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The Psychosocial Impact of Tinea Capitis on Quality of Life in Libyan Schoolchildren: A Cross-Sectional Study.

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ABSTRACT

Tinea capitis, the most common fungal infection in school-aged children, causes significant psychosocial impact. However, data on its effect on quality of life (QOL) in Libyan children is limited. This study aimed to assess its impact on the quality of life of affected children and determine the relationship between QOL scores and epidemiological factors like age, sex, disease duration, and clinical type. It was a hospital based cross-sectional study of 50 Libyan children (aged 6-12 years) diagnosed with tinea capitis. Each patient underwent a detailed history, clinical examination, and KOH testing. The Children's Dermatology Life Quality Index (CDLQI) questionnaire was administered to assess QOL. Data were analyzed using t-tests, Mann-Whitney U tests, and chi-square tests. The mean CDLQI score was 11.5 ± 4.5. A significant psychosocial impact (CDLQI score ≥ 6) was found in 48% of patients. Factors significantly associated with higher QOL impairment were female gender, longer disease duration, and the inflammatory kerion variant. The most severely affected QOL aspects were "symptoms and feelings" and "school." Age and socioeconomic status did not show a significant correlation with QOL scores. Tinea capitis causes a significant psychosocial impact on affected children's life. Management should extend beyond antifungal therapy to include psychological support, especially for girls, those with long-standing disease, and those with severe inflammatory presentations.

KEYWORDS: Tinea Capitis, quality of life, Psychosocial, schoolchildren.

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1. INTRODUCTION

Tinea capitis is a superficial fungal infection of the scalp caused by dermatophytes. These dermatophytes belong to the genera Trichophyton and Microsporum. It is the most common cutaneous mycosis in children but it's uncommon among adults. (1,2) Clinical presentation of this infection varies from non-inflammatory scaling and hair loss to the highly inflammatory kerions, which can lead to permanent scarring. (3)

While clinical manifestations and epidemiological aspects are well documented, the psychological and social impact of this condition is less studied. Social stigma and isolation, ridicule, bullying by peers and possible disruption of the learning process and academic performance can all result from this disease. (4,5) Because of the nature of this disease being non-life-threatening, there was a general neglect of its psychological consequences.

The World Health Organization defines quality of life (QOL) as an individual's perception of their position in life relative to their culture, values, and expectations. In children with skin diseases, tools like the Children's Dermatology Life Quality Index (CDLQI) are needed for estimating this impact. (6)

This study aimed to identify and classify the grade of the psychosocial impact of tinea capitis in Libyan schoolchildren. It also aimed to determine its association with sociodemographic and clinical characteristics.

2. MATERIALS AND METHODS

2.1. Study Design and Population:

This was a hospital-based cross-sectional study. The study sample included all consecutive Libyan children (n=50) aged 6–12 years who were diagnosed with tinea capitis at the Dermatology Department in Benghazi Medical Center in the time period between January 2022 and July 2023 (18 months). Children were excluded if they or their parents refused to participate. Written informed consent was obtained from parents or guardians and the study was approved by the institution's ethics committee.

2.2. Data Collection:

For each patient, we collected a detailed history. It included possible risk factors, disease duration, and contact with family members or animals. A complete dermatological examination was performed by dermatologists in the outpatient department. The diagnosis of tinea capitis was made both clinically and by potassium hydroxide (KOH) examination. Clinical types were classified as (grey patch, black dot, kerion, etc.).

2.3 Quality of Life Assessment:

Quality of life was calculated using the Children's Dermatology Life Quality Index (CDLQI), which is validated for children aged 4–16 years. The questionnaire was translated into Arabic. Parents helped younger children answer the questionnaire if needed. The CDLQI consisted of 10 questions that cover: symptoms and feelings, leisure, school, personal relationships, sleep, and treatment. Each question is scored 0–3, giving a total score of 0–30, with higher scores indicating higher impairment. Scores were categorized as: 0–1 (no effect), 2–5 (small effect), 6–10 (moderate effect), 11–20 (large effect), and 21–30 (extremely large effect).

2.4. Statistical Analysis:

Data were analyzed using SPSS version 26. Descriptive statistics were used for demographics and clinical features. We tested the distribution of CDLQI scores for normality. Independent-sample t-test was used for continuous variables, and chi-square or Fisher's exact tests were used for categorical variables. A p-value <0.05 was considered statistically significant.

3. RESULTS

3.1. Demographics and Clinical Profile:

The study included 50 patients with males being more than females (68% n=34 male, 32% n= 16 female). (see Table 1)

Table1: Gender distribution of schoolchildren

Gender	Frequency	Percentage
Male	34	68%
Female	16	32%

The most common affected age group was 11-12 years (40%, n=20), followed by 9-10 years (38%, n=19). Less affected age group were 6-8 years, they were 11 cases (22%).

The most common clinical type was grey patch tinea capitis (50%, n=25), followed by diffuse scale (20%, n=10) and black dot (18%, n=9). Inflammatory types (kerion, diffuse pustular) were less common (8% , n= 6 combined). (see Table 2)

Table 2: Frequency of clinical presentation of tinea capitis in school-age children.

Clinical presentation	Frequency	Percentage
Kerion	2	4%
Grey patch	25	50%
Favus	1	2%
Black dot	9	18%
Cicatricial alopecia	1	2%
Diffuse Scales	10	20%
Diffuse pustular	2	4%

It was found that eleven (22%) of affected children were either diabetic, had atopic dermatitis or asthmatic patients on corticosteroid therapy, and thirty-nine (78%) of patients had no chronic illness.

Associated factors identified were: animal contact (68%, n= 34 of patients) (see Figure 1), family history of infection (44%, n= 22), and living in a rural area (66%, n= 33).

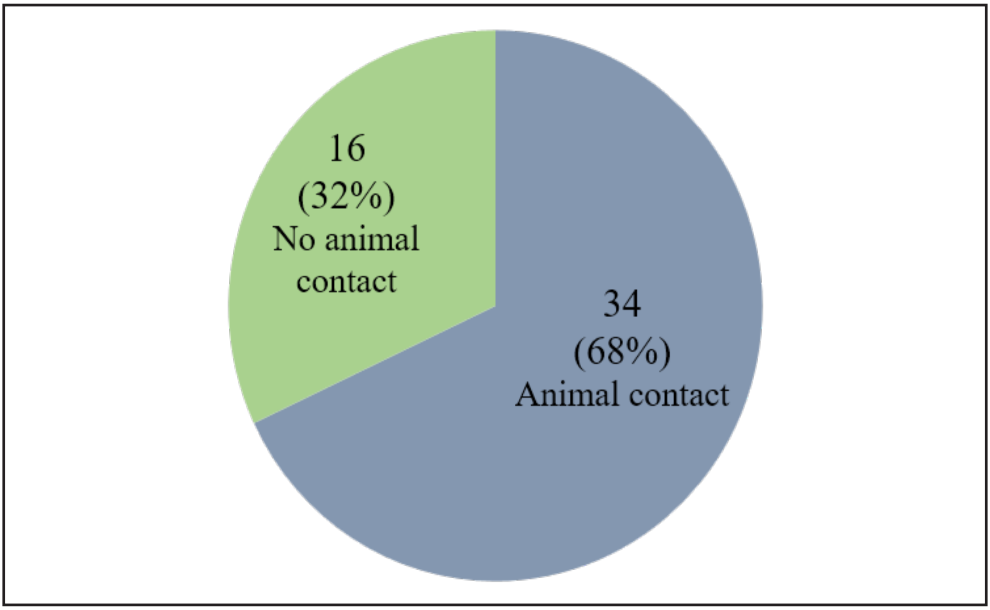

Figure 1: Distribution of study sample according to contact with animals

3.2 Quality of Life Impact

The mean CDLQI score was 11.5 (±4.5), pointing to a moderate effect on QOL.

The categories of the severity of QOL impact were: no effect (16%, n=8), small effect (36%, n= 18), moderate effect (40%, n=20), large effect (4%, n=2), and extremely large effect (4%, n=2). (see Figure 2). The most affected aspects were "symptoms and feelings" (Q1 & Q2) and "school" (Q7) (see Figure 3).

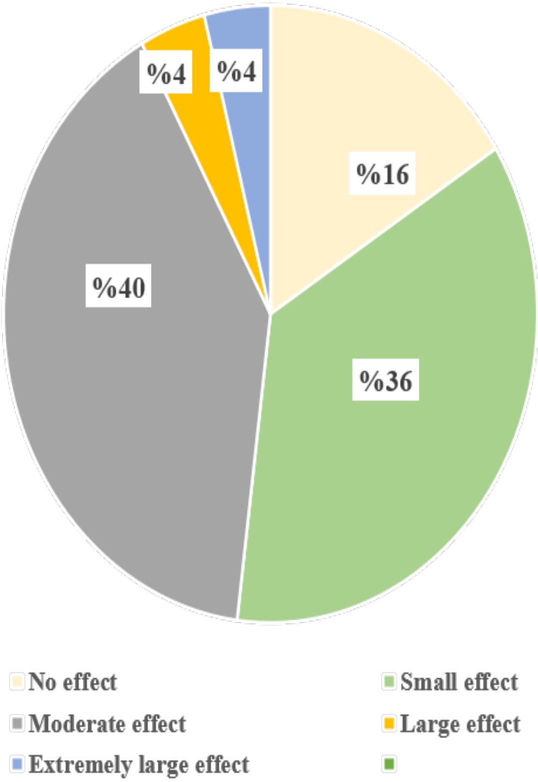

Figure 2: Percentage of severity of cases of tinea capitis on school age children

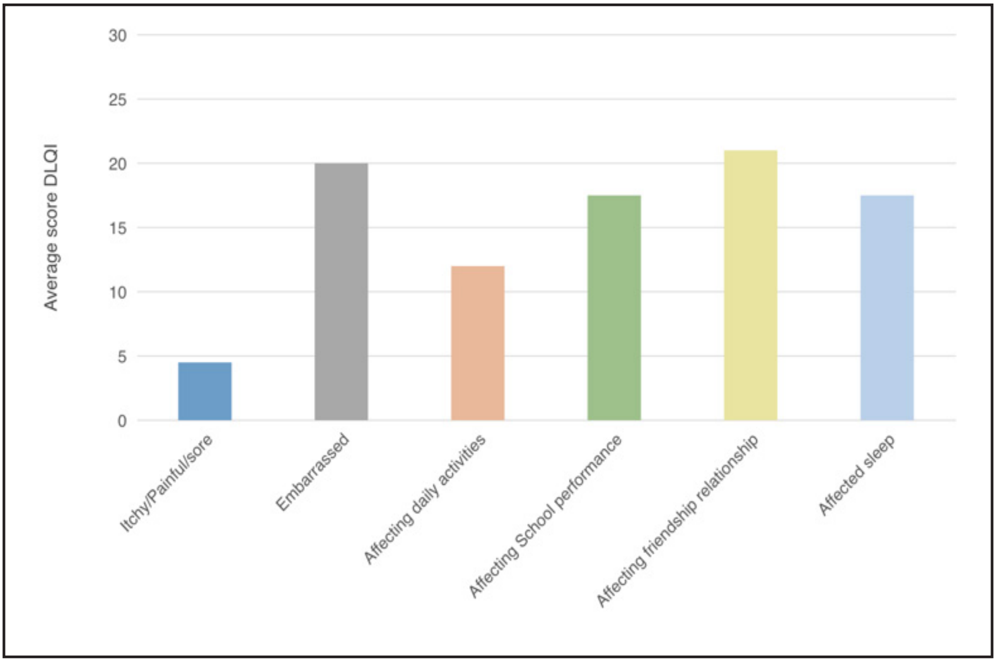

Figure 3: Distribution of study cases in categories of life quality index score

3.3. Correlations with QOL

Gender: Female patients were twice affected and had higher psychosocial impact than males.

Clinical Type: Patients with kerion had the highest CDLQI scores (score of 25), indicating severe impact. Favus also showed a high impact (score of 20). Non-inflammatory types like grey patch and diffuse scale had lower scores (7 and 4, respectively).

Disease Duration: A strong positive correlation (Spearman's rank correlation) was observed. Longer duration of illness was associated with higher CDLQI scores ($p<0.05$). The duration of illness had the greatest effect on the patients' quality of life. The least duration was 0.5 months while the longest duration was 48 months which had a high CDLQI score of 23. The mean duration of illness in this study was 22.3 months and standard deviation was 3.12 months (see Table 3).

Table 3: Mean score of quality of life in relation to patient age and duration of illness

Variable	Minimum	Maximum	Mean	STD
Deviation				
Age (years)	6	12	9	3
Duration of illness in (months)	Weeks 2	Months 48	Weeks 97	days 95
Score of dermatology life quality index	0	23	11.5	11.5

Age and Socioeconomics: No statistically significant correlation was found between QOL scores and the patient's age or socioeconomic status.

4. DISCUSSION

The results of this study showed that tinea capitis had a significant impact on affected children psychologically. Nearly half of the affected children (48%) experienced impact on their quality of life. The results also showed that females were more psychologically affected than males which agrees with global studies. (7,8) This was likely due to the social pressure on girls regarding their physical appearance especially their hair. The strong correlation found between inflammatory variants and higher scores was expected. After all, inflammatory types were more painful, exudative and are more likely to cause alopecia which usually causes embarrassment, shame and social withdrawal. There was also the significant correlation between longer disease duration and a worse quality of life. This correlation illustrates the negative consequences of delayed diagnosis, inadequate treatment or re-infection. It also highlighted the need for effective interventions and patient education to ensure early, complete recovery.

Age had no significant correlation with outcome and quality of life. This suggested that children across the ages of 6-12 years are equally affected and are equally vulnerable to the stigma and discomfort caused by tinea capitis.

The mean CDLQI score in our study was higher than many values reported for other pediatric skin diseases. Globally, most childhood dermatoses caused mild to moderate psychological impact on the quality of life (Average CDLQI scores range 4-10). (9) As for tinea capitis, the CDLQI was reported to be 6.01± 4.17 in a recent Indian study of 134 outpatient children. This was lower than our observation. (10)

Tinea capitis remains highly prevalent among African children. A systematic review and meta-analysis reported a pooled prevalence of 23% among children under 18 years in 17 African countries (11). Ethiopian school-based surveys found prevalence rates of t. capitis between 25% and 30%, (12,13) and one rural district study reported 32.3% (12). These studies indicate the magnitude and impact of the disease. The impact is expected to be higher in endemic regions such as Libya.

The risk factors identified in our study include animal contact, rural residence and family history. These results are consistent with findings from studies in other countries. An Ethiopian meta-analysis showed that younger age (less than 10 years) and poor hygiene increased the risk while frequent hair washing was protective. (12) A cross-sectional survey from Côte d'Ivoire also found strong associations with sharing combs or towels, keeping pets, and limited access to clean water (14).

It was found that the psychological and social impact of tinea capitis is strongly affected by the duration and the severity of the disease. In India, longer duration was associated with worse CDLQI scores (10). In our study, kerion subtype and prolonged duration of illness were associated with greater impact. This suggests that delayed diagnosis and treatment increase the psychosocial burden. Therefore, early management, patient education and compliance are highly recommended. Our study also agrees with various studies that reported girls are likely to be psychologically and socially affected than boys. This is likely due to social expectations of girls' appearance overall and regarding their hair. Similar results have been described in other dermatological conditions that affect visible body parts. (10,11)

This study has several limitations. The sample which consisted of all consecutive patients diagnosed over a period of 18 months remains small and based on a single center. This results in the limitation of the statistical power of subgroup analyses and therefore their generalizability. Multiple regional studies reported similar limitations. (10,11) In addition, the lack of a control group of healthy children prevents comparison of the quality of life. Finally, we used a generic dermatology quality of life instrument rather than a disease-specific tool for tinea capitis. Despite these limitations, our findings provide important baseline data for Libya, where little research exists on the psychosocial impact of dermatophytosis.

Given the high prevalence and the high psychosocial impact of tinea capitis, public health strategies are needed. School health programs, health education campaigns for parents and teachers, and improved access to antifungal treatment are essential. Collaboration with mental health professionals could help reduce the social stigma and support affected children. Future multicenter studies with larger samples and follow-up are needed to confirm these findings and to assess the psychological effects of early treatment.

5. CONCLUSION

Tinea capitis significantly affects the quality of life of schoolchildren. The factors associated with the psychosocial impact are female gender, severe inflammatory disease (kerion), and longer illness duration. Clinicians should not only prescribe antifungal agents, but also be prepared to address the psychological effect associated with the condition, provide counseling, and consider referrals to mental health professionals to prevent the long-term impact on a child's well-being.

The following is recommended:

1. To establish collaboration between dermatologists and mental health workers – particularly for children with longer disease duration and inflammatory variants such as kerion, who had the highest CDLQI scores in this study- to assess the psychosocial issues associated with tinea capitis among school-aged children.
2. Further research should focus on adapting and validating international QOL tools for the Libyan cultural and community.

REFERENCES

1. Simpanya MF. Dermatophytes: their taxonomy, ecology and pathogenicity. In: Kushwaha RKS, Guarro J, editors. Biology of Dermatophytes and Other Keratinophilic Fungi. Bilbao (Spain): Revista Iberoamericana de Micología; 2000. p. 1-12.

2. Anosike JC, Keke IR, Uwaezuoke JC, Anozie JC, Obiukwu CE, Nwoke BE, et al. Prevalence and distribution of ringworm infections in primary school children in parts of Eastern, Nigeria. J Appl Sci Environ Manag. 2005;9(3):21-6. doi: 10.4314/jasem.v9i3.17316.

3. Kundu D, Mandal L, Sen G. Prevalence of Tinea capitis in school going children in Kolkata, West Bengal. J Nat Sci Biol Med. 2012;3(2):152-5. doi: 0.4103/0976-9668.101894

4. Goldstein AO, Goldstein BG, Dellavalle RP. Dermatophyte (Tinea) Infections. UpToDate; 2015 [cited 2023 Oct 27]. Available from: https://www.uptodate.com/contents/dermatophyte-tinea-infections

5. Fathi HI, Al-Samarai AG. Prevalence of tinea capitis among school children in Iraq. East Mediterr Health J. 2000;6(1):128-37. Available from: https://pubmed.ncbi.nlm.nih.gov/11370324/

6. Lewis-Jones MS, Finlay AY. The Children's Dermatology Life Quality Index (CDLQI): initial validation and practical use. Br J Dermatol. 1995;132(6):942-9. doi: 10.1111/j.1365-2133.1995.tb16953.x

7. Jain N, Sharma M, Sharma M, Saxena VN. Spectrum of dermatophytoses in Jaipur, India. Afr J Microbiol Res. 2014;8(3):237-43. doi:10.5897/AJMR12.802

8. Kalita JM, Sharma A, Bhardwaj A, Nag VL. Dermatophytoses and spectrum of dermatophytes in patients attending a teaching hospital in Western Rajasthan, India. J Family Med Prim Care. 2019;8(4):1418-21. doi: 10.4103/jfmpc.jfmpc_159_19

9. Beattie PE, Lewis-Jones MS. A comparative study of impairment of quality of life in children with skin disease and children with other chronic childhood diseases. Br J Dermatol. 2006;155(1):145-51. doi: 10.1111/j.1365-2133.2006.07185.x

10. Mohta A, Singh A, Nyati A, Agrawal A, Nahar D, Lal M, Gupta D, Jain SK. Evaluation of impact of tinea capitis on quality of life in pediatric patients

using Children’s Dermatology Life Quality Index and its correlation with disease duration. Int J Trichology. 2020;12(5):213-9. doi: 10.4103/ijt.ijt_58_20.

11. Fuller LC, Child FJ, Midgley G, Higgins EM. Diagnosis and management of scalp ringworm. BMJ. 2003;326(7388):539-41. doi: 10.1136/bmj.326.7388.539.

12. Birhanu MY, Temesgen H, Ketema DB, Desta M, Getaneh T, Bekele GM, Zeleke B, Jemberie SS. Tinea capitis among schoolchildren in Ethiopia: a systematic review and meta-analysis. PLoS One. 2023;18(2):e0280948. doi: 10.1371/journal.pone.0280948.

13. Leiva-Salinas M, Marin-Cabanas I, Betlloch I, Tesfasmariam A, Reyes F, Belinchon I, Ramos JM. Tinea capitis in schoolchildren in a rural area in southern Ethiopia. Int J Dermatol. 2015;54(7):800-5. doi: 10.1111/ijd.12691.

14. Fulgence KK, Marie KPC, Akoua VB, Massafoma KEG, Etienne AK, Abibatou KT, Henriette VA, Sebastien MAJ, Vincent D, William Y, Hervé MEI. Dermatophytosis and the associated risk factors among primary school children in southern and central Côte d’Ivoire. Mycoses. 2023;66(10):869-75. doi: 10.1111/myc.13624.

FIGURE AND TABLE LEGENDS

Table 1: Demographic characteristics of the study population showing gender distribution of Libyan schoolchildren with tinea capitis (N=50).

Table 2: Clinical profile and frequency of different clinical variants of tinea capitis among the studied schoolchildren.

Table 3: Descriptive statistics for patient age, duration of illness, and Children›s Dermatology Life Quality Index (CDLQI) scores.

Figure 1: Pie chart showing the distribution of the study sample based on history of animal contact, a key identified risk factor for tinea capitis.

Figure 2: Pie chart illustrating the distribution of cases according to the severity of impact on quality of life, as measured by CDLQI score categories.

Figure 3: Bar chart depicting the distribution of mean scores for the most affected CDLQI domains (‹Symptoms and Feelings› and ‹School›) in children with tinea capitis.