

3. Results and Observations

A total of 100 children were enrolled in the study. Among 100 patients, were 60 were males and 40 were females with M: F ratio of 1.5:1. Patients from 3 months to 16 yrs of age were studied. The mean age (SD) at presentation was 4.2(2.1) yrs.

Table 1
Showing age distribution of cases.(n=100)

Age(years)	N	%age
0.25-1.5	15	15
1.5-3	30	30
3-9	45	45
9-16	10	10
Total	100	100
Mean±SD	4.2±2.1	

Among the patients 60% were males and 40% were females. Among other features it was observed that as per modified Kuppuswamy scale (updated for 2021), 55% patients belonged to lower socio economic class whereas 28%,12%,5% belonged to upper lower, lower middle and upper middle classes respectively. Among 100 patients 80% belonged to hilly areas and 20% were residing in plain areas.

Table 2
Sex distribution of cases (n=100)

Sex	N	%age
Male	60	60
Female	40	40
Total	100	100

Table 3
Other demographic variables

Variable	N	%age
Socio-economic class		
Upper	0	0
Upper-middle	5	5
Lower-middle	12	12
Upper-lower	28	28
Lower	55	55
Geographical area		
Hilly	80	80
Plains	20	20

Pruritis was present in 90% patients, typical burrow type lesions were seen in 70% patients, whereas nodules and pustules were seen in 10% and 20% of patients.

As per areas involved palms and soles were involved in 5% patients whereas 60%, 70%, 70%, 5% patients have abdomen, genital area, wrist & forearm, interdigital spaces and scalp involvement respectively. Lymphadenopathy was present in 2% of patients. Family history of scabies was present in 95% of patients. Secondary infection of lesions was present in 15% of patients.

4. Discussion

Scabies is an ectoparasitic infection occurring worldwide especially in developing world. It is more common in children. It spreads by skin – skin contact. The most important factor that determines spread of scabies is the extent and duration of physical contact with an affected individual. It is more prevalent in those places where overcrowding and poor hygiene predominates. This study was done at a peripheral health centre of Kashmir to add more knowledge and further understanding of clinico -epidemiological profile of scabies among children so that adequate preventive measures can be taken to control it. This was a hospital based cross sectional study. The most common age group affected in our study was 3 – 9 yrs of age (45%) followed by 1.5 – 3 yrs of age (30%).Our findings were consistent with those of Sambo et al. In our study 60% cases were males our results were consistent with findings of study done by Das S et al. In our study it was found that 80% belonged to hilly areas were water scarcity and consequent poor hygiene (risk factor for scabies predominates). In our study we found 88% of patients belonged to lower class, 12% to middle class as per modified Kuppuswamy scale (updated for 2021). Lower socio-economic status is associated with limited resources and overcrowding and consequently more spread of scabies. Pruritis was present in 90% patient, typical burrow type lessions were seen in 70% patients whereas nodules and pustules were seen in 10% and 20% of patients.

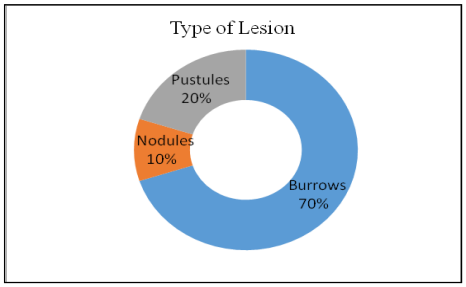

Fig. 1. Type of Lesion

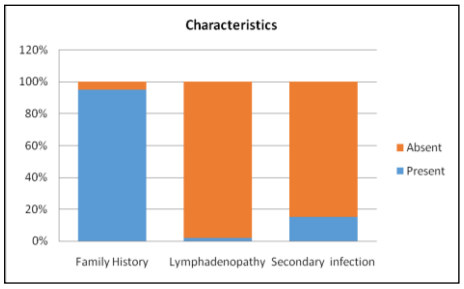

Fig. 2. Characteristics

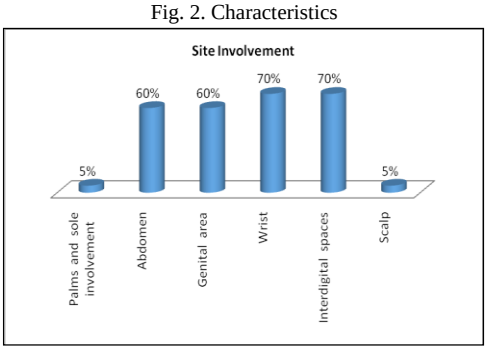

Fig. 3. Site Involvement

As per areas involved palms and soles were involved in 5% patients whereas 60%, 70%, 70%, 5% patients have abdomen, genital area, wrist & forearm, inter digital spaces and scalp involvement respectively. Lymphadenopathy was present in 2% of patients. Family history of scabies was present in 95% of patients, secondary infection of lesions was present in 15% of patients. Our findings were consistent with those of Sunil Agrawal et al. Our study will help public health professionals, pediatricians and dermatologists to understand clinical and epidemiological profile of scabies in children so that appropriate measures can be taken to reduce scabies related morbidity and mortality.

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