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Original Research Article

Dermatology life quality index in patients with persisting and recurrent dermatophytoses

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ABSTRACT

Background: Dermatophytosis is the most common fungal infection, which has recurrent and persisting course because of topical steroid abuse, irregular treatment and poor hygiene. Dermatology life quality index (DLQI) is a questionnaire based survey method to assess the impact and severity of many dermatology specific diseases and infections. There is paucity in the literature on the impact of dermatophytosis on the quality of life (Qol). The aim of the study was to assess the impact of dermatophytosis and its sequelae on quality of life.
Methods: A total of 186 patients with recurrent and persistent dermatophytosis were selected for Qol questionnaire for a period of six months and statistical analysis was performed using t test to determine the impact of dermatophytosis on Qol.
Results: Male to female ratio was 2.7:1, most cases were between 25 to 45 years age group. Thigh fold and gluteal region were the most common sites involved. Mean DLQI score was 12.7. The DLQI scores were statistically influenced by age of the patient, duration of the infection and site of involvement.
Conclusions: This study revealed significant impairment of Qol in dermatophytosis patients. Assurance and counselling along with early and prompt treatment plays a significant role in reducing disease related psychosocial sequelae and increase the efficacy of treatment.

Keywords: Dermatophytosis, Dermatology life quality index, Psychosocial sequelae

INTRODUCTION

Dermatophytosis is a common superficial fungal infection among which tinea corporis and tinea cruris are the more frequent manifestations. Trichophyton rubrum is the predominant isolate in most clinical types. Dermatophytes are aerobic fungi which produce protease that digest keratin and allow colonization, invasion and infection of the stratum corneum of the skin, the hair shaft, and the nail. The disease usually subsides within two weeks of treatment.[1,2]

In recent times, the duration of dermatophytosis is prolonged and persistent often not cured in span of two to three weeks of therapy. This change in scenario can be attributed to the widespread use of topical steroid creams, changes in the dressing pattern of the host, change in the agent and also emergence of resistance patterns due to abundant usage of steroid combination creams.[3-5]

Dermatology life quality index which possess high degree of reliability, applicability and reproducibility is a questionnaire based survey method to assess the impact and severity of many dermatology specific diseases and infections.[6]

In patients with prolonged dermatophytosis, the infection tends to become persistent and recurrent and it can

impact the life of the patients like social withdrawal, low dignity in the society.[3]

Though, there are few studies of assessment of DLQI in various dermatoses like alopecia areata, acne vulgaris, atopic dermatitis, vitiligo vulgaris, psoriasis vulgaris and photodermatosis, but no studies available in the literature on the impact of dermatophytosis on the quality of life (QOL).[6-14] Hence to assess the quality of life in these patients, this study is being undertaken.

METHODS

A total of 186 patients visiting dermatology OPD at RL Jalappa Hospital and Research Centre attached to Sri Devraj Urs Medical College, Tamaka, Kolar, Karnataka, were screened to assess Dermatology Life Quality Index over a period of six months from February to July 2018. Patients presenting with persisting and recurrent dermatophytosis were included in this study, whereas acute dermatophytosis patients were excluded. Clinical diagnoses of dermatophytosis was made by taking detailed history including age, sex, site of onset, sites affected, duration of the disease, precipitating and aggravating factors. Relevant lab investigations like KOH mount, routine investigations were conducted on all the patients and fungal culture was done in doubtful cases.

The DLQI questionnaire consists of 10 leading questions related to symptoms, embarrassment, shopping and daily activities, clothing pattern, social and leisure activities, sporting, work or study activities, sexual difficulty and treatment. All the statistical analysis was done by mean, standard deviation, and confidence interval. For comparision between the groups was done by independent student t test, same in percentage done by chi square test. Categorial data was analysed by frequency. Significance of difference was tested at 5% level of significance.

Each question was answered along with their scoring pattern as given in (Table 1).

Table 1: Scoring of questionnaire.

Scores	Inference
0	Not at all
1	Only a little
2	Quite a lot
3	Very much

Table 2: Scoring of dermatology life quality index (DLQI).

Scores	Inference
0-1	No effect on quality of life (QOL)
2-5	Small effect
6-10	Moderate effect
11-20	Very large effect
21-30	extremely large effect

The maximum score for each of 10 questions was 0 to 3, making maximum possible score of 30. The outcome of every patients Dermatology life quality index (DLQI) after participating in 10 questionnaire, score bandings given were as in (Table 2).

RESULTS

Out of 186 patients with persisting and recurrent dermatophytoses, there were 137 (73.65%) males and 49 females (26.34%) and ratio of male to female being 2.7:1 and no statistical significant difference observed on DLQI scoring (Table 3). Majority of the patients were between 25 to 45 years of age (Table 4). The duration the infection found to be variable, which varied from two weeks to several months. 95 (51%) patients had persisting dermataphytosis even after treatment for 6 weeks, 65 (34.9%) patients came with recurrence after duration of 3 to 4 months of complete recovery (Table 5). The most common site was bilateral thigh folds and gluteal region 106 (56.9%), followed by groin 58 (31.1%), face 15 (8.8%) and palm and toe web spaces is seen in 7 (3.2%) patients (Table 6).

Table 3: Comparison of mean DLQI score.

Gender	No. of patients	Mean DLQI	Std. Deviation	T value	P value
F	49	11.61	5.9470	1.628	0.105
M	137	13.21	5.9244		
Total	186	12.79	5.9567		

Table 4: Showing age distribution.

Age	No of males	No of females	Total	Percent (%)
0-12	4	3	7	3.4
13-20	10	2	12	6.5
21-30	30	12	54	29.3
31-40	44	15	69	37.1
41-50	33	10	44	23.7

Table 5: Distribution of patients according to the duration of the dermatophytoses.

Duration of dermatophytoses	Number of patients	Percentage (%)
<Six months	86	46.4
Six months-one year	67	36.3
>One year	33	17.3
Total	186	100

Table 6: Distribution based on location of dermatophytoses.

Location	Number of patients	Percentage (%)
Thigh folds, gluteal region	106	56.9
Groin region	58	31.1
Face	15	8.8
Palm and toe web spaces	07	3.2
Total	186	100

Table 7: Interpretation of DLQI scores.

S. No	DLQI scores	Frequency (no of patients)	Percentage (%)
1	No effect (0-1)	6	3.2
2	Mild effect (2-5)	11	5.9
3	Moderate effect (6-10)	50	26.9
4	Very large effect (11-20)	98	52.7
5	Extreme large effect (>21)	21	11.3
	Total	186	100

Chi-square=2.836, p=0.586 Grades of DLQI is not associated with gender.

Of the total 186 patients screened for DLQI 98 (52.7%) showed very large effect, whereas no effect seen in 6 (3.2%) patients (Table 7).

DLQI scores compared between males and females does not show any statistical significance (p=0.105) as shown in (Table 3).

DISCUSSION

This present study revealed that persistent and recurrent dermatophytosis affected the QOL of patients, by executing DLQI questionnaire in which question 1and 9 referred to the physiological effects, while the remaining (2 to 10, except 9) referred to emotional and social effects of the disease.[8]

In present study Male to female ratio was 2.7:1, showed male preponderance as noted in few other studies. This may be due to increased outdoor physical activity and increased opportunity for exposure in men than women.[15-22]

In present study majority of the patients were aged more than fourty years and above with some co morbidities, whereas few other studies reported highest incidence in age group of 21-30 years. The exact reason for highest incidence in young adults and low incidence in two extremes of age group i.e., children and aged persons is not clearly understood. The higher incidence in young adult may be due to increased physical activity and increased perspiration. [15,17,19,23]

The most common clinical type encountered in this study was tinea corporis – 106 cases (56.9%), followed by tinea cruris- 56 cases (28%) which is similar to few other studies wherein they reported tinea corporis as the most common clinical type in their respective studies.[18,20,22,24] However few other studies revealed highest incidence of tinea cruris.[20,24]

Similar to many other studies there were low incidence of tinea pedis at 3.2% (7 cases) in this study also.[24,25] This may be due to the habit of going barefoot or due to wearing open sandals, which is common habit among general public. Tinea faciei was 8.8% (15 cases) in this study which is in contrast with other studies where the incidence was 3.8% and 6% respectively.[19,26]

The mean DLQI score increased as age of the patients advances, which also includes loss of self-confidence and low self-esteem similar DLQI scoring was seen in few other dermatoses like alopecia areata, acne and psoriasis.[6-9,12,13] However in DLQI study of vitiligo poor quality of life is observed in young patients.[11]

In present study, patients with lesions over the thigh fold and gluteal region has more impaired quality of life than other sites, whereas the exposed sites in DLQI studies on acne and psoriasis lead to more impaired quality of

life.[9,12,13] 11.3% and 52.7% cases had extremely large and very large impact in QOL scoring in this study which can be attributed to the most common site of involvement i.e. gluteal region and thigh folds, in combination with irregular treatment, poor hygiene. Despite few local symptoms, presence of an itchy skin lead to significant increase in DLQI scoring which is similar to a QOL study on patients with alopecia areata and androgenetic alopecia.[8]

In persistent and recurrent dermatophytosis the QOL affected, not only the physiological aspects of the patients lives but also their emotional and social well-being, which resulted in difficulty in seeking a partner, or participating in other social activities got worsened.[8]

Dermatology life quality index (DLQI) is a dermatology-specific QOL measure that has been well validated, used in many diseases, and translated into many languages.[9] QOL is defined as the subjective perception of the impact on the health status, including the disease and its treatment, and on the physical, psychological, and social functioning and well-being of the patients.[7] The concept of quality of life is concerned with whether the disease or impairment limits the person's ability to fulfil a normal role, to assess the burden of illness and the outcome of medical treatments.[7] QOL indicators are important in health care provision in dermatology due to skin diseases and infections. Skin diseases are known to have strong impact on self-consciousness, feelings of unattractiveness, social withdrawal and emotional stress.[13]

The QOL scores can also be used as effective tool in assessing the treatment as well as physical assessment. Expensive treatments or significant resources associated with the management of some cutaneous or extra-cutaneous conditions are justifiable in diseases that can be objectively demonstrated to very large to extremely large impact on the QOL scores.[7]

CONCLUSION

This study showed significant impairment of quality of life in dermatophytosis patients more commonly observed with longstanding and recurrent cases. Though no gender difference in DLQI scoring was observed, there was large impact on QOL scores in middle aged and elderly patients compelling them to alter the type of clothing, avoidance of social meetings leading to severe psychological disturbances. Thus this study stresses the importance of counselling along with proper treatment of dermatophytosis thereby reducing disease related psycho-social sequelae and enhancing the efficacy of treatment.

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