A COMPARATIVE STUDY ON EFFECT OF ENDOGENOUS AND EXOGENOUS ECZEMA ON QUALITY OF LIFE

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ABSTRACT

Objective: To compare the effect of endogenous and exogenous eczema on quality of life using Dermatology Life Quality Index.

Study Design: Cross- sectional comparative study.

Place and Duration of Study: Dermatology Department, Pak Emirates Military Hospital Rawalpindi, for a period of 6 months, from Jan to Jul 2017.

Methodology: A predesigned DLQI questionnaire was distributed to 323 patients and data was collected by non-probability consecutive sampling. DLQI of endogenous and exogenous eczema was compared and data was analyzed by using SPSS version 22.

Results: Out of 323 patients, 145 (44.9%) were males and 178 (51.5%) were females. The mean age was 32.35 ± 13 years. Endogenous eczema was present in 194 (60%) patients while 129 (40%) patients had exogenous eczema. The mean DLQI score of endogenous eczema was 12.25 ± 7.76 and that of exogenous eczema was 10.36 ± 6.08 with *p*-value of 0.021 which was less than 0.05 and therefore significant.

Conclusion: Endogenous eczema had considerably more negative impact on quality of life as compared to exogenous eczema.

Keywords: Endogenous eczema, Exogenous eczema, Quality of life.

INTRODUCTION

Eczema is an inflammatory skin reaction to various exogenous and endogenous stimuli. It is one of the most common skin disorders seen in dermatological practice[1]. It causes the skin to become inflamed leading to erythema, oedema, vesiculation and exudation in acute stage and scaling, excoriation and lichenification in chronic forms. Irrespective of the area of body affected, eczema is almost always itchy[2]. Eczema can range from mild, moderate, to severe in intensity[3]. The cause of eczema is believed to have multifactorial etiology including a combination of hereditary (genetic) and environmental factors[4]. In Asia, the general trend for atopic eczema prevalence is mainly increasing across different age groups with time[5]. The incidence of eczema in Pakistan is 21.4%[6]. Depending upon the cause, eczema can be divided into two types; exogenous (extrinsic) and endogenous (intrinsic) eczema. There is increased frequency of endogenous eczema in Pakistan as compared to exogenous eczema[1]. Exogenous eczema is caused by factors that are external to the body and it includes: contact dermatitis which is caused by exposure of skin to irritants or allergens and photo dermatitis that is abnormal skin reaction to sunlight-specially ultra violet (UV) rays[7]. Endogenous eczema is caused by inherent tendency of skin to develop eczema and includes: atopic dermatitis that is a chronic condition which makes the skin red and itchy; seborrheic dermatitis which occurs in sebaceous gland rich areas of body due to excessive sebum production; discoid eczema in which skin becomes swollen and cracked in oval plaques; stasis dermatitis that commonly occurs on the swollen lower legs of people who have poor circulation in the veins of the legs andasteatotic eczema occurring as a result of dry skin affecting mostly the elderly age group[1].

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Eczema is a long lasting condition. Both endogenous and exogenous eczema impair the quality of life of the patients to a moderate extent. Patients are affected emotionally, socially and psychologically[2,3]. Depending on age and eczema severity, the treatment options for eczema include emollients and avoidance of irritants and allergens, prescription topical medications like steroids and calcineurin inhibitors, photo-therapy, systemic immunosuppressants and biologic agents[8]. Many people suffering from eczema also get relief by using alternative treatments[9].

Quality of life is the general well-being of individuals and societies, outlining negative and positive features of life. It observes the life satisfaction, including physical health, family, education, employment, wealth, religious beliefs and environment[10]. Unless we address the problems in quality of life of our patients, we are unlikely to benefit them with any armamentarium of pharmacopeia.

DLQI is a broad, self-administered, dermatology specific questionnaire that measures the impact of skin diseases on health-related quality of life in patients, providing clinicians with more accurate insight into the impairment of quality of life experienced by individual patients[11]. Multiple studies have recognized the validity and reliability of DLQI in various dermatological diseases including eczema[11-14].

The objective of this study was to compare DLQI in endogenous and exogenous eczema in order to know the effect on quality of life in each type of eczema so as to identify the need for addressing the issues in quality of life along with medical therapy to prevent the development of depression and social isolation in these patients. There was no local data available in this regard and therefore, this study would be a useful contribution to assess the effect of different types of eczema on quality of life of our population.

METHODOLOGY

After approval from the ethical committee (IERB no ERC/SA-17/MH), a cross sectional comparative study was carried out at Dermatology Department, Pak Emirates Military Hospital, Rawalpindi, over a period of 6 months from 1st January to 1st July, 2017. Data was collected by non-probability consecutive sampling. A total of 323 patients, 16 years or older in age, suffering from endogenous eczema (i.e. atopic, seborrhoeic, asteatotic, discoid) or exogenous eczema (i.e. contact, photo dermatitis), as diagnosed by two consultant skin specialists, were included in the study. Patients with any co-morbid psychiatric illness or other chronic diseases were excluded. Informed consent was taken from the patients.

The data to assess the impairment of quality of life was collected through a pre-designed DLQI questionnaire. Prior permission was taken to use DLQI questionnaire. English as well as Urdu version of DLQI questionnaire was used. DLQI is a 10-item questionnaire, which covers six aspects of daily life experienced over the previous week: (a) symptoms and feelings, (b) daily activities, (c) leisure, (d) work and school, (e) personal relationships, and (f) treatment. The DLQI score was calculated by summing the score of each question, with a maximum score of 30 and a minimum score of 0. Zero to 1 score showed no effect on patient's life. Two to 5 showed a small, 6 to 10 showed moderate while 11 to 20 meant very large effect. Score of 21 to 30 indicated an extremely large effect on patient's life. The higher the score, the greater was the impairment of life caused by eczema[11].

Sample size of 323 patients was calculated using WHO calculator with 21.24% taken as reference prevalence[6]. SPSS Version 22 was used to analyze the data. The quantitative variables were presented as mean and standard deviation while frequency and percentages were calculated for qualitative variables. Independent sample t-test was used for calculating *p*-value. A *p*-value of ≤0.05 was considered significant.

RESULTS

Out of 323 patients 145 (44.9%) were male and 178 (55.1%) were female. The mean age was 32.35 ± 13 years, however; the most common age group was 16 to 20 years. Out of all the patients,

194 (60%) had endogenous eczema while 129 (40%) were suffering from exogenous eczema. The most common type was atopic eczema followed by seborrheic dermatitis while least common was asteatotic eczema (table-I).

The overall mean DLQI score was 11.49 ± 7.17. The mean DLQI score for endogenous eczema was higher than that of exogenous eczema with a *p*-value of 0.021 which was <0.05 and therefore significant, (table-II). It also shows that the mean DLQI score was greater for the male as compared to the female gender with a significant *p*-value of 0.002 (<0.05).

Table-I: Frequency and percentage of various forms of eczema.

Diagnosis	Frequency & Percentage n (%)
Endogenous Eczema	194 (60)
Atopic dermatitis	108 (33.4)
Seborrhoeic dermatitis	71(22)
Discoid dermatitis	13 (4)
Asteatotic dermatitis	2 (0.6)
Exogenous Eczema	129 (40)
Contact dermatitis	86 (26.7)
Photo dermatitis	43 (13.3)

Table-II: Mean DLQI scores and *p*-value.

	DLQI Mean ± SD	*p*-value
Endogenous eczema	12.25 ± 7.76	0.021
Exogenous eczema	10.36 ± 6.08	
Male	12.64 ± 7.40	0.002
Female	10.56 ± 6.89	

Results showed that endogenous eczema had more negative impact on patient's life as compared to exogenous eczema (figure).

Eczema affected sports (33.4%) social and leisure activities (61.6%) shopping (63.3%) and around 81% patients suffering from eczema felt embarrassed and self-conscious because of the appearance of their skin irrespective of type of eczema.

DISCUSSION

Eczema is a chronic skin disorder that significantly impairs the quality of life of patients. A positive relation with severity of eczema and DLQI scores was observed. The higher the scores obtained on DLQI questionnaire, the more undesirable impact eczema had on quality of life of patients which was also demonstrated by our study[12].

Quality of life may be affected by personality traits, education, employment, financial and social situation, as well as medical issues. Health-related quality of life assesses qualities directly related to the disease as well as those that are independent of the disease but may be affected by it and have a strong impact on its patients. According to Finlay, measurement of quality of life in addition to measuring signs of a disease gave an added perspective to the disease management and assessment of new therapies[13]. It was also important in assessing the patients' perception of the disease and their experience, which was elaborated in our study.

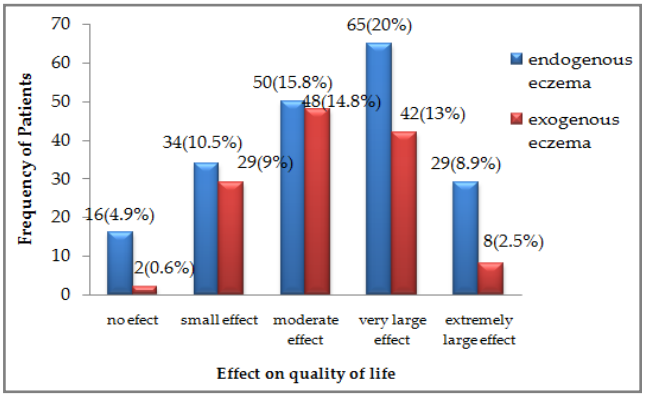

Figure: Comparison of effect of endogenous and exogenous eczema on quality of life.

Nørreslet *et al* in their respective studies showed that eczema had significant negative impact on patient's psychological, social and economic well-being which was in keeping with our study[15,16]. Kouris *et al* showed that Patients of eczema suffer from depression and symptoms of emotional distress particularly insomnia and general anxiety. They had significantly higher scores for psychological impact than those of volunteers (p=0.002)[17]. Our study determined the cause of such psychological manifestations being social isolation and effects on personal relations

that could lead to anxiety and depression. Blome *et al* stated that almost all types of eczema significantly impaired the quality of life of patients but endogenous eczema had more negative effect than exogenous eczema[18]. These results were comparable to our study.

Out of the domains examined by the DLQI, "symptoms and feelings" was the most affected. Symptoms included itching, redness or pain in the skin while feelings involved being self-conscious and embarrassed due to the appearance of their skin. This observation was in accordance with a study conducted by Wong *et al* in Singapore which showed that this domain had the highest median score[19]. Diseases affecting this very domain impair the social functioning and psychological well-being of the patient which was also shown by our study.

In a study conducted by Bhatti, adult dermatology patients explained how their chronic disease had influenced major life-changing decisions[20]. The most frequently reported major life-changing decisions in the dermatology interviews concerned career choice (66%), job (58%), choice of clothing (54%), relationships (52%), education (44%), stop swimming (34%), moving abroad (32%), not socializing (34%), wearing make-up (22%), and having children (22%). Our study corroborated these findings as far as the impact of eczema on clothing (67%) and socializing (50%) which included relations with partner and relatives, was concerned.

Treatment of the disease is one of the six domains that DLQI includes for its effect on quality of life. A German study indicated that treatment of eczema did not affect the quality of life negatively. In this study, 75.8% of the patients felt only moderately or not at all impaired by their treatment[21]. Our study showed the same relation between eczema treatment and quality of life.

A study conducted by Sánchez *et al* in Colombia and another research done in Denmark showed that atopic eczema has the highest prevalence (93%) as compared to other types of eczema, and it affected the life quality to a very large extent (19.7%)[22,23]. Our study showed the same results. In our study the mean DLQI score in male patients was higher than that of the female patients (12.64 vs 10.56), p=0.002. This observation contradicted the results of a previous study conducted by Holm *et al* in Denmark which showed a higher mean DLQI among females than males (9.73 vs. 8.34), p=0.028[24].

The treatment goals for eczema should also include psychosocial therapy along with the drug therapy as this disease can impair the quality of life which can progress to a state of psychological distress for the patients[25]. Understanding the disease severity, its psychological effects and modification of treatment goals can help to reduce eczema related stress in patients which could aid in the improvement of quality of life of the patients.

The limitation of our study was that we did not include children in our study as we only used adult DLQI and did not use child DLQI.

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CONCLUSION

Endogenous eczema had considerably more negative effect on quality of life of patients than exogenous eczema. It had a very large effect on patients' feelings, daily and leisure activities, social and personal lives, work and studies while exogenous eczema had a moderate effect on these domains. Treatment of both forms of eczema whether exogenous or endogenous, had no significant negativeimpact on quality of life of patients.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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