How to Cite:
Gupta, D. K., Sharma, S. K., Arun, R., Mahmood, T., & Agarwal, A. K. (2022). Demographic profile and quality of life in scabies patients in rural area of District Bareilly. *International Journal of Health Sciences*, *6*(S2), 11429–11438. https://doi.org/10.53730/ijhs.v6nS2.8058

Demographic profile and quality of life in scabies patients in rural area of District Bareilly

Dharmendra Kumar Gupta
Associate Professor, Department of Community Medicine, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

Sanjeev Kumar Sharma
Associate Professor, Department of Community Medicine, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

Ruchi Arun
Assistant Professor, Department of Community Medicine, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India

Tariq Mahmood
Professor and HOD, Department of Biochemistry, Shri Ram Murti Smarak Institute of Medical Sciences, Bareilly, Uttar Pradesh, India
Corresponding author email: mahmoodtariq008@gmail.com

Ajay Kumar Agarwal
Professor, Department of Community Medicine, Rohilkhand Medical College and Hospital. Bareilly, Uttar Pradesh, India

***Abstract*---**Background: Scabies is a relatively common infestation that can affect individuals of any age and socioeconomic status. Apart from the skin lesions or substantial morbidity, scabies also leads to social stigma. The worldwide prevalence is estimated to be 100 million people with wide variation in prevalence among different geographical regions. Many people complain of sleep disturbances and affection of work and leisure activities due to itching. Aim and Objectives: To assess demography profile and Quality of life of patients (QoL) with scabies. Material and Methods: In this cross sectional study, among 310 patients, 105 patients of Scabies, both males and females, of age sixteen year and more who attended dermatology OPD were recruited for the study. Results: Among the all patients 310 cases surveyed the 105 patients were clinically diagnosed suffering from Scabies. Of them 57 were females and 48 were males. Most of patients (34) belonged to the age group of 16-26. The mean age at presentation was 36 ± 14 years. Most of the patients were females with house wife (35) being the

most common vocation. Majority of the patients (57.1%) were illiterate. Individuals living in joint families (48.6%) and three generation families (32.4%) made up an overwhelming majority of the patients. Diffuse type of scabies was seen in majority of the patients (68.6%). A majority of the patients (57.1%) reported a moderate negative effect on their quality of life due to the infestation while 31.5% reported a mildly negative effect and 10.5% reported no negative effect on their quality of life. Conclusion: Scabies has a social stigma and the quality of life of patient gets affected adversely because of night itching and lack of sleep.

***Keywords*---**demographic profile, scabies, quality life index.

Introduction

Scabies is a relatively common infestation that can affect individuals of any age and socioeconomic status. The worldwide prevalence is estimated to be 100 million people, with wide variation in prevalence among different geographic regions [1] Scabies, also known as the seven-year itch, is a contagious skin infestation by the mite Sarcoptes scabiei.[2] Female mites burrow into the epidermis, a process facilitated by secretion of proteolytic enzymes that cause keratinocyte damage.[3] Many people complain of sleep disturbances and a negative effect on work and leisure activities due to itching. In developing countries, the prevalence of scabies is higher among children and adolescents than among adults. Scabies affects males and females equally.[4] Apart from the skin lesions and substantial morbidity, scabies also leads to social stigma. The prevalence and complications of scabies make it a significant public health problem in the developing world, with a disproportionate burden in children living in poor, over-crowded tropical areas [5]. The exact number of infected cases worldwide is not known, but is estimated to be up to 300 million[6]. A systematic review of population-based studies from various regions of the world (excluding North America) found prevalence estimates ranging from 0.2 to 71 percent, with the highest prevalence in the Pacific region and Latin America[7]. A WHO review collated data from 18 prevalence studies between 1971 and 2001, and reported a scabies prevalence ranging between 0.2% and 24% (8).In a study of young people in a rural Indian village, the prevalence of scabies was 70% and an average prevalence of 5–10% in children.[9]It was also demonstrated that skin diseases can cause anxiety, depression, anger and embarrassment, which lead to social isolation and absenteeism at work and school [10].

Aim and Objectives

To assess demographic profile and the Quality of life in scabies patients in rural area of Bareilly.

Material and Methods

Study type: Observational cross-sectional study.,

Study population: In the study time (1 Jan 2020 to 31 March 2020) 310 OPD patients of any kind of Dermatological Disorder (Tinea, Fungal, Scabies and etc) were received. Among 310 patients, 105 patients of Scabies were recruited for the study.
Study Area: Dermatology OPD at Rural Health Training Centre (RHTC) Dhaura, District Bareilly
Study Duration: The study was carried out for a period of 3 months from 1 November 2019 to 31 January 2020, after receiving ethical approval from the Ethical Committee of the Institute.
Sample Size: All clinically diagnosed scabies patients (105), who attended the derma OPD every Thursday during the study period and gave accent for inclusion in the study were included in the study.
Diagnostic criteria: A clinical diagnosis was made based on presence of the customary appearance and distribution of the rash and the presence of burrows.
Inclusion criteria: Total scabies patients(105) both male and female of age ≥16 years were included in study.
Exclusion criteria: Children of less than sixteen years, Pregnant and lactating mother, cases of chronic skin disease and patients or patient's guardians unwilling to enroll in study

Strategy of Data Collection: A written informed consent was taken from all the patients. A predesigned validated questionnaire about the quality of life impairment was filled by means of direct interview with the patients .QoL using the Standard Dermatology Life Quality Index Questionnaire (DLQI) for scabies by Hongbo Y et al.[11] as given below was used and detailed analysis of the data was carried out**:**

Dermatological Life Quality Questionnaire In Scabies Patients

1. Over the last week, how itchy, sore, painful or stinging has your skin been?
-*Very much /A lot / A little / Not at all / Not relevant*
2. Over the last week, how embarrassed or self conscious have you been because of your skin?
-*Very much /A lot / A little / Not at all / Not relevant*
3. Over the last week, how much has your skin interfered withyou going shopping or looking after your home or garden?-*Very much /A lot / A little / Not at all / Not relevant*
4. Over the last week, how much has your skin influenced the clothes you wear?
-*Very much /A lot / A little / Not at all / Not relevant*
5. Over the last week, how much has your skin affected any social or leisure activities?
-*Very much /A lot / A little / Not at all / Not relevant*
6. Over the last week, how much has your skin made it difficultfor you to do any sport?
- *Very much /A lot / A little / Not at all / Not relevant*
7. Over the last week, has your skin prevented you from working or studying?- Yes/ no ,
If "No", over the last week how much has your skin been am at work or studying?
-*Very much/A lot / A little / Not at all / Not relevant*

8. Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?
-Very much /A lot / A little / Not at all /Not relevant
9. Over the last week, how much has your skin caused any sexual difficulties?
- *Very much /A lot / A little / Not at all / Not relevant*
10. Over the last week, how much of a problem has the treatment for your skin been, for example by making yourhome messy, or by taking up time?
-*Very much /A lot / A little / Not at all Not relevant*

Scoring

The scoring of each question is as follows:
Very much scored 3
A lot scored 2
A little scored 1
Not at all scored 0
Not relevant scored 0
Question 7, 'prevented work or studying' scored 3
The DLQI is calculated by summing the score of each question resulting in a maximum of 30 and a minimum of 0.
The higher the score, the more quality of life is impaired.

How to interpret meaning of DLQI scores

0 – 1 no effect at all on patient's life
2 – 5 small effect on patient's life
6 – 10 moderate effect on patient's life
11 – 20 very large effect on patient's life
21 – 30 extremely large effect on patient's life

Statistical Analysis: The descriptive Statistics were used to describe the quantitative and qualitative data and MS Excel was used for calculation.

Results

105 Patients of scabies attending the Derma OPD were included in study. Majority of them were female (58.1%). The affecting common age group was16-24years (32.4%), majority of them were Muslim **(**53.2%), living in a joint family (49.0 %/). Housewives (33.3%) followed by laborers (21.9%) were common sufferers of scabies. (Table 1)

Table 1: Demographic characteristics of the study participants

Study participants	Numbers	Percentage
Ages (years)		
16- 26	34	32.4
26- 36	25	23.8
36- 46	18	17.1
46- 56	15	14.3%

56-66+	13	12.4%
Sex		
Male Female	48 57	45.7 % 54.3%
Religion		
Muslim Hindu	62 43	59% 40.9%
Type of family		
Joint Nuclear Three generation	51 20 34	48.6% 19.0% 32.4 %
Education		
Illiterate Literate	60 45	57.1% 42.9%
Occupation		
1Housewives 2.Labourers 3 Shopkeeper 4. Unemployed. 5.Farmer	35 23 20 18 09	33.3% 21.9% 19%, 17.1%, 8.6 %

Table 2 shows that among 105 patients, 72 (68.6%) presented with diffuse itching while 80 (76.2%) reported worsening of itching at night. Nearly (64.8%) patients of scabies gave a positive family history and (12.4%) patients presented with history of similar complaints in the past. 31 (29.5%) patients presented with symptoms of secondary infections.

Table 2: Clinical profile of the scabies patients

Variable	Number	Percentage
Itching		
Diffuse Localized	72 33	68.6% 31.4%
Itching worsen time		
Night Day	80 25	76.2% 23.8%
Family history		
Present Absent	68 37	64.8% 35.2%
Past history		
Present Absent	13 92	12.4% 87.6%
Secondary infection		
Yes No	31 70	29.5% 66.7%

Fig. 1:The most common form of scabies was generalized (74.3%) with 64.8% reporting involvement of finger webs, 55.2% of genitalia, 16.2% of arms, 15.2% of

axilla, 11.4% of buttock, 8.6% of feet and 7.6% complaining of involvement of legs.

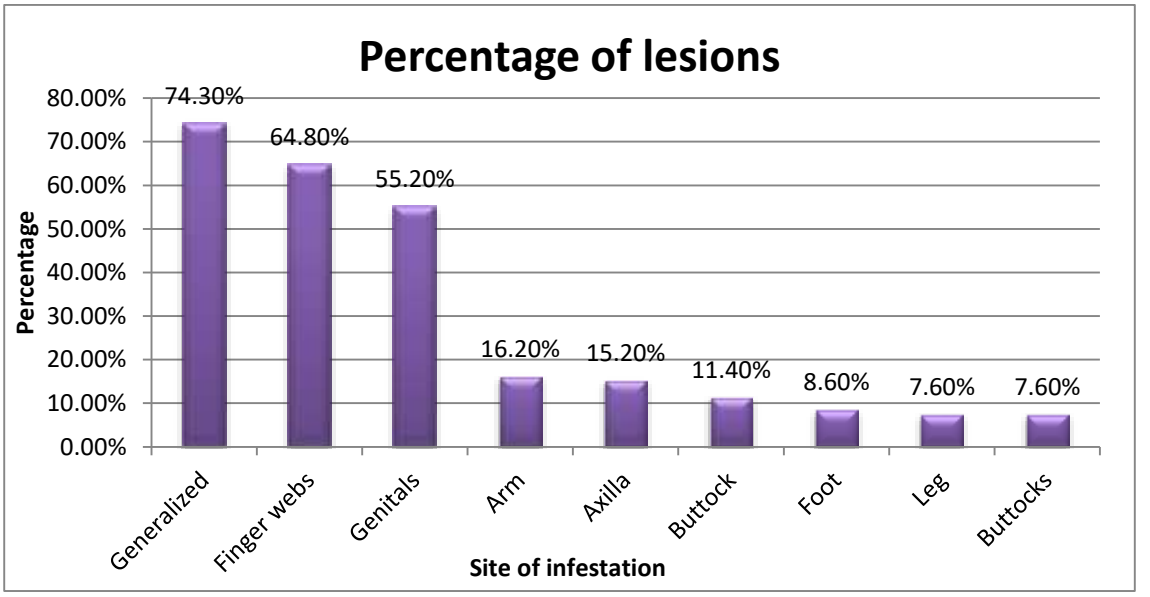

Table 3 shows that most patients reported feelings of embarrassment (12.4%) followed by effect on work or study (10.5%) followed by sexual difficulty (9.5%). Majority of (57.1%) patients reported a moderate negative effect on quality of life while 30.5% patients reported mild effect and 10.5% reported no effect on their quality of life. None of the patient had extremely large effect of impairment to quality of life. There was reported significant improvement of QoL after treatment of the patients. No strong relationship between disease-related characteristics and QoL could be found.

Table 3: Impairment in the Quality of life in scabies patients

Variables	No effect (0-1)	Mild (2-5)	Moderate (6-10)	Very large (11-20)	Extreme large effect (21-30)	Total
Symptom	02 (1.9%)	06 (5.7%)	10 (9.5%)	0 (0.0%)	0 (0.0%)	18 (17.1%)
Embarrassment	0 (3.9%)	09 (8.6%)	13 (12.4%)	1 (0.9%)	0 (0.0%)	27 (25.6%)
Shopping	0 (0.0%)	01 (0.9%)	1 (0.9%)	0 (0.0%)	0 (0.0%)	02 (1.9%)
Cloth wearing	0 (0.0%)	02 (1.9%)	0 (2.9%)	0 (0.0%)	0 (0.0%)	5 (4.8%)
Personal relationships	01 (0.9%)	4 (3.9%)	9 (8.6%)	1 (0.9%)	0 (0.0%)	15 (14.3%)
Difficulty in sports activity	0 (0.0%)	1 0.9%)	1 (0.9%)	1 (0.9%)	0 (0.0%)	3 (2.9%)

Work or study	01 (0.9%)	3 (2.9%)	11 (10.5%)	0 (0.0%)	0 (0.0%)	15 (14.3%)
Create problem with friends	01 (0.9%)	02 (1.9%)	2 (1.9%)	0 (0.0%)	0 (0.0%)	05 (4.8%)
Sexual difficulty	0 (0.0%)	02 (1.9%)	10 (9.5%)	0 (0.0%)	0 (0.0%)	12 (11.4%)
Treatment. problem	01 (0.9%)	01 (0.9%)	`1 (0.9%)	0 (0.0%)	0 (0.0%)	03 (2.9%)
Total	10 (9.5%)	32 (30.5%)	60 (57.1%)	3 (6.7%)	0 (0.0%)	105 (100%)

Discussion

The present study titled **"**Study of demographic profile and quality of life of patients with scabies in a skin OPD at rural area of Bareilly" was a cross sectional study to find out the demographic profile and quality of life of patients with scabies in the rural area of Bareilly. Out of 105 patients, 58.1% were females. The most common age group affected was 16-26 (32.4%) with more than 50% of the patients lying in the age group of 16-35 years of age[12]. Commonly affected patients were housewives (33.3%). Education levels seem to be a factor as most of the patients were illiterate (57.1%). Socio cultural factors along with economic factors also seem to play a role as 59% of the patients were Muslims, community generally seen lagging in various health and economic indices[13]. Also, higher fertility rate leading to overcrowding in homes can also be a factor in higher disease load in the said community. Individuals from Joint families had a higher representation among the diseased (48.6%) as compared to nuclear (19%) and 3 generation families(32.4%). This again can be attributed to overcrowding in homes of joint families and to a lesser extent in 3 generation families. Among the patients infested with scabies 54.3% were females and among them 33.3% were house wives. These findings were in contrast with the findings of Das S et al in whose study men out numbered women by 70% to 30%[14]. This data also suggests that infection from family members or close contacts is a major source of the infestation. On the basis of the questionnaire majority of the patients(57.1%) reported a moderate negative effect of quality of life. In our study men reported a lesser negative impact on quality of life as compared to females. Infestation in close contacts was by far the single most significant risk factor, suggesting that the large majority of scabies patients were directly or indirectly infected by other family members and/or housemates.[15,16]In our study the most commonly affected site was generalized(74.3%) with finger webs involved in 64.8%, followed by genitals (55.2%) and arm (16.7%) whereas study by Das S et al., showed genitalia are commonest site with 60%, followed by finger webs in 57% cases.[14]Study conducted by Bouvresse S, Scabies infestation has a negative impact on the quality of life for infected individuals resulting affecting social and sporting activities[17]. In Worth C et al study majority of the patients had mild effect of quality of life (51.6%) moderate effect in 24.2% of people suffering from scabies while that about one-fifth of the patients did not feel large impairment of quality of life[18].Where as in the present study more than half of the patients have reported a moderately negative effect on quality of life (57.1%) followed by mild (30.5%) impairment. In the present study more than one fourth of the patients

(25.9%) reported some degree of embarrassment as source of their deterioration of quality of life. 17.1% attributed their deterioration of quality of life to the symptoms of scabies while 14.3% reported a negative impact in personal relationships and work or studies. 12% also reported a negative effect on their sexual activities owing to scabies infestation. This followed the trends of the study at Xi'an Jiatong University (China) in 2008 using the DLQI Questionnaire where symptoms followed by a sense of embarrassment, effect on work or study, sexual difficulties were the top reasons negatively effecting the quality of life among patients with scabies[19].A more recent study, in a Brazilian urban slum in Fortaleza found that the majority of female participants had a feeling of shame and 30% had social exclusion as a result of scabies infestation.[18]Therefore, the social impact of the disease should not be underestimated. Scabies elimination efforts should be prioritized for communities that are worst affected, and with sustained intervention. Sulphur and benzyl benzoate preparations are the first choice anti scabietic insecticide in developing countries because of low cost.[20] whereas in developed country like UK and the USA Permethrin 5% cream is the first-line topical therapy against the scabies mite.[21, 22]

Conclusion

Scabies has a social stigma and the quality of life of patient get effected not just because of excessive night itching and disturbance of sleep but also due to social factors such as embarrassment as well as personal factors such as sexual difficulties. It is highly contagious and if not attended timely and adequately can affect the quality of life in a large number of ways. As most of the risk factors for the disease are social in nature hence preventive education in regards to preventing overcrowding, hygiene and early treatment among the affected as well as the contacts is of paramount importance. Creating social awareness about the disease and removing the associated stigma ,allowing the effected to seek early treatment, is important to limit the spread of the infestation in the community.

Recommendation

Scabies is an issue of public Health importance for domestic care service providers and users. Research and health education is required to better understand the impacts of the disease and to develop evidence –based guidance.

Limitation of the study

This Study has been conducted in a rural area of Bareilly, thus may not be a representative study for other parts of country. We have not used the Modified Dermatology Life Quality Index Questionnaire (mDLQI) for scabies as we had excluded children less than 16 years of age group participants.

Relevance of study

This study is of importance as the study is a population sub sect where this study had not earlier been done. The areas studied are economically and educationally backward areas with problems of over crowding and hygiene.

Authors' contribution

All authors equally contributed for literature review, data collection and preparation of manuscript.

Acknowledgement

I would like to thank all study participants, heath care workers and Medical Officer of Dermatology department for their devotion and full cooperation in conducting the study.

References

1. Vos T, Flaxman AD, Naghavi M, et al. Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet 2012; 380:2163.
2. Feldmeier H, Chhatwal GS, Guerra H, Pyoderma, group A streptococci and parasitic skin diseases – a dangerous relationship Trop Med Int Health 2005 Aug;10(8):713-6.doi: 10.1111/j.1365-3156.2005.01457.x.
3. Fimiani M, Mazzatenta C, Alessandrini C, et al. The behaviour of Sarcoptesscabiei var. hominis in human skin: an ultrastructural study. J Submicrosc Cytol Pathol. 1997 Jan;29(1):105-13.
4. Hengge UR, Currie BJ, Jager G, Lupi O, Schwartz RA. Scabies: a ubiquitous neglected skin disease. Lancet Infect Dis. 2006Dec;6(12):769-79. doi: 10.1016/S1473-3099(06)70654-5.
5. Hay RJ, Steer AC, Engelman D, et al. (2012). Scabies in the developing world - Its prevalence, complications and management. Clin Microbiol Infect. 2012 Apr;18(4):313-23. doi: 10.1111/j.1469-0691.2012.03798.x.
6. O Chosidow. Clinical practices. Scabies N Engl J Med, 2006 Apr 20;354(16):1718-27. doi: 10.1056/NEJMcp052784..
7. Romani L , Steel AC, Whitfeld MJ, Kaldor JM. Prevalence of Scabies and Impetigo world wide : a systemic review . Lancet Infect Dis 2015 Aug;15(8):960-7. doi: 10.1016/S1473-3099(15)00132-2.
8. World Health Organization. (2005). Epidemiology and management of common skin diseases in children in developing countries. World Health Organization. https://apps.who.int/iris/handle/10665/69229
9. Nair BK, Joseph A, Kandamuthan M. Epidemic scabies Indian J Med Res, 1977 Apr;65(4):513-8
10. Verhoeven EW, Kraaimaat FW, vandeKerkhof PC, vanWeel C, Duller P, van der Valk PG, et. al. Prevalence of physical symptoms of itch, pain and fatigue in patients with skin diseases in general practice *Br J Dermatol* 2007 Jun;156(6):1346-9. doi: 10.1111/j.1365-2133.2007.07916.x.
11. Hongbo Y, Thomas CL, Harrison MA. Salek MS, Finlay AY. Translating the science of quality of life into practice: what do Dermatology Life Quality Index scores mean? Journal of Investigative Dermatology 2005 Oct;125(4):659-64.doi: 10.1111/j.0022-202X.2005.23621.x.
12. Terry BC, Kanjah F, Sahr F, Kortequee S, Dukulay I , Gbakima A A. *Sarcoptes scabiei* infestation among children in a displacement camp in Sierra Leone Public Health, 2001 May;115(3):208-11.doi: 10.1038/sj/ph/1900748.

13. Gupta DK, Singh RP, Singh AK, Agarwal AK, Kumar A, Gava U. Study of prevalence and determinants associated with scabies in rural area of Bareilly. Indian J Comm Health. 2021;33(1):169-174. doi: https://doi.org/10.47203/IJCH.2021.v33i01.023
14. Das S, Chatterjee T, Banerji G, Biswas I. Evaluation of the commonest site, demographic profile and most effective therapy in scabies. Indian J Dermatol 2006;51:186-8. doi**:** 10.4103/0019-5154.27981
15. Chosidow O (2006) Epidemiological Pattern of Scabies and Its Social Determinant Factors in West of Iran. N Engl J Med 2006; 354:1718-1727 DOI: 10.1056/NEJMcp052784
16. Hicks MI, Elston DM (2009) Scabies. Dermatol Ther. Jul-Aug 2009;22(4):279-92. doi: 10.1111/j.1529-8019.2009.01243.x.
17. Bouvresse S, Chosidow O. Scabies in healthcare settings. Curr Opin Infect Dis. 2010 Apr;23(2):111-8.doi: 10.1097/QCO.0b013e328336821b.
18. 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 Mar;51(3):275-82.doi: 10.1111/j.1365-4632.2011.05017.x
19. .Jin-gang A, Sheng-xiang X, Sheng-bin X, Jun-min W, Song-mei G, et al. Quality of life of patients with scabies. J Eur Acad Dermatol Venereol. 2010; Oct 24(10). doi: 10.1111/j.1468-3083.2010.03618.x.
20. Nolan K, Kamrath J, Levitt J. Lindane toxicity: a comprehensive review of the medical literature. Pediatr Dermatol Mar-Apr 2012;29(2):141-6. doi: 10.1111/j.1525-1470.2011.01519.x..
21. Taplin D, Porcelain SL, Meinking TL, Athey RL, Chen JA, Castillero PM, et al. Community control of scabies: a model based on use of permethrin cream [Internet]. Lancet. Lancet. 1991 Apr 27;337(8748):1016-8.doi: 10.1016/0140-6736(91)92669-s.
22. Purvis RS, Tyring SK. An outbreak of lindane-resistant scabies treated successfully with permethrin 5% cream [Internet]. J Am Acad Dermatol. 1991 Dec;25(6 Pt 1):1015-6. doi: 10.1016/0190-9622(91)70300-q.