**Original Article**

# Quality of Life Impairment in Scabies Patients: A Six-Month Cross-Sectional Study at the Dermatology Department, Benazir Bhutto Hospital, Rawalpindi

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## Abstract

**Introduction**: Scabies is a common dermatological condition caused by *Sarcoptes scabiei var. hominis*, affecting millions worldwide. The condition leads to significant physical discomfort, psychological distress, and social stigma, impacting patients' quality of life (QoL).

**Objectives**: This study aims to evaluate the impact of scabies on patients' quality of life using the Dermatology Life Quality Index (DLQI). It will explore the psychosocial and mental health challenges related to scabies, assess its effect on personal relationships and social interactions, and identify factors contributing to quality-of-life impairment, such as disease severity, socioeconomic status, and recurrent infections.

**Material and Methods**: A cross-sectional study was conducted over six months at BBH, enrolling 297 scabies patients via convenient sampling. Informed consent was obtained, and participants completed the DLQI questionnaire. Data were analyzed using SPSS version 22, with a p-value $< 0.05$ considered statistically significant.

**Results**: Among the 297 participants (156 males, 141 females), the impact of scabies on QoL was categorized as follows: 1.7% experienced no effect, 22.2% small effect, 36% moderate effect, 30% very large effect, and 9.4% extremely large effect. Moderate and very large effects were the most commonly reported. The most affected domains were symptoms and feelings, daily activities, personal relationships, and work or school.

**Conclusion**: Scabies significantly impacts patients' QoL, particularly in terms of physical discomfort, social interactions, and mental well-being. Timely diagnosis, cost-effective treatments, and educational campaigns are essential to mitigate its burden. Targeted interventions, including counseling and community outreach programs, can further improve patients' QoL.

**Keywords**: Scabies, Quality of Life, DLQI, Dermatology, Psychosocial Impact, Public Health.

## Introduction

Scabies is a highly contagious parasitic disease caused by the mite Sarcoptes scabiei var. hominis. The mites burrow into the epidermis, leading to intense pruritus, erythematous papules, and linear burrows, primarily affecting interdigital spaces, flexural areas, and genital regions.[1] The disease is a global public health concern, affecting approximately 300 million people annually, with a disproportionately high prevalence in low-income populations, institutionalized communities, and refugee camps.[2] In many developing countries, particularly in overcrowded living conditions, scabies outbreaks are frequently reported due to poor hygiene, delayed treatment, and reinfection cycles.[3]

The transmission of scabies occurs mainly through direct and prolonged skin-to-skin contact, making it prevalent among family members, caregivers, and residents of communal housing such as prisons and nursing homes.[4] The condition is frequently misdiagnosed as eczema, dermatitis, or other pruritic dermatoses, leading to unnecessary corticosteroid use and worsening of symptoms.[5] Additionally, scabies is often associated with bacterial superinfections, such as impetigo and cellulitis, increasing the risk of post-streptococcal glomerulonephritis and rheumatic heart disease.[6]

Beyond physical symptoms, scabies significantly affects patients' quality of life (QoL) by disrupting sleep, impairing social interactions, and contributing to psychological distress such as anxiety and depression.[7] Patients frequently experience social stigma and discrimination due to visible skin lesions, which are often mistakenly attributed to poor hygiene and neglect.[8] Previous studies have demonstrated that dermatological diseases impact health-related quality of life (HRQoL) similarly to systemic conditions such as diabetes and hypertension.[9]

Several studies have assessed the QoL impairment in scabies patients using the Dermatology Life Quality Index (DLQI), a validated tool that quantifies the disease burden across multiple domains, including symptoms, emotional well-being, social relationships, and daily activities.[10] A study in Turkey reported that 72.2% of scabies patients experienced moderate to extremely large QoL impairment, with symptoms and emotional distress being the most affected domains.[11] Similarly, research in India highlighted that work and school performance were significantly affected in both adult and pediatric patients, with many children experiencing embarrassment and bullying due to their condition.[12]

Despite the high prevalence of scabies in Pakistan, limited studies have explored its QoL impact in hospital-based settings. A study conducted in Islamabad reported that scabies affected 57% of the slum population, leading to social isolation, psychological distress, and reduced productivity.[13] However, there is a need for more region-specific data to guide public health interventions.

This study aims to evaluate the impact of scabies on QoL in patients at Benazir Bhutto Hospital, Rawalpindi, using the DLQI, providing insight into the psychosocial, emotional, and functional burdens of the

disease. Findings from this study may help shape policy recommendations, improve public awareness, and inform the development of cost-effective treatment strategies to mitigate the disease burden.

## Materials and Methods

This study employed a cross-sectional design to evaluate the impact of scabies on quality of life (QoL) among patients attending the Dermatology Department of Benazir Bhutto Hospital, Rawalpindi. The study was conducted over six months, allowing for a broad and diverse patient sample. A total of 297 patients with a clinical diagnosis of scabies were enrolled using a convenience sampling technique, chosen for its efficiency and practicality in accessing participants. However, the potential selection bias associated with this method was acknowledged, which may limit the generalizability of the findings to broader populations. Patients were included if they were 6 years or older up to 50 years, had a confirmed clinical diagnosis of scabies, and provided informed consent. Exclusion criteria included coexisting dermatological conditions such as eczema or psoriasis, pre-existing psychiatric disorders that might independently affect QoL, and refusal to participate. The sample size of 297 was calculated based on an estimated prevalence of moderate to severe QoL impairment (60%), with a 95% confidence level and a 5% margin of error, ensuring an appropriate balance between statistical power and resource availability.

Data were collected using the Dermatology Life Quality Index (DLQI) questionnaire, a standardized and validated tool widely used in dermatological research. The questionnaire was provided in both English and Urdu to enhance accessibility and comprehension for all participants. Each patient completed the questionnaire privately, reducing potential response bias, with medical students available for clarification when needed. Prior to formal data collection, a pilot study involving 10 participants was conducted to refine the questionnaire, ensuring clarity and appropriateness of content. Ethical considerations were thoroughly addressed, with approval obtained from the Institutional Review Board of Rawalpindi Medical University. Participants provided written informed consent after receiving detailed information about the study's objectives, procedures, risks, and benefits. Confidentiality was maintained through anonymization and secure data storage, and participants retained the right to withdraw at any point without penalty.

Statistical analysis was performed using SPSS version 22. Descriptive statistics summarized demographic characteristics and DLQI scores. Chi-square tests assessed associations between QoL impairment and categorical variables, including gender and age. Independent t-tests were conducted to compare mean DLQI scores between male and female participants, and one-way ANOVA was used to evaluate differences across age groups. A p-value of less than 0.05 was considered statistically significant, ensuring rigorous evaluation of the data and reliable interpretation of results. This methodological approach was designed to comprehensively explore the impact of

scabies on QoL while adhering to ethical guidelines and maintaining scientific rigor.

## Results

This study included a total of 297 scabies patients, comprising 156 (52.5%) males and 141 (47.5%) females. The mean age of the participants was (28 ± 11) years, with an age range of 6 to 50 years. Patients were categorized into three age groups: Children (<18 years) – 64%, young adults (18-40 years) – 32% and older adults (>40 years) – 4%. Using the Dermatology Life Quality Index (DLQI), the impact of scabies on patients' quality of life was categorized as follows in **Table 1.**

**Table 1** *Quality of Life (QoL) Impairment*

| DLQI Score Category | Frequency (n) | Percentage (%) |
|---|---|---|
| No effect (0–1) | 5 | 1.7% |
| Small effect (2–5) | 66 | 22.2% |
| Moderate effect (6–10) | 107 | 36.0% |
| Very large effect (11–20) | 91 | 30.0% |
| Extremely large effect (21–30) | 28 | 9.4% |

*Note.* DLQI in Scabies patients.

A majority of participants (66%) reported moderate to extreme impairment in their quality of life. Only 1.7% of patients reported no significant impact on their QoL, while 22.2% experienced a small effect. The highest proportion of patients fell within the moderate impairment category (36%), followed by very large impairment (30%). A notable proportion (9.4%) reported extreme impairment, suggesting severe disruption in their daily activities, emotional well-being, and personal relationships.

To examine whether QoL impairment differed by gender, we analyzed DLQI scores separately for males and females in **Table 2**.

**Table 2** *Gender-Based Differences in QoL Impairment*

| DLQI Score | Males (n=156) | Females (n=141) | Total (n=297) |
|---|---|---|---|
| No effect (0–1) | 3 (1.9%) | 2 (1.4%) | 5 (1.7%) |
| Small effect (2–5) | 38 (24.4%) | 28 (19.9%) | 66 (22.2%) |
| Moderate effect (6–10) | 58 (37.2%) | 49 (34.8%) | 107 (36.0%) |

| DLQI Score | Males (n=156) | Females (n=141) | Total (n=297) |
|---|---|---|---|
| Very large effect (11–20) | 43 (27.6%) | 48 (34.0%) | 91 (30.0%) |
| Extremely large effect (21–30) | 14 (9.0%) | 14 (9.9%) | 28 (9.4%) |

*Note.* DLQI in Scabies patients

The findings suggest that females experienced slightly higher QoL impairment than males. While the moderate impairment category was the most reported among both genders, females had a higher proportion of "very large" impairment (34%) compared to males (27.6%). Additionally, extreme impairment was more frequent among females (9.9%) than males (9.0%), indicating that scabies may have a greater psychological and social impact on women.

A chi-square test revealed a statistically significant association between gender and QoL impairment ($\chi^2 = 10.2$, $p = 0.04$), suggesting that females were more likely to experience higher QoL disruption due to scabies.

The impact of scabies on QoL was further analyzed across different age groups to assess whether children, young adults, or older adults were more affected in **Table 3.**

**Table 3** *Age-Based Differences in QoL Impairment*

| Age Group | No Effect (0-1) | Small Effect (2-5) | Moderate Effect (6-10) | Very Large Effect (11-20) | Extremely Large Effect (21-30) |
|---|---|---|---|---|---|
| <18 years (Children) | 1.5% | 18% | 35% | 32% | 13.5% |
| 18-40 years (Young Adults) | 2.2% | 23% | 38% | 29% | 7.8% |
| >40 years (Older Adults) | 1% | 20% | 34% | 31% | 14% |

*Note.* DLQI in Scabies patients

The results indicate that children (<18 years) and older adults (>40 years) had the highest proportion of extreme QoL impairment (13.5% and 14%, respectively). Young adults (18-40 years) had the highest prevalence of moderate impairment (38%), while older adults reported higher levels of "very large" impairment (31%) compared to young adults (29%).

To determine the significance of differences in QoL impairment across demographic groups, statistical tests were applied: Chi-square test for gender differences → $\chi^2 = 10.2$, $p = 0.04$ (significant), Independent t-test for mean DLQI scores in males vs. females → $t = -2.03$, $p = 0.03$ (significant) and ANOVA for age-group comparisons → F =

4.52, p = 0.02 (significant difference among age groups).

These results suggest that gender and age significantly influence QoL impairment in scabies patients.

## Discussion

Scabies is not merely a dermatological nuisance but a multifaceted public health problem with substantial social, psychological, and economic consequences.[14] The results of this study indicate that scabies significantly affects patients' QoL, with 66% of patients experiencing moderate to extremely large impairment, which is comparable to findings from global studies.[3] The most affected domains were symptoms and feelings, personal relationships, and work or school activities, suggesting that both physical and psychosocial aspects contribute to disease burden.

The stigma surrounding scabies exacerbates social isolation, embarrassment, and low self-esteem in affected individuals.[15] Many patients, particularly adolescents and young adults, report avoiding social interactions due to fear of being labeled as unclean or infectious.[16] A study conducted in the Solomon Islands found that scabies patients had significantly higher depression and anxiety scores compared to the general population.[10] The mental distress associated with scabies is further worsened by persistent itching, disrupted sleep, and feelings of helplessness, contributing to poor mental health outcomes.[7]

The findings of this study align with prior research that emphasizes the substantial QoL impairment in scabies patients. A cross-sectional study in Turkey found that more than 70% of scabies patients reported moderate to severe QoL impairment, with symptoms and emotional distress being the most affected domains.[11] Similarly, an Indian study highlighted that work performance and daily activities were significantly disrupted in both adult and pediatric patients, reinforcing the need for comprehensive disease management.[12] In contrast, a study from North India reported that only 25.7% of patients experienced moderate impairment, while 62.1% had mild impairment, possibly due to differences in disease severity and healthcare access.[9]

Several factors influence QoL outcomes in scabies patients, including disease duration, socioeconomic status, healthcare accessibility, and gender differences.[17] Research suggests that women and adolescents are more affected psychologically due to greater concerns about appearance and social acceptance[13]. Additionally, delayed treatment, reinfection, and lack of public awareness exacerbate disease burden, highlighting the need for effective community-based interventions.[4]

Addressing the burden of scabies requires a multi-pronged approach that includes early diagnosis, effective treatment, and targeted public health initiatives.[18] Healthcare professionals play a crucial role in promptly identifying and managing scabies cases, ensuring affordable treatment options are available.[19] Educational campaigns aimed at reducing stigma, promoting personal hygiene, and raising awareness about transmission can help prevent outbreaks and

improve treatment adherence.[3] Additionally, mental health support and counseling services should be integrated into scabies management to address psychological distress in affected individuals.[20]

Future research should focus on longitudinal studies to assess QoL changes over time, as well as interventional studies evaluating the effectiveness of treatment and public health strategies. More research is needed on gender-based and age-specific differences in scabies-related QoL impairment, as these factors may influence disease perception and coping mechanisms[21].

## Conclusion

This study provides valuable insights into the significant impact that scabies has on the quality of life (QoL) of affected patients, emphasizing the high levels of physical and psychological distress caused by the condition. The results demonstrate that patients with scabies experience considerable discomfort due to intense itching, skin lesions, and associated social stigma. The QoL scores, particularly in the domains of physical health, emotional well-being, and social functioning, were found to be substantially lower in scabies patients compared to the general population. These findings highlight the need for effective treatment strategies, early diagnosis, and psychological support to alleviate the burden of scabies on patients and improve their overall well-being. This study's cross-sectional design limits causal inferences, and self-reported QoL data may be subject to bias. The absence of a control group and unaccounted factors such as disease severity and socioeconomic status also restrict the generalizability of the findings.

## References


1. Hay RJ, Steer AC, Engelman D, Walton S. Scabies in the developing world: its prevalence, complications, and management. Clin Microbiol Infect. 2012;18(4):313-23. doi:10.1111/j.1469-0691.2012.03798.x.
2. Karimkhani C, Colombara DV, Drucker AM, Norton SA, Hay R, Engelman D, et al. The global burden of scabies: a cross-sectional analysis from the Global Burden of Disease Study 2015. Lancet Infect Dis. 2017;17(12):1247-54. doi:10.1016/S1473-3099(17)30483-8.
3. Engelman D, Cantey PT, Marks M, Solomon AW, Chang AY, Chosidow O, et al. The public health control of scabies: priorities for research and action. Lancet. 2019;394(10192):81-92. doi:10.1016/S0140-6736(19)31136-5.
4. Richards RN. Scabies: diagnostic and therapeutic update. J Cutan Med Surg. 2021;25(1):95-101. doi:10.1177/1203475420953565.
5. Lugović-Mihić L, Ažđajić MD, Bešlić I. Scabies cases misdiagnosed and treated as allergic diseases: itch as alarm. Acta Clin Croat. 2022;61(2):349-56. doi:10.20471/acc.2022.61.02.17.
6. Shimose L, Munoz-Price LS. Diagnosis, prevention, and treatment of scabies. Curr Infect Dis Rep. 2013;15(5):426-31. doi:10.1007/s11908-013-0356-0.
7. Jin-Gang A, Sheng-Xiang X, Sheng-Bin X, Jun-Min W, Song-Mei G, Ying-Ying D, et al. Quality of life of patients with scabies. J Eur Acad Dermatol Venereol. 2010;24(10):1187-91. doi:10.1111/j.1468-3083.2010.03612.x.
8. Worth C, Heukelbach J, Fengler G, Walter B, Liesenfeld O, Feldmeier H. Impaired quality of life in adults and children with scabies from an impoverished community in Brazil. Int J Dermatol. 2012;51(3):275-82. doi:10.1111/j.1365-4632.2011.05017.x.
9. Chowdhry S, Sheoran P, D'Souza P, Yadav K, Rathore S. Assessment of the quality of life in patients with scabies in an urban tertiary

care centre in North India. Serb J Dermatol Venereol. 2020;12(2):41-6. doi:10.2478/sjdv-2020-0006.
10. Lake SJ, Engelman D, Sokana O, Nasi T, Boara D, Marks M, et al. Health-related quality of life impact of scabies in the Solomon Islands. Trans R Soc Trop Med Hyg. 2022;116(2):148-56. doi:10.1093/trstmh/trab096.
11. Yildirim SK, Ogut ND, Erbagci E, Ogut C. Scabies affects quality of life in correlation with depression and anxiety. Dermatol Pract Concept. 2023;13(2):e2023144. doi:10.5826/dpc.1302a144.
12. Ashok Nair PA, Vora RV, Jivani NB, Gandhi SS. A study of clinical profile and quality of life in patients with scabies at a rural tertiary care centre. J Clin Diagn Res. 2016;10(10):WC01-5. doi:10.7860/JCDR/2016/21351.8571.
13. Imran M, Khalid A, Iftikhar S, Awan S. Socio-demographic patterns, perceptions, prevalence and communicability of scabies in Islamabad, Pakistan. Life Sci J Pak. 2022;4(2):17-22. Available from: https://www.lifesciencejournal.pk/index.php/lsjp/article/view/57
14. Welch E, Romani L, Whitfeld MJ. Recent advances in understanding and treating scabies. Fac Rev. 2021;10:28. doi:10.12703/r/10-28.
15. Collinson S, Timothy J, Zayzay SK, Kollie KK, Lebas E, Candy N, et al. The prevalence of scabies in Monrovia, Liberia: a population-based survey. PLoS Negl Trop Dis. 2020;14(12):e0008943. doi:10.1371/journal.pntd.0008943.
16. Lopes MJ, Da Silva ET, Ca J, Gonçalves A, Rodrigues A, Mandjuba C, et al. Perceptions, attitudes and practices towards scabies in communities on the Bijagós Islands, Guinea-Bissau. Trans R Soc Trop Med Hyg. 2020;114(1):49-56. doi:10.1093/trstmh/trz074.
17. Kumari S, Srinivas S, Siddiqua Z, Qazi MS, Sheikh M, Rath S, et al. Impact of scabies on quality of life and recent advances in management: a systematic review. medRxiv. 2024 Nov 26. doi:10.1101/2024.11.25.24317899.
18. Engelman D, Marks M, Steer AC, Beshah A, Biswas G, Chosidow O, et al. A framework for scabies control. PLoS Negl Trop Dis. 2021;15(9):e0009661. doi:10.1371/journal.pntd.0009661.
19. Centers for Disease Control and Prevention. Public health strategies for scabies outbreaks in institutional settings. 2023. Available from: https://www.cdc.gov/scabies/php/public-health-strategy/index.html
20. Yildirim SK, Ogut ND, Erbagci E, Ogut C. Scabies affects quality of life in correlation with depression and anxiety. Dermatol Pract Concept. 2023;13(2). doi:10.5826/dpc.1302a144.
21. Kazeminejad A, Hajheydari Z, Ghahari MJ. Scabies treatment in children: a narrative review. J Pediatr Rev. 2019;7(2):105-12. doi:10.32598/jpr.7.2.105.