

# Quality of life in patients with cutaneous leishmaniasis

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## Original Article

### Abstract

**Introduction:** Cutaneous Leishmaniasis (CL) is characterized by papules, nodules or ulcers that most often leave permanent scars in exposed areas of body. This condition can have a severe effect on the quality of life in these patients. This study aims to examine the quality of life in patients with CL.

**Methods:** This cross-sectional study evaluated 120 patients (52 males and 67 females) between 16 to 80 years of age, with CL at Shiraz Valfajr health center, Shiraz, Iran. The Dermatology Life Quality Index (DLQI) questionnaire was used for measuring the quality of life. Data on demographics and characteristics of the lesions were also collected.

**Results:** The mean DLQI score was 11.7 with SD=7.15. The highest effect was observed in the realm of feelings, such as nervousness and feeling ashamed while the lowest effect was seen in the sexual relationship of patients. There was a significant difference in DLQI scores in patients with a high number of ulcerated lesions, especially if the ulcers or scars were on the face, than in other cases. Based on DLQI scores, lower quality of life was seen in CL patients. However, there was no significant difference in DLQI scores between men and women. In addition, no significant difference in DLQI scores were detected between other independent variables that were evaluated in this study.

**Conclusion:** Cutaneous leishmaniasis significantly affects the quality of life in these patients.

**Key words:** Cutaneous, Leishmaniasis, Dermatology, Quality of Life

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### Introduction:

The scar and disfigurement of cutaneous leishmaniasis (CL) that remains has a great negative impact on the patients (1,2). In Iran, about 30,000 individuals are affected by CL every year (3-7).

CL disfigurement can socially, physically and economically, affect their quality of life (8,9).

Many studies have shown that skin disease affects the quality of life (10-13). This study was

undertaken to evaluate the effect of cutaneous leishmaniasis on the quality of life of these patients in an endemic area for cutaneous leishmaniasis in Iran.

### Methods:

This cross sectional study was performed in 2015 on 120 patients with CL who were referred to

Shiraz Valfajr Health Center in the city of Shiraz in southern Iran.

The inclusion criteria were: age over 16 and patients with active lesions or inactive scars of CL. We excluded all the patients that were afflicted with other skin or systemic diseases and patients with any type of psychological disorder.

This study was approved by the Deputy for Research of Shiraz University of Medical Sciences with file number 86/1026.

Two questionnaires were used for collecting the data. One of them was the Dermatology Life Quality Index (DLQI) questionnaire and the other one included demographic data and clinical features of the lesions such as type, size, location, condition and activity of the lesions.

The DLQI questionnaire contains ten questions which covers six domains about "feelings, daily activities, work and school, personal relationships, sexual activities and exercise" during the previous seven days.

Each question's score ranges from 0 (no effect on quality of life), to 3 (the maximum effect on quality of life). The sum of scores of the DLQI questionnaire is between 0 to 30. DLQI has been translated into Persian. Also appropriate permission was obtained for using the DLQI questionnaire Farsi version from its original designer.

The independent variables were age, sex, marital status, educational and occupational status, the number, size and type of lesions. The dependent variable was quality of life of the patients afflicted with CL.

After filling the questionnaire and collecting data, the data was analyzed with an SPSS program using T test, Correlation Pearson test and one factor variance analyses. For all analyses,  $P < 0.05$  was considered statistically significant.

## Results:

A total of 120 CL patients of both sexes were interviewed. They included 53 males and 67 females, aged between 16 and 80 years with an average age of 37.9 years. With respect to marital status, 37 patients were single and 83 were married. The educational status of the patients included 59% below high school graduation and ten percent holding a university degree. Regarding occupation,

33.3% were employed and 64.2% were unemployed.

The duration of the disease ranged from 1 month to 48 months with an average of 4.71 months. Active lesions were evident in 79.2% of the patients while in 10.8% of the patients, the lesions were not active. The number of lesions ranged between 1 to 34 with an average of 3.63 lesions. The location of the lesions varied and were as follows: 45.9% on the upper parts of the body, 17.6% on lower parts of the body, 4.2% on the head and neck and 5% on all three cited locations. The type of lesions ranged from 13.3% in the papular form, 30% in the plaque form and 42.5% in the nodular form. Some patients had a combination of all forms. Ulceration was observed in 64.2% of the patients.

The highest score on DLQI (1.54 out of 3) was about "feelings" of shame, nervousness, and impatience and the lowest score (0.42 out of 3) was for sexual relationship.

The sum of scores of DLQI ranged between 0 to 27. In 17.5% of patients the scores were between 20 to 27 which showed a very high effect on the quality of life. In 42.5% of patients the scores were between 11 to 20 which depicts a high effect on quality of life. In 16.7% of patients the scores showed a moderate effect, in 18.2% a low effect, and in 5% of patients the scores were between 0 to 1 which means no effect on quality of life (Table 1).

The average score of DLQI in this study was 11.7 with  $SD=7.15$ , which shows a very high effect on quality of life in the patients who participated in this study.

Table 1. Results from sum of DLQI scores

DLQI score	0-1	2-5	6-10	11-20	20-27
Effect	None	Low	Moderate	High	Very high
% of patients	5	18.2	16.7	42.5	17.5

The average DLQI score for women who participated in this study was 11.99 while it was 11.40 for men. These scores showed that the quality of life for women was lower than for men but this difference was not statistically significant ( $P=0.663$ ).

In this study, no positive or significant relationship was detected between age and the quality of life in patients with CL ( $P=0.575$ ).

The average DLQI score for unemployed responders was 12.21 while it was 10.55 in employed responders. This difference was not statistically significant ( $P=0.239$ ).

The difference between the quality of life in married versus single patients, with  $P=0.849$ , was not significant.

No significant difference between duration of CL and quality of life was detected ( $\text{sig}=0.835$ ). In addition, with regard to  $P=0.123$ , there was no significant difference between quality of life in patients with active lesions (with average DLQI score=12.6) in comparison to patients with inactive healed lesions (with average DLQI score=9.31).

In this study, the results of the Pearson correlation test showed that there was a positive and significant relationship between the number of lesions and quality of life in CL patients ( $r=0.205$ ,  $\text{sig}=0.003$ ).

The results of 'one factor variance analysis test' showed that the worst quality of life score was observed in patients with CL lesions on all three parts of body: upper part, lower part and on the head and neck with an average DLQI score=24.33. The result of Tukey's range test showed that this difference was significant in the level of 95%. This shows that the quality of life becomes worse with increase in the number of lesions of CL, especially when they were on the upper parts of body like the face, head and neck.

The average DLQI score for the patients with ulcerative lesions was 13.5, while this score for other patients was 8.1. This showed that the quality of life in patients with ulcerative lesions was worse than in other patients. This difference of  $T=4.11$  was statistically significant.

## Conclusion:

The purpose of this study was to evaluate the quality of life in CL patients using DLQI scores.

Not many studies have been performed on the quality of life in patients with CL. Noorpisheh et al evaluated quality of life in patients with CL in Fasa, Fars, Iran (14). They showed that the quality of life in almost half of the patients was affected by the disease. The average DLQI score was 13.7 and  $SD=7.8$ . These results are close to the results of our study (DLQI score=11.7 and  $SD=7.15$ ).

Noorpisheh et al detected that the quality of life in the patients have a direct relationship with the duration of CL in a patient (14). However, in our study, no significant relation was seen.

Furthermore, Noorpisheh et al (14) showed that there is no significant relationship between the size of lesions and quality of life in CL patients.

In Vares et al's study regarding the quality of life in CL patients in Kerman, Iran, the average DLQI score was 5.87 and  $SD=5.97$ . In 24.2% of the CL patients there was a moderate negative effect on quality of life, while 15.3% had a high negative effect and 3.2% had a severe negative effect (15).

Similar to our study, Vares et al showed that there is no significant difference between quality of life in CL patients on the basis of gender, marital status, occupational and educational status. However, the appearance of ulcers had a significant effect on their quality of life and patients with ulcerative lesions had a lower quality of life (15).

Yanic et al found that CL patients with active lesions have the lowest quality of life score, but in our study no significant relationship between active lesions or duration of disease with quality of life was found. In both studies, CL lesions on exposed body parts, permanent scar formation, and social stigmatization caused decreased body satisfaction and impaired quality of life in CL patients (16).

Ranawaka et al evaluated the quality of life in Sri Lankan CL patients using DLQI. In the majority (86%) of the patients there was mild/moderate effect on the quality of life and "feelings" were most affected (17). In our study, in 42.5% of the patients a high effect on quality of life was demonstrated and this showed that the disease causes a greater effect on the quality of life in our patients as compared to Sri Lankan patients.

In our study, "feelings" was the most affected and "personal relations" was the least affected of the domains. This is in agreement with studies conducted by Noorpisheh, Vares and Ranawaka, in which the most common problems found in the patients were feeling ashamed, nervousness and impatience (feelings) and the least problem was about sexual relationships (14,15). This shows that although different studies have been performed in various cultural contexts, the affected domains were constant for all CL patients.

In addition, the results of this study like that of Noorpisheh et al, showed that the level of the patient' education has no significant effect on quality of life in CL patients (14).

In conclusion, this study showed that CL severely affects the quality of life in patients, so it seems necessary to do more planning to prevent the dissemination of CL in various countries and to consider the quality of life of patients in their overall management plan.

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### References:

1. Azizi MH, Bahadori M, Dabiri S, Shamsi Meymandi S, Azizi F. A history of leishmaniasis in Iran from 19<sup>th</sup> century onward. *Arch Iran Med*. 2016;19(2):153-162.
2. Shirzadi MR, Esfahania SB, Mohebalia M, Ershadia MR, Gharacholo F, Razavia MR, et al. Epidemiological status of leishmaniasis in the Islamic republic of Iran. 1983-2012. *East Mediterr Health*. 2015;21(10):736-742.
3. Shojaei Tehrani H. Textbook of preventive and social medicine, common non-communicable chronic diseases and communicable disease. Tehran: Samat Publication; 2001.p. 315.
4. Khani Jeyhooni A, Hatami M, Kashfi SM, Heshmati H. The effectiveness of education based on BASNEF model programing promotion of preventive behavior of leishmaniasis among health workers and families under health centers coverage. *J Fasa Univ Med Sci*. 2012;2(1):26-33.
5. Mohajeri M, Boloursaz M, Hashemiyani A. The study of prevalence of cutaneous leishmaniasis in school students in Mashhad. *Journal of Mashhad University of Medical Sciences*. 2001;72(1):54-56.
6. Hamzavi Y, Khademi N. Trend of cutaneous leishmaniasis in Kermanshah province, west of Iran from 1990-2012. *Iran J Parasitol*. 2015;10(1):78-86.
7. Javadian E, Nadim A, Tahvildari A, Bidruni G, Assefi V. Epidemiology of cutaneous leishmaniasis in Khorassan Iran. *Bull Soc Pathol Exot Filiales*. 1976;69(2):140-143.
8. Stewart CC, Brieger WR. Community views on cutaneous leishmaniasis in Istalif, Afghanistan: Implications for treatment and prevention. *Int Community Health Edu*. 2008-2009;29(2):123-142.
9. Reithinger R, Aadil K, Kolaczinski J, Mohsen M, Hami S. Social impact of leishmaniasis, Afghanistan. *Emerg Infect Dis*. 2005;11(4):634-636.
10. Kassi M, Kassi M, Afghan AK, Rehman R, Kasi PM. Marring leishmaniasis: The stigmatization and the impact of cutaneous leishmaniasis in Pakistan and Afghanistan. *PLoS Negl Trop Dis*. 2008;2(10):e259.
11. Radtke MA, Schafer I, Gajur A, Langenbruch A, Augustin M. Willingness-to-pay and quality of life in patients with vitiligo. *Br J Dermatol*. 2009;161(1):134-139.
12. Aghaei S, Moradi A, Ardekani GS. Impact of psoriasis on quality of life in Iran. *Indian J Dermatol Venereol Leprol*. 2009;75(2):220.
13. Abdel-Hafez K, Mahran AM, Hofny ER, Mohammed KA, Darweesh AM, Aal AA. The impact of acne vulgaris on the quality of life and psychologic status in patients from Upper Egypt. *Int J Dermatol*. 2009;48(3):280-285.
14. Noorpisheh S, Naghizadeh MM, Nikrouz L. A study on the life quality of patients suffering from leishmaniasis. *Journal of Fasa University of Medical Sciences*. 2013;3(2):155-162.
15. Vares B, Mohseni M, Heshmatkhan A, Farajzadeh S, Safizadeh H, Shamsi-Meymandi S, et al. Quality of life in patients with cutaneous leishmaniasis. *Arch Iran Med*. 2013;16(8):474-477.
16. Yanic M, Gurel MS, Simsekt Z, Kati M. The psychological impact of cutaneous leishmaniasis. *Clin Exp Dermatol*. 2004;29(5):464-467.
17. Ranawaka RR, Weerakoon HS, de Silva SH. The quality of life of Sri Lankan patients with cutaneous leishmaniasis. *Mymensingh Med J*. 2014;23(2):345-351.