

A STUDY ON PERCEPTION, ATTITUDE AND QUALITY OF LIFE IN CASES OF SCABIES AT LUCKNOW DISTRICT

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ABSTRACT

Background: Scabies is a common, highly contagious skin infestation caused by *Sarcoptes scabiei*, transmitted primarily through direct contact and occasionally via infested clothing or bedding. It can persist for months if untreated, underscoring the need for effective prevention and awareness. The aim is to assess perception, attitude, and quality of life (QOL) in patients with scabies in Lucknow District. **Materials and Methods:** A six-month cross-sectional study was conducted at the Rural and Urban Health Training Centres of Era's Lucknow Medical College and Hospital. Participants included patients over 12 years of age with clinical features suggestive of scabies. Data were collected using a pre-structured questionnaire adapted for the Indian population, and QOL was measured using the Dermatology Life Quality Index (DLQI). Patients with atypical or crusted scabies, pregnant or lactating women, and those not consenting were excluded. **Result:** Most patients (41%) were in the 10–18 years' age group, whereas only 11.5% were aged between 45 and 50 years. Intense itching (79.5%) and nocturnal itching (12.0%) were the most common symptoms, predominantly affecting finger webs (76.1%). *Sarcoptes scabiei* was recognized as the cause by 42.7%. A majority believed scabies affects all ages (91.5%) and spreads through clothing exchange (81.2%) or direct contact. Preventive measures reported included disinfection of clothes, simultaneous treatment (60.7%), bathing, and hygiene. Most preferred treatment at local health centers (76.1%) and sought care promptly (94.9%), though cost was a concern (52.1%). The highest QOL scores were in 35–44 years, lowest in 10–17 years ($p=0.011$). Significant differences were observed by religion, family type, education, occupation, and socioeconomic status, but not by gender. **Conclusion:** Scabies negatively influences QOL, particularly among youth and disadvantaged groups. Strengthening health education, hygiene practices, and affordable treatment is vital to reduce its burden.

INTRODUCTION

Scabies is a contagious skin infestation caused by the mite *Sarcoptes scabiei*, which burrows into the skin, lays eggs, and triggers intense itching and a characteristic rash.^[1] Commonly affected sites include the web spaces of fingers, wrists, armpits, waistline, elbows, feet, and buttocks, with children often showing scalp and palm involvement.^[2] Crusted scabies, a severe form, features thick, crusted lesions harboring thousands of mites, capable of surviving without human contact for extended periods, increasing transmission risk.^[3] The condition spreads mainly through direct skin-to-skin contact but can also be transmitted via

contaminated clothing or bedding. Environments with close contact, such as schools, group homes, and prisons, are particularly susceptible.^[4] Although sexual contact can transmit scabies, nonsexual contact is sufficient for its spread¹. The disease is highly prevalent in overcrowded, low socioeconomic, and tropical communities, affecting over 200 million people worldwide.^[4,5] Beyond discomfort, scabies predisposes individuals to secondary bacterial infections, including *Streptococcus pyogenes* and *Staphylococcus aureus*, potentially leading to severe complications like rheumatic heart disease.^[6,7] Awareness and knowledge remain limited, hindering early detection and effective treatment.^[2] This study aims to evaluate

scabies prevalence, knowledge, and preventive practices in Lucknow, guiding public health strategies to reduce its burden.

MATERIALS AND METHODS

Study Design and Setting: A cross-sectional study was conducted over one year (August 2021- July 2022) at the Rural and Urban Health Training Centers (RHTC and UHTC) of Era's Lucknow Medical College and Hospital.

Study Population: Patients aged ≥ 12 years presenting with clinical features suggestive of scabies: such as nocturnal itching, family history of itching, and characteristic lesions including papules, excoriations, and burrows at classical sites (finger webs, genitals, etc.): were included. Patients who did not provide consent, had atypical or crusted scabies, were pregnant or lactating, or had other chronic dermatological or systemic conditions were excluded.

Data Collection: Data were collected using a pre-structured, pre-tested questionnaire designed to capture participants' socio-demographic characteristics, perceptions, knowledge, and attitudes toward scabies. The questionnaire was adapted to the Indian population to ensure cultural and contextual relevance.

- **Socio-Demographic Profile:** Information on age, sex, religion, education, occupation, family type, and socioeconomic status was recorded.
- **Perceptions and Knowledge:** Participants' understanding of scabies, its causes, transmission, and preventive measures was assessed through structured questions.
- **Attitude:** Attitudinal responses toward scabies, including personal hygiene practices, treatment-seeking behavior, and preventive approaches, were documented.
- **Quality of Life:** The impact of scabies on daily life was assessed using the Dermatology Life Quality Index (DLQI), a validated, self-administered instrument widely employed in dermatology to evaluate physical, psychological, and social domains.
- **Association Analysis:** Data were later analyzed to examine associations between socio-demographic characteristics and quality-of-life scores.

Trained investigators administered the questionnaire, ensuring clarity and completeness of responses. Confidentiality of participants' information was maintained throughout the study.

Sample Size: Sample size was calculated on the basis of proportion of scabies patients had effect of quality of life having scabies using the formula:

Based on a prevalence of quality-of-life impact among scabies patients of 51.6% (Pragya Nair et al.)⁸, with a 5% Type I error ($\alpha = 0.05$) and 90% power, the minimum sample size was calculated as 188. A total of 190 patients were enrolled.

Ethical Considerations: Written informed consent was obtained from all participants or their guardians. The study adhered to ethical standards for research involving human participants.

Statistical Analysis: Data were analyzed using appropriate statistical tests, with significance set at $p < 0.05$. Analysis included ANOVA for group comparisons and the Modified Dermatological Life Quality Index to assess quality-of-life scores, alongside evaluation of perceptions and attitudes.

RESULTS

[Table 1] Socio-Demographic profile of Participants

Most patients (41%) were in the 10–18 years' age group, whereas only 11.5% were aged between 45 and 50 years. The majority of patients belonged to nuclear families (59.5%), while a considerable proportion had an educational level up to the 8th grade (26%). Students formed the largest occupational group (41%), and the majority belonged to the 5th socioeconomic class according to the modified BG Prasad classification.

[Table 2] Perceptions towards the Disease: Around 44% of participants correctly identified scabies from a picture, and 58.5% were previously aware of the disease.

[Table 3] Knowledge about the disease: Table summarizes participant's perceptions and attitudes toward scabies. Intense itching (79.5%) and nocturnal itching (12.0%) were the most commonly reported symptoms, predominantly affecting finger webs (76.1%). *Sarcoptes scabiei* was identified as the main cause by 42.7% of respondents. Most participants believed scabies affects all age groups (91.5%) and spreads through clothing exchange (81.2%) or direct contact. A majority recognized its impact on skin health (81.2%) and endorsed preventive measures such as disinfection of clothes, simultaneous treatment (60.7%), regular bathing, maintaining hygiene, and avoiding skin contact. Seeking treatment at local health centers was preferred (76.1%), with most recommending care immediately or within a week (94.9%), although cost remained a concern for 52.1%. About one-third (35%) supported quarantine measures.

[Table 4] Attitude towards the disease: It highlights respondents' varying levels of agreement on scabies prevention and knowledge. Most participants demonstrated positive attitudes toward key preventive measures, including maintaining personal hygiene (49.6% strongly agreed), seeking prompt treatment (45.3% strongly agreed), and creating a conducive environment to prevent scabies (31.6% strongly agreed).

[Table 5] Quality of life (Modified Dermatological Life quality index) (Adults): It indicates that scabies had a limited impact on quality of life. Most patients reported no embarrassment or shame (54.5–80%), minimal effect on work or school activities (44.5% of

children; majority of adults), and little impact on social (40%) or sexual life (41%). Nearly half (47%) did not feel depressed or inferior due to their condition, suggesting that scabies generally exerted a modest effect on daily functioning.

[Table 6] Association between Sociodemographic profile and QOL: Table indicates that mean Quality of Life (QOL) scores vary significantly across demographic groups. The highest QOL was observed in the 35-44 age group, and the lowest in the 10-17 age group ($p = 0.011$). Males and females showed only a slight difference ($p = 0.085$). Hindus reported

higher QOL than Muslims ($p = 0.025$), and individuals from nuclear families had higher QOL than those from joint families ($p = 0.013$). Educational level was positively associated with QOL, with graduate's/diploma holders scoring highest and just-literate/primary-educated individuals lowest ($p = 0.001$). Occupation also influenced QOL, with students and unskilled workers reporting lower scores, and graduate's/business owners higher scores ($p = 0.002$). Furthermore, higher socioeconomic status was strongly associated with better QOL ($p < 0.001$).

Table 1: Socio-Demographic profile of Participants

Variable	No.	%
Age	10 - 17 years	41.0
	18 - 25 years	18.5
	26 - 34 years	15.0
	35 - 44 years	14.0
	45 - 50 years	11.5
Sex	Male	40.0
	Female	60.0
Religion	Hindu	21.0
	Muslim	79.0
type of family	Nuclear	59.5
	Joint	40.5
Education	Illiterate	15.0
	Just-literate/Primary	18.0
	8th Pass	26.0
	High School	24.0
	Intermediate	10.0
	Graduation/Diploma	4.0
	Professional/Honors/MA & above	3.0
Occupation	Student	41.0
	Semi-professional	4.0
	Clerk/Shopkeeper/Business/Farm owner	14.0
	Skilled worker	1.0
	Semi-skilled worker	5.0
	Unskilled worker	6.5
	Unemployed/Housewife	28.5
Socio-economic status	I	4.0
	II	11.0
	III	17.5
	IV	32.5
	V	35.0

Table 2: Perceptions towards the Disease

	No.	%
Do you recognize the skin disease in the photograph	88	44.0
Have you Heard about scabies	117	58.5
Total	200	100.0
	No.	%
From whom have you heard about scabies	Family/Friends	41.0
	Healthcare workers	34.2
	School	6.8
	Radio	1.7
	Internet	5.1
	Other sources	11.1
How is scabies transmitted	I don't know	24.8
	Because of lack of hygiene	25.6
	Through clothes and bedding	20.5
	Skin contact with someone infected	25.6
	Through dirtiness	1.7
	Sleep disturbances	1.7

Table 3: Knowledge about the disease

What are the main symptoms of scabies	Intense itch	93	79.5
	Fever	2	1.7
	Skin lesions	4	3.4
	I don't know	2	1.7
	Night itch	14	12.0
	Sleep disturbances	2	1.7
What are the causes?	Sarcoptes scabiei	50	42.7
	Germs	22	18.8
	The effect of scratching	26	22.2
	Others	19	16.2
What are the signs and symptoms	Got small to large spots which are reddish and wet	24	20.5
	Itching at night and feel the heat and pus	83	70.9
	Others	10	8.5
Parts of body that are affected	Between fingers	89	76.1
	armpits	8	6.8
	waist	6	5.1
	genitals	4	3.4
	elbows	2	1.7
	wrist	2	1.7
	part that is often being covered	6	5.1
The transmission of scabies disease	Skin to skin contact	39	33.3
	through clothes, towels, bed linen and other things used by the patient	76	65.0
	through skin contact only	2	1.7
Who can suffer from scabies?	All age groups	107	91.5
	Teenagers	8	6.8
	Young	2	1.7
Can exchanging clothes with an infected person spread scabies?	No	22	18.8
	Yes	95	81.2
Can scabies be harmful to the health of skin	No	22	18.8
	Yes	95	81.2
Does the patient need to be quarantined?	No	76	65.0
	Yes	41	35.0
What should we do to break the chain of scabies disease?	Disinfection on clothing, bed linen and give treatment simultaneously	71	60.7
	Keep a distance with others when being infected by Sarcoptes scabiei	36	30.8
	Need regular treatment only	10	8.5
Can drying mattress and pillow prevent scabies?	No	29	24.8
	Yes	88	75.2
How to prevent scabies	Bath 2 times per day with soap	24	20.5
	Prevent direct contact with the patients	20	17.1
	Bath 2 times per day and keep the cleanliness of clothes	55	47.0
	Keep clothing, towels and bedding, being contaminated with scabies sufferers	18	15.4
How can you prevent scabies	Keep personal hygiene	65	55.6
	Keep clothes clean	10	8.5
	infected people should be treated	24	20.5
	Avoid contact with dirty water	8	6.8
	Avoid skin contact with infected people	10	8.5
If someone in household infected with scabies, what do you do to prevent the spread of the disease?	Infected people should be treated	59	50.4
	Avoid skin contact with infected people	24	20.5
	Wash clothes	14	12.0
	Treat everyone in the household	10	8.5
	Topical application of a home remedy	8	6.8
	Don't share the bed with infected people	2	1.7
Where do you seek treatment if someone in your household is infected	Local health centre	89	76.1
	Traditional healer	8	6.8
	Local pharmacy	18	15.4
	Homemade remedy	2	1.7
When do you seek treatment if someone in your household is infected	Immediately	66	56.4
	Within less than a week	45	38.5
	Within more than a month	6	5.1
Which factors influence people's treatment choices?	Cost of treatment	61	52.1
	Cost of transport	10	8.5
	Trust in traditional medicine	12	10.3
	Trust in western medicine	20	17.1
	Distance	2	1.7
	Believe that scabies goes away by itself	12	10.3

Table 4: Attitude towards the disease

Variable		No.	%
Mattresses and pillows are dried every week	Strongly agree	32	27.4
	Agree	67	57.3
	Less agree	18	15.4
Personal hygiene is very necessary to keep the body free from scabies	Strongly agree	58	49.6
	Agree	51	43.6
	Less agree	8	6.8
To keep distance from scabies sufferers is really necessary or needed	Strongly agree	45	38.5
	Agree	62	53.0
	Less agree	10	8.5
If found cases of scabies treatment should be done quickly to prevent the transmission of disease	Strongly agree	53	45.3
	Agree	54	46.2
	Less agree	10	8.5
Besides personal hygiene there must be a good environment in order to prevent scabies	Strongly agree	37	31.6
	Agree	66	56.4
	Less agree	14	12.0

Table 5: Quality of life (Modified Dermatological Life quality index) (Adults)

Variable		No.	%
During the last week did you feel embarrassed or ashamed of your skin condition	Not at all	160	80.0
	Only a little	28	14.0
	Quite a lot	5	2.5
	Very much	7	3.5
During last week did your skin condition affect your work activities	Not at all	82	41.0
	Only a little	63	31.5
	Quite a lot	36	18.0
	Very much	19	9.5
During last week did your skin condition cause problem in your sexual relationship?	NA	82	41.0
	Not at all	49	24.5
	Only a little	39	19.5
	Quite a lot	18	9.0
	Very much	12	6.0
During last week did your skin condition affect your social contacts	Not at all	80	40.0
	Only a little	68	34.0
	Quite a lot	33	16.5
	Very much	19	9.5
During last week did you feel inferiority complexion or depressed	Not at all	94	47.0
	Only a little	62	31.0
	Quite a lot	26	13.0
	Very much	18	9.0
During last week did you feel embarrassed or ashamed because of your skin condition	Not at all	109	54.5
	Only a little	48	24.0
	Quite a lot	25	12.5
	Very much	18	9.0
During last week did your skin condition affect your school work (Children)	Not at all	89	44.5
	Only a little	62	31.0
	Quite a lot	34	17.0
	Very much	15	7.5

Table 6: Association between Sociodemographic profile and QOL

Variable	category	QOL Score (%)		ANOVA	
		Mean	SD	F-value	p-value
Age	10 - 17 yr	24.25	16.06	3.37	0.011
	18 - 25 yr	32.16	8.25		
	26 - 34 yr	28.22	8.01		
	35 - 44 yr	33.10	17.68		
	45 - 50 yr	27.10	11.82		
Sex	Male	29.97	14.20	3.00	0.085
	Female	26.48	13.82		
Religion	Hindu	32.20	15.20	5.13	0.025
	Muslim	26.73	13.54		
Family Type	Nuclear	29.90	13.46	6.24	0.013
	Joint	24.91	14.43		
Education	Illiterate	28.22	11.27	3.76	0.001
	Just-literate/Primary	24.36	12.47		
	8th Pass	23.76	13.04		
	High School	29.39	14.63		
	Intermediate	32.96	10.04		
	Graduation/ Diploma	43.70	27.45		
Occupation	Professional/Honours/MA & above	32.78	4.43	3.70	0.002
	Student	24.25	16.06		

	Semi-professional	32.50	9.04		
	Clerk/Shopkeeper/Business/Farm owner	36.67	15.82		
	Skilled worker	26.67	0.00		
	Semi-skilled worker	33.33	10.06		
	Unskilled worker	31.79	13.58		
	Unemployed/ Housewife	26.32	8.30		
SES	I	44.68	27.63	7.99	0.000
	II	36.73	9.95		
	III	24.90	11.63		
	IV	28.83	11.40		
	V	23.78	13.92		



Scabies lesions on the hands

DISCUSSION

Scabies remains a major public health concern, particularly in low- and middle-income countries, where overcrowding and poor hygiene facilitate its transmission. Globally, more than 200 million people are affected at any time, with prevalence ranging from 0.2% to 71% depending on region and population studied (Hay et al., 2012; Romani et al., 2015).^[9,10] In India, scabies continues to be one of the most common dermatological conditions encountered in primary care and community settings (Nair et al., 2017).^[8] Beyond its physical symptoms, scabies can negatively impact mental well-being, social interactions, and daily functioning, though its effects on quality of life vary across populations (Andrews et al, 2009; Kaur et al., 2020).^[11,12] Our study explored perceptions, attitudes, and quality of life among scabies patients in Lucknow District, with particular emphasis on socio-demographic variations. In the present study, scabies was most common among adolescents aged 10–18 years, with relatively fewer cases in older adults (45–50 years). Females constituted the majority of cases. Most patients belonged to nuclear families, had education up to middle school, were students by occupation, and largely came from the lower socioeconomic class (Class V, Modified BG Prasad classification). Awareness was moderate, with 44% correctly identifying scabies from an image and 58.5% reporting prior knowledge, findings consistent with earlier surveys in India and elsewhere, which reported limited recognition despite prevalence (Tiwari & Kabirpanthi, 2015; Walker et al, 2017).^[1,2,13,14]

Participants largely recognized hallmark symptoms such as intense itching and finger-web involvement, consistent with classic presentation (WHO, 2019).^[3] However, only 42.7% correctly identified *Sarcoptes scabiei* as the cause, reflecting gaps in etiologic knowledge similar to prior community studies (Mahajan et al, 2016; Worth et al, 2017).^[4,5,15,16] Preventive understanding was stronger: most participants endorsed hygiene, disinfection, and simultaneous treatment, aligning with WHO and global control strategies (Engelman et al 2013; Romani et al 2015).^[6,7,10,17]

The overall QOL impact was relatively modest in our study, with limited disruption to daily, work, or social life. This differs from studies reporting moderate to

severe impairment for example, Nair et al.^[8] (2016) in India and Romani et al.^[10] (2015) in Fiji found significant QOL impact measured by DLQI and psychosocial indices.^[7,8] Lower scores in our study may reflect better healthcare access, cultural acceptance, or underreporting of psychosocial effects.

Socio demographic disparities were notable. Adolescents reported poorer QOL, reflecting vulnerability of youth to stigma from visible skin disease. Lower education, unskilled work, and low socioeconomic status were associated with worse outcomes, echoing evidence that disadvantage amplifies scabies burden (Nair et al., 2016; Worth et al., 2017).^[5,8] Joint families also showed lower QOL, likely due to overcrowding and higher intra-household transmission (Mahajan et al., 2016).^[4] Gender differences were small but align with literature suggesting slightly higher psychosocial burden among women in dermatological diseases (Hahn et al., 2001; Finlay & Khan, 1992).^[9,10] Although sometimes considered a minor skin condition, scabies poses a significant burden among vulnerable groups. Effective control requires not only treatment but also improved awareness, living conditions, and stigma reduction. Mass drug administration (MDA) has shown effectiveness in endemic communities (Romani et al., 2015),^[7,10] but modelling studies caution against reliance on MDA alone without structural improvements (Lydeamore et al., 2016).^[11] Integrated approaches early case detection, contact management, community education, and sanitation improvements remain essential for sustainable control.

Limitations

The findings should be interpreted in light of certain limitations. Self-reported measures of symptoms and QOL may be subject to recall and reporting bias. Additionally, the cross-sectional nature of the study precludes assessment of causal relationships. Nevertheless, the study provides valuable evidence on community perceptions and QOL impacts, informing future control efforts.

CONCLUSION

The study highlights that scabies predominantly affects adolescents, students, and individuals from nuclear families with lower educational and socioeconomic backgrounds. While awareness of scabies and its preventive measures was moderate, most participants demonstrated positive attitudes toward hygiene, prompt treatment, and environmental control. The condition had a generally limited impact on quality of life, with minimal effects on social, work, or school activities and low levels of embarrassment or psychological distress. Quality of life varied significantly across demographic groups, being higher among older adults, males, those from nuclear families, better-educated individuals, graduate's/business owners, and higher

socioeconomic status groups. These findings underscore the need for targeted health education, improved awareness, and preventive strategies to mitigate the burden of scabies, particularly among younger, less-educated, and socioeconomically disadvantaged populations.

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