Our Dermatology Online

Original Article

Quality of life in patients with chronic dermatophytosis: A cross-sectional study

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ABSTRACT

Background: Dermatophytosis has lately become widespread in India. The presence of dermatophytosis for six months or more is described as chronic dermatophytosis. Chronic dermatophytosis may significantly affect one's quality of life. The aim of this study was to determine the impact of chronic dermatophytosis on quality of life. **Materials and Methods:** A total of 220 cases of chronic dermatophytosis were included in the study for the Dermatology Life Quality Index questionnaire. Statistical analysis was done using univariate/multivariate and regression analysis to analyze the effect of chronic dermatophytosis on quality of life. $p < 0.05$ was considered statistically significant. **Results:** Among the total 220 cases, 47.27% were males (mean age: 30.53 yrs.), and 52.72% were females (mean age: 36.24 yrs.). The mean DLQI score was 11.054. DLQI was significantly ($p < 0.05$) influenced by duration of illness and body surface area of the patient. **Conclusion:** Dermatophytosis is known to affect the quality of life of all patients, whereas chronic dermatophytosis causes a remarkably negative outcome on quality of life. Hence, reassurance and counseling of patients suffering from chronic disease is required along with timely and precise treatment.

Key words: Chronic dermatophytosis, Dermatology Life Quality Index, Dermatophytosis

INTRODUCTION

Dermatophytosis is the superficial fungal infection of the skin, hair, and nails caused predominantly by dermatophytes. There has recently been a surge in the occurrence of dermatophytosis globally [1]. There is an alarming rise in the prevalence of dermatophytosis in India in the last decade, which may be regarded as an outbreak and poses a high risk of transmission to other people [2]. This infection generally alleviates in around two weeks of medications [3,4]. In the current scenario, dermatophytosis is chronic, usually lasting for more than two or three weeks of treatment. This situation is due to the rampant use of topical steroid preparations, variations in the clothing style of the host, changes in the fungi, and the appearance of resistance to the drugs [2,5]. Estimation of health-related QOL evaluates the disease burden and enables to estimate the effect of medications on the disease [6]. Since the prevalence of dermatophytosis is high, it may have a detrimental effect on social and professional life and emotional compromise [2,7]. The quality of well-being is evaluated in dermatology by making use of DLQI [8]. There are numerous studies on the estimation of DLQI in skin conditions such as acne vulgaris, psoriasis, atopic dermatitis, and vitiligo [9-11]. There are only several studies on the estimation of quality of life in chronic fungal infections of the skin. Therefore, in our study, we have assessed the impact on quality of life in affected patients.

MATERIALS AND METHODS

This was a cross-sectional study conducted at the Department of Dermatology of a tertiary care

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hospital in South India between August 1, 2022, and December 31, 2022. A total of 220 patients aged > 18 years with clinical features of dermatophytosis for a duration of six months or more and those consenting to participate were enrolled in the study. The diagnosis was confirmed by 10% KOH mount for fungal elements. Patients with psychiatric disorders and other medical disorders influencing the quality of life were excluded from the study. A thorough history was taken by recording age, sex, and duration of the infection in a case record form. KOH mount was done in all cases. The body surface area was determined by applying the "rule of palm." 1% body surface area was the complete palmar aspect of the palm including the five fingers of the patient [12]. In our study, we employed the Dermatology Life Quality Index (DLQI) for estimating the quality of life in the patients [8]. DLQI is a tool used by many dermatologists for assessing quality of life, which has ten queries. The set of questions in the DLQI was explained to the patients. They were inquired, then, to get replies to the questions. A score of 0–3 was given to each question (not at all/not relevant: 0, a little: 1, a lot: 2, very much: 3). The score for each question is added for all questions to get the final DLQI. The total DLQI score may be 0–30. The DLQI thus scored was then inferred as mentioned in the score bandings below:
0–1: no effect
2–5: small effect
6–10: moderate effect
11–20: very large effect
21–30: extremely large effect
The total DLQI scores were determined and correlated. The quality of life was affected more greatly with higher scores.

Data was coded and analyzed using standard statistical software.

Ethics Statement

This study was conducted after taking approval from our Institutional Ethics committee.

RESULTS

A total of 220 cases of chronic superficial dermatophytosis were included in the study. The female-to-male ratio was 1.115. Females were affected more in the study. Tables 1 and 2 show the association of DLQI score with sex and age, respectively.

The mean DLQI score in the study was 11.054 ± 5.3 points, which showed a very large effect by 108 (49.09%) patients, extremely large effect by 16 (7.27%) patients, moderate effect by 44 (20%), and small effect by 52 (23.63%) patients (Table 3).

DLQI was significantly influenced by the extent of body surface area involvement (Fig. 1). There was a greater effect of QoL with more body surface area involved ($p < 0.00001$) (Table 4). DLQI was also significantly influenced by duration of the disease (Fig. 2). The DLQI score increased with the duration of the disease (p value < 0.00001) (Table 5).

DISCUSSION

Quality of life has many dimensions: physical, psychological, vocational, monetary, and public well-being [13]. The measurement of quality of life in skin diseases helps in assessing the severity of the disease and management outcome [14].

Chronic dermatophytosis may have a remarkable effect on the patient's quality of life [13]. Chronic dermatophytosis is defined as dermatophytosis with a duration of more than six months [5]. Dermatophytosis is regarded as recurrent if there is a recurrence of symptoms in less than six weeks of discontinuing the appropriate antifungal therapy along with a minimum of two similar occasions in six months [15].

Table 1: Correlation between DLQI score and sex.

Sex	Number	DLQI (Mean)	SD
Male	104	9.58	5.237
Female	116	12.38	5.165

Table 2: Correlation between DLQI score and age.

Age	Number	DLQI (Mean)	SD
18–30	128	11.22	5.2
31–60	80	10.90	5.7
> 60	12	10.33	4.6

Table 3: DLQI scores as per banding.

DLQI	Number	Percentage
Small	52	23.63%
Moderate	44	29%
Very large	108	49.09%
Extremely large	16	7.27%

Table 4: Correlation between DLQI score and body surface area.

Body Surface Area	Number	DLQI (Mean)	SD
≤ 10%	32	4	1.13
10–20%	104	9.62	3.83
>20%	84	15.52	3.9

Table 5: Correlation between DLQI score and duration.

Duration	Number	DLQI (Mean)	SD
6–9 months	80	6.55	3.3
9 months to 1 year	100	12.44	4.3
> 1 year	40	16.6	3.5

The present study included a total of 220 patients. A study conducted by Rajashekar et al. had a total of 186 patients [16]. A study conducted by Kumar Das et al. had a total of 328 patients [17]. In the present study, there were 104 (47.272%) males and 116 (52.77%) females. In the study conducted by Kumar Das et al., there were 154 (46.951%) males and 174 (53.048%) females. Also, in a study by Patro et al., there were 138 (46.93%) males and 156 (53.06%) females [18]. There are some studies in which the number of male patients is greater than female patients, whereas in our study the number of female patients was more than the number of male patients. The mean and standard deviation of the DLQI count in our study was 11.054 ± 5.3. The mean and standard deviation of female and male patients were 12.37 ± 5.165 and 9.57 ± 5.237, respectively, in our study. The mean and standard deviation of female and male patients were 11.61 ± 5.9470 and 13.21 ± 5.924, respectively, in the study by Rajashekar et al. [16].

In our study, there was no correlation between age and DLQI score. In the study done by Rajashekar et al. and Das et al., the DLQI score among males and females did not show any statistical significance. Although there was increasing in the mean DLQI score with an increase in age in the study done by Rajashekar et al., our study did not show an increase in the DLQI score with increasing age. In our study, there was a positive correlation between DLQI and duration of the disease. There was a similar positive correlation between DLQI and duration in studies by Rajashekar et al., Das et al., and Patro et al. Our study also showed a positive correlation of DLQI with body surface area. A similar correlation was seen in a study by Rajashekar et al., Das et al., and Patro et al. Dermatophytosis was found to have a very large effect in 49.09% of the patients.

The current study showed that chronic dermatophytosis had an impact on quality of life by using the DLQI

Table 6: DLQI scores in different domains.

DLQI Score	Mean
Symptoms (0–6)	3.16
Routine tasks (0–6)	1.87
Social/leisure activities (0–6)	1.41
Work and studies (0–3)	1.4
Relationships (0–6)	1.8
Treatment difficulties (0–3)	1.08

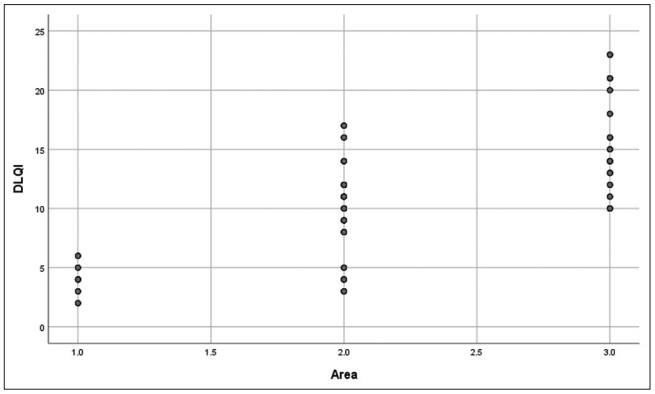

Figure 1: Scatter plot showing an increase in DLQI score with an increase in body surface area involvement (%).
Footnote: 1: ≤ 10 %; 2: 10: 20%; 3: 20–30% body surface area.

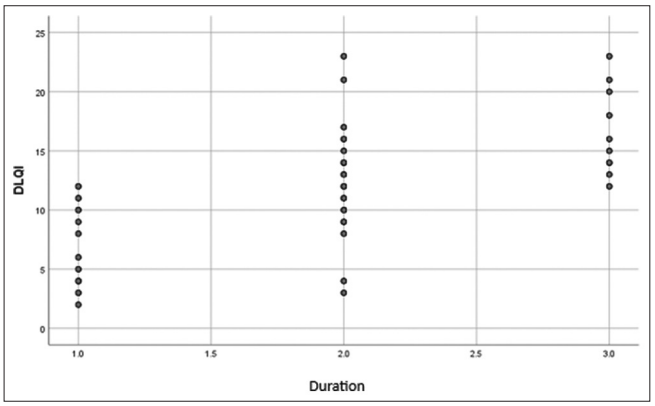

Figure 2: Scatter plot showing an increase in DLQI score with an increase in duration of the disease (months).
Footnote: 1: 6–9 months; 2: 9 months to 1 year, 3: > 1 year.

questionary, which had the 1st and 9th items related to the physical effects and the 2nd and 10th items related to psychological and social well-being of the patient [19]. In the present study, a larger number of patients expressed the impairment in the area of symptoms and feeling (Table 6). There was a similar impairment among the majority of patients in the area of symptoms and feeling in the study done by Varshney et al.

There are only several studies analyzing the quality of life in chronic dermatophytosis. Chronic dermatophytosis was found to have a very large effect on the quality of life of patients. This leads to significant agony among

patients, hence the need for adequate counseling and education regarding the disease.

CONCLUSION

The present study showed that chronic dermatophytosis may lead to a remarkably detrimental effect on the quality of life of the patient. Hence, we need to give more emphasis on the management of psychosocial aspects, patient education, and adequate treatment of the disease.

Statement of Human and Animal Rights

All the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 2008 revision of the Declaration of Helsinki of 1975.

Statement of Informed Consent

Informed consent for participation in this study was obtained from all patients.

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