

Analysis of the Impact of Scabies on Quality of Life in Bouaké, Côte d'Ivoire

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Abstract

To assess the impact of scabies on the quality of life of patients in the Dermatology Department of the University Hospital of Bouaké.

Methodology: This was a prospective study conducted over one year on patients over 5 years of age with lesions suggestive of scabies. Data were collected and analyzed.

Results: 183 patients were selected, with a sex ratio of 1.53 and a predominant age range [27-50]. Shopkeepers and students were most represented. In adults, scabies had a very strong effect (3.8%), a strong effect (38.6%), a moderate effect (28.1%), and a weak effect (27.5%) on quality of life. In children, there was a very strong effect (31%), a moderate effect (24.1%) and a weak effect in 44.8% of cases. In adults, the most affected domains were "symptoms and feelings of discomfort", "choice of clothing" and "daily activities", whereas in children, in addition to "symptoms and feelings of discomfort", sleep disturbances were also present.

Conclusion: Scabies has a negative impact on the quality of life of those affected.

Key words: Scabies, Impact, Quality of Life.

1. INTRODUCTION

Scabies, also known as scabiosis, is a parasitic skin infestation caused by the mite *Sarcoptes scabiei* variant *hominis* [1,2]. It is a benign and treatable condition [1,3]. The global annual incidence is estimated at around 455 million cases. However, it remains endemic in many developing countries, where it represents a significant public health problem [4]. The World Health Organization (WHO) has classified scabies as a neglected tropical disease. A study conducted between 2014 and 2017 by Kourouma [3] estimated a prevalence of 3.1% at the Dermatology-Venereology Department of the University Hospital of Treichville. Similarly, Diabate [1] reported 97.1% of patients diagnosed with scabies at the Dermatology Department of the University Hospital of Yopougon. In general, individuals with scabies are often stigmatized and ridiculed, as the condition is perceived as

shameful, linked to poor hygiene. In addition to persistent prejudices, this disease has always been viewed negatively. Patients are reluctant to disclose their condition to those around them, which leads to chains of transmission [5,6]. The impact of scabies on quality of life involves several aspects. Sleep disturbances due to itching are reported in nearly 90% of patients, according to multiple studies [7,8], with a strong correlation between the level of itching and sleep disruption [8]. In addition, difficulties in professional and educational settings, as well as psychosocial problems for the patient and their surroundings, are described [3,8]. The feeling of shame among patients leads to changes in clothing habits and avoidance of social and recreational activities [9]. These impacts are particularly pronounced when the diagnosis is delayed or incorrectly made, with a considerable economic impact, especially on poor populations [9,10]. Few studies have been

conducted in Sub-Saharan Africa to assess the quality of life of individuals with scabies, and none in Côte d'Ivoire. Given this gap, we considered it important to conduct this study to improve the management of individuals with scabies by evaluating its impact on their quality of life at the Dermatology Department of the University Hospital of Bouaké.

2. METHODOLOGY

This paper is a prospective descriptive study involving patients who visited the Dermatology Department of the University Hospital of Bouaké from February 1, 2023, to February 31, 2024 (1 year) who suffered from scabies according to the 2020 IACS criteria, either clinically diagnosed or suspected, regardless of sex, aged 5 years or older, without associated pruritic dermatoses. We used a pre-established survey form to collect the data, which included demographic information (age, sex) and clinical data based on the 2020 IACS criteria. For the evaluation of quality of life, we used the Dermatology Life Quality Index (DLQI) and Child Dermatology Life Quality Index (CDLQI) questionnaires.

3. RESULTS

During the study period, 182 cases of scabies were recruited from a total of 4115 consultations, with a prevalence of 4.4%. According to the 2020 IACS diagnostic criteria, 62 (3%) had clinically diagnosed scabies and 120 (65.9%) had suspected scabies. The number of scabies cases varied over time, with a peak in May, with 44 reported cases (24.2%). The study population was predominantly female (60.44%), with a sex ratio of 1.53. The average age of the patients was 29.7 years (CI 27.57-31.83) with a 95% confidence level. The most affected age group was 27 to 50 years (45.6%), and the age range of patients was from 5 to 69 years.

Most of the patients lived in urban areas (97%). Merchants, students, and schoolchildren were the most represented group, with proportions of 24.2%, 21.9%, and 15.4%, respectively. 30.8% of patients had primary education. The majority of patients had a medium standard of living (71.9%). Most patients usually take two showers per day (90.7%), and 35% of patients lived in a household of more than 4 people in a 2 bedroom and 1 livingroom house. 13.7% of female adults used depigmenting products. All patients had pruritus, which was predominantly nocturnal in 72.5% of cases. A family history of pruritus was observed in 98.9% of cases.

Majority of patients (63.5%) had a consultation delay of more than 10 days. The domain "symptoms and feelings of discomfort" was affected by scabies equally in both women and men. The "daily activities" domain was more impacted in women group than in men group, and the "leisure" domain was also more impacted in women group. The "personal relationships" domain was impacted equally by scabies in both women and men. The "work" domain was not affected by scabies in either men or women. Treatment was not a major issue for either men or women. In our study population, symptoms (99.4%), feelings of discomfort (84.3%), clothing choices (72.6%), and leisure activities (63.5%) were most impacted. Regarding quality of life, 27.3% of scabies patients reported a mild effect; 28.1% reported a moderate effect; 38.56% reported a significant effect; and 3.27% reported a very significant effect. The average DLQI score was 9.86 (CI 8.94-10.78) with a 95% confidence level, a minimum score of 1, and a maximum score of 27, with a median of 9. In individuals under 17 years of age, the "symptoms and feelings of discomfort" domain was equally impacted by scabies in both women and men groups. The "personal relationships" domain was not affected by scabies in either men or women. The "clothing choices" domain was not affected by scabies in either men or women group. The "leisure" domain was not affected by scabies among either men or women. The "work and vacations" domain was not affected by scabies in either men or women. Neither men nor women were bothered by others due to scabies. Scabies caused sleep disturbances in both men and women. Treatment was not a major issue for either men or women. In children, symptoms (100%), sleep (82.8%), and feelings of discomfort (75.9%) were most impacted. In 44.8% of cases, scabies had a mild effect on quality of life, in 24.1% a moderate effect, and in 31.03% a significant effect. The average CDLQI score was 7.79 (CI 6.48-9.1) with a 95% confidence level, a minimum score of 2, and a maximum score of 14, with a median of 7.

4. DISCUSSION

In our study, the prevalence of scabies was 4.42% from February to July. This prevalence was high compared to that of Kouetou et al. [5], who found a hospital prevalence of 3.1%. The delay in consultation is sometimes due to the lack of knowledge about the diagnosis by some healthcare workers, which causes patients to continue spreading the disease to others, thus increasing the number of cases. The female group

was the most represented, with a proportion of 60.4% and a sex ratio of 1.53. Other studies conducted by Finon A. [10], Walker SL. [11], and Ly F. [12] also reported a female predominance, unlike the studies by Diabaté A. [1] and Sawadogo A.S. [13], which highlighted a male predominance. This female tendency in our context could be explained by the fact that women are more demanding when it comes to skin health and aesthetics, which makes them more likely to visit dermatology services than men.

Additionally, most African women use skin-lightening cosmetic products, especially those containing corticosteroids, which destroy their protective microbial flora, exposing them to skin complications, especially infections. Regarding this, the data collected showed that 13.7% of adults used lightening products, all of them being women. However, according to Orién E. [14], scabies can occur at any age without sex distinction.

In our study, patients in the age range of 27 to 50 years were the most represented, accounting for 45.6%. The median age was 28.5 years, with extremes ranging from 5 to 69 years. These results are similar to those of Ly F. in Senegal [12], who had a median age of 24.5 years, and Kobangue in Central African Republic [15], where the most frequently affected age group was 21 to 40 years, representing 44.11% of the patients. This is higher than findings from studies such as those by Ngolo M. et al. in Benin [16], where children under 10 years old were the most affected. In Malawi and Cambodia in 1998, Landwehr's study [17] observed the highest rate of scabies in children aged 0 to 9 years, with 1.1% and 6.5% respectively. This could be due to an emerging shift in the epidemiological trend of scabies. Traders, followed by students, were the most represented groups, with proportions of 24.18%, 21.98%, and 15.38%, respectively. This observation could be explained by the highly contagious nature of scabies and the constant contact between people due to overcrowding in classrooms, amphitheatres, and markets. These results align with those of HS Kourouma [3] in Côte d'Ivoire. The most cited and known risk factors for scabies are overcrowding, poor hygiene, and poverty. However, in our study, all socioeconomic classes were represented, especially the middle class, which accounted for 71.98%. This demonstrates that this skin condition is not solely caused by poverty. The same observation was made in Kourouma's study [3] in Côte d'Ivoire. Scabies is endemic in Côte

d'Ivoire, and in our study, cases were recorded every six months. However, the number of cases increased in May, representing 24.2%. This could be explained by the fact that this period corresponds to the rainy season. Indeed, lower temperatures improve the survival of scabies mites outside the host. Additionally, lower temperatures could encourage more social contact and people spending more time indoors, favoring transmission. Overall, the increase in contact and mite survival could influence the transmission of the germs [1]. This observation was also made by Finon A. [10], who observed more scabies cases in winter. Kouotou in Cameroon [5] and Kourouma [3] also observed a significant number of cases in May-June. Finally, Sehgal VN et al. also noted a higher prevalence during the rainy season in India [18].

In our study, the results showed that scabies affected the quality of life (QoL) of patients. Indeed, the median DLQI score was 9 (IQR 4-11), reflecting a moderate effect on quality of life. For 3.3% of adults, it had a very significant effect on QoL. On the other hand, 38.6% of individuals reported a significant effect, while 28.1% had a moderate effect, and 27.5% had a slight effect. In a small proportion, 2.6% of cases, it had no impact on these patients. Among children, the median CDLQI score was 7 (IQR 4-10), also reflecting a moderate effect on QoL. For 31% of children, scabies had a very significant effect, for 24.1%, it had a moderate effect, and 44.8% had a mild effect. Our results are similar to those of Collinson S. in Liberia [19], who found a median DLQI score of 8 (IQR 4-11), reflecting a moderate effect on QoL, and a median CDLQI score of 6 (IQR 4-10), reflecting a mild effect on QoL. In the study by Ashok Nair P. on schoolchildren in southern Ethiopia [20], the median CDLQI score was 7 (IQR 6-9). In that of Jin-Gang et al. in China [21] and Ly in Senegal [12], the mean DLQI score was 10.09 ± 5.96 and 8.1 ± 4.75 , respectively, indicating that the quality of life of most patients was moderately affected.

In another study conducted in Turkey [8], scabies had a considerable effect on the patients' quality of life, with 72.2% of patients reporting an extremely significant effect. The average DLQI score in this study was 10.54 ± 6.17 . Then, in a study conducted in Brazil by Worth C. [22], the mDLQI score showed that 13.9% of patients experienced a significant effect on their life, 65.2% felt their QoL was moderately reduced by scabies, and 20.9% felt no restriction. In contrast, in a study in the Solomon Islands [23], the mean

score was 3.1, but it was reported that there was a positive correlation between the severity of the disease and the scores. The average score for adults with severe scabies was 7.8. Finally, in the study by Koc Vildiron [8], a mild effect on QoL was observed in 51.6% of adults with scabies, while 24.2% experienced a moderate effect, and none showed a significant alteration of QoL. Among the children, 27.5% had a mild impact and 10% had a moderate impact on their QoL. This could be explained by the fact that in developing countries, scabies has become an accepted part of daily life as it is endemic in these regions. Worth et al. suggested that in many areas where scabies is endemic, the quality of life is so poor that people do not consider scabies a problem and infestation is viewed as routine [40].

The domain "symptoms and feelings of discomfort" received higher scores than the other domains, reflecting the itching, a common symptom of scabies. This domain was also the most affected in other studies on the impact of scabies on quality of life. Among adults, in addition to the "symptoms and feelings of discomfort" domain, "clothing choice" was also impacted in 72.6% of cases, as patients sought to hide skin lesions, particularly because visible body areas are typically affected by scabies. Additionally, "daily activities" were frequently reported, with 63.5% affected. Among children, in addition to the first domain, 82.8% had sleep disturbances. The presence of scabies did not seem to cause teasing or school delays in children, nor did it appear to cause sexual difficulties in adults. We believe this result may be due to the fact that scabies is not considered by people as a sexually transmitted infection. Other studies, such as that of Jin-Gang et al. [21], reported that the most impactful questions for scabies patients were "symptoms and discomfort," "work or studies," and "sexual difficulties." The "symptoms and feelings" and "personal relationships" domains scored higher than the other domains. In the study conducted in Brazil [22] by Worth C., the feeling of shame was the most frequently mentioned restriction (77.2% in adults and 46.6% in children). Furthermore, the domains that had the most impact on patients in the study conducted in Turkey [8] were respectively "symptoms and feelings," "work and school," "personal relationships," and "daily activities." All patients showed deficiencies in the "symptoms and feelings" domain, and the percentage of deficiencies in the other domains was similar. Finally, in a study conducted in the Solomon Islands [23], it was reported that the most

affected domain was "symptoms and feelings." Among the children in the study, scabies impacted schoolwork for more than a third of the participants. This effect could have a considerable impact on education over time, particularly if the disease is not treated or recurs, as is often the case in endemic areas.

5. CONCLUSION

Scabies, or human sarcoptic mange, is a contagious parasitic skin disease that is cosmopolitan but endemic in many developing countries, where it represents a significant public health issue. Affected individuals suffer from stigmatization and mockery because this condition is perceived as shameful, often associated with poor hygiene; however, it can affect anyone regardless of age, gender, hygiene, or social background. Our study, which aimed to evaluate the impact of scabies on patients' quality of life, revealed that scabies is a considerable burden for those suffering from the disease, as it affected the quality of life of 97.4% of adult patients and all the children in our study. The most impacted areas for adults were "symptoms and feelings of embarrassment," "choice of clothing," and "daily activities." For children, "symptoms and feelings of embarrassment" and "sleep disturbances" were most frequently reported. This situation highlights the importance of improving management through awareness campaigns, training healthcare personnel about the disease, and enhancing the overall living conditions of the population.

Conflict of Interest Statement

The authors declare that they have no conflicts of interest.

Ethical Consent

The patient's examination was carried out in accordance with the principles of the Helsinki Declaration. The authors certify that they obtained all patient consent forms, in which the patients agreed to the inclusion of images and other clinical information in the journal. Patients understand that their names and initials will not be published and that every effort will be made to conceal their identity, although anonymity cannot be guaranteed. Additionally, we received authorization from the scientific medical director of our institution.

REFERENCES

- [1] Diabaté A., Kourouma H S, Kouabenan AA S, Gué I, Vagamon B, Aka B R, Profil épidémiologique, clinique et évolutif des infections parasitaires cutanées superficielles en

- milieu hospitalier en Côte d'Ivoire, 2018, Rev int sc méd Abj, 20,1:67-70
- [2] Botterel F., Foulet F. Diagnostic et traitement de la gale en 2010 : quoi de neuf ? J. anti-infect. 2011 ; 13 : 109-116.
- [3] HS Kourouma , Kaloga M, Kouassi YI et al. Aspects épidémiologique et clinique des patients vus en consultation de dermatologie du CHU de Treichville [In French]. Annales de Dermatologie et de Vénérologie. 2017; 143(4) (Supp 1): S36.
- [4] Spadoni S., Lamand V., Vonesch M.A., Béranger C. La gale : un fléau mondial. Médecine et Santé Tropicales. 2014 ; 24 : 41-48.
- [5] Kouotou EA, Defo D, Sieleunou I, Ndikontar Kwinji R, Mukwelle K, Essama J, et al. La gale humaine : profit sociodémographique, distribution lésionnelle et types de lésions. Health Sci Dis 2013 ; 14(3): 1-6.
- [6] Barete S, Chosidow O, Bécherel P et L Francès. Ectoparasitoses (poux et gale) : stratégie thérapeutique actuelle. Ann Dermatol Venereol 1999 ; 126 : 755-61
- [7] Widaty S, Miranda E, Faradila Cornain E, Rizky LA. Gale : mise à jour sur le traitement et les efforts de de prévention et de contrôle dans les milieux hautement endémiques. J Infect Dev Ctries 2022; 16(2):244-251.
- [8] Koc Vildiron S, Ogut Demirel N, Erbagci E. La gale affecte la qualité de vie en corrélation avec la dépression et l'anxiété. Concept de pratique dermato 2023; 13(2): e144.
- [9] Arnaud A, Chosidow O, Détrez MA, Bitar D, Huber F, Foulet F, et al. Prévalences de la gale et de la pédiculose corporelle chez les personnes sans abri en région parisienne : résultats de deux enquêtes transversales randomisées (étude HYTPEAC). Br J Dermatol 2015; 174(1) : 104-12.
- [10] Finon A, Carvigan C, Valery A, Estève E. Évaluation des pratiques et des difficultés de mise en charge de la gale par les médecins généralistes de trois départements de la région centre. Ann Dermatol Venereol 2017; 144(12Suppl.): S282.
- [11] Walker SL, Lebas E, De Sario E, Deyasso Z, Doni SN, Marks M, et al. Prévalence et association avec la qualité de vie liée à la santé de la tungose et de la gale chez les écoliers du sud de l'Éthiopie. PLoS Negl Trop Dis 2017; 11(8) : e0005808.
- [12] Ly F, Bouibaouen Y, Ndiaye Diop MT, Sy A, Ahy Diatta B, Ndour N, et al. Impact de la gale sur la qualité de vie : étude multicentrique descriptive réalisée en dermatologie à Dakar chez 104 patients suivis en dermatologie à Dakar, Sénégal. Ann Dermatol Venereol 2021; 1(8): A237
- [13] Sawadogo AS, Ouedraogo L, Konate I, Kylenn IF, Sanou I, Ouedraogo SM, et al. Aspects épidémiologiques de la gale humaine en milieu scolaire dans la ville de Ouagadougou (Burkina Faso). Les nouvelles dermatologiques 2000; 19(4): 334-7.
- [14] Orion E, Matz H, Wolf R. Ectoparasitose sexually transmitted discases: scabies and pediculosis. Clin Dermatol 2004 ; 22(6) : 513-19.
- [15] Kobangue L, Guerendo P, Abeye J, Mamdito P, Mballa MD, Gresemguet G. Gale sarcoptique : aspects épidémiologiques, cliniques et thérapeutiques à Bangui. Bull Soc Pathol Exot 2014; 107(1): 10-4.
- [16] Ngolo M, Degboe B, Akpadjan F, Ndayazi B, Muhubao Bahati P, Shukuru Bisimwa J, et al. Gale humaine : aspects épidémiologiques cliniques et thérapeutiques au Bénin. Am J Innov Res Appl Sci 2021; 13(3): 380-4.
- [17] Landwehr D, Keita SM, Pönnighaus JM, Tounkara C. Aspects épidémiologiques de la gale au mali, au Malawi et au Cambodge. Dermatology 1998 ; 37(8): 588-90.
- [18] Sehgal VN, Rao TL, Rege VL, Vadiraj SN. Scabies: a study of incidence and a treatment method. Int J Dermatol 1972 ; 11(2) : 106-21
- [19] Collinson S, Timothy J, Zayzay SK, Kollie KK, Lebas E, Candy N, et al. La prévalence de la gale à Monrovia, au Liberia : une enquête basée sur la population. PLoS Negl Trop Dis 2020 ; 14(12) : e0008943.
- [20] Ashok Nair P, Vipul Vora R, Jivani NB, Gandhi SS. Une étude de profit clinique et de la qualité de vie des patients atteints de gale dans un centre de soin tertiaire en milieu rural. J Clin Diagn Res 2016; 10(16) : wc01-wc05
- [21] Jin-gang U. Qualité de vie des patients atteints de gale. Journal de l'Académie européenne de dermatologie et de vénéréologie 2010; 24(10):1187-91.
- [22] 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.
- [23] Lake SJ. Impact de la gale sur la qualité de vie liée à la santé aux îles Salomon. Trans R Soc Trop Med Hyg 2022; 11(2): 148-56.

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