

Pharmacotherapeutic Adherence And Quality Of Life Assessment In Patients Of Eczema: A Cross-Sectional Study At A Tertiary Care Teaching Hospital

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Abstract: Introduction: Eczema is a chronic inflammatory condition characterized by dry and itchy skin which tends to flare periodically. Assessment of medication adherence and its impact on quality of life (QoL) is important in such patients, because it provides information in addition to the traditional objective clinical scoring system. Objectives: To evaluate the medication adherence and quality of life in patients suffering from eczema. Methods : A cross sectional study was carried out among patients of eczema who attended the dermatology outpatient department for a duration of four months. The baseline data was recorded in Case Record Form (CRF). Quality of life was measured using Dermatological Life Quality Index (DLQI) and WHOQOL-BREF questionnaire. A pre-validated questionnaire was used for assessing patient adherence to treatment and identifying medication errors. Results: Out of total 150 patients included in the study, 53.9% of the cases were males and 46.1% were females. About 22.66% patients were diagnosed with atopic form of eczema. Dermatological Life Quality Index(DLQI) scores in patients with eczema ranged from 5 to 25 (Mean±SD; 13.49±5.16). About 56.67% of our patients showed low adherence with the prescribed medication. Conclusion: Present study suggested that patients with low adherence to treatment had a significant impact on the quality of life. Eczema has effect on physical parameters, environmental factors and psychosocial aspects of quality of life. [Patel S Natl J Integr Res Med, 2019; 10(4):34-39]

Key Words: Adherence, Eczema, Quality of life

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Introduction: Eczema is a major public-health problem worldwide which affects 2 to 7% of the adult population and 10 to 15% of children. It is an inflammatory skin reaction characterized histologically by spongiosis with varying degrees of acanthosis, and a superficial perivascular lymphohistiocytic infiltrate. The clinical features of eczema include itching, redness, scaling and clustered papulo-vesicles. A wide range of external and internal factors acting singly or in combination can induce the condition. It has significant impact on quality of life in both children and adult patients. This results in psychosocial disturbances in patients especially of self-image, which may lead to low self-esteem and their ability to cope with the disease and adherence to treatment. Because of the importance of psychological consequences, assessment of quality of life of Eczema patients by physicians is highly advisable. It provides information which is additional to the traditional objective clinical scoring systems. Treatment adherence in patients with eczema and the understanding of the factors is important to improve the outcomes. Keeping this into consideration, a study was designed to evaluate the impact on quality of life among eczema patients and their adherence to prescribed medication.

Materials and Methods: This cross-sectional, observational study was carried out at the dermatology outpatient department in a tertiary care teaching hospital for over a duration of 04 months, after the approval from Institutional Review Board.

All the patients who were diagnosed with eczema irrespective of the type of eczema, attending the dermatology outpatient department at a tertiary care teaching hospital and those who were on medication for eczema for a minimum duration of 06 months were included in the study. While patients < 16 years of age, patients having other co-morbid conditions like diabetes, arthritis, asthma, tuberculosis and dermatological condition other than the eczema which can affect the quality of life and those not willing to participate were excluded.

Demographic profile, details of occupation, duration of treatment, patient's history and clinical findings were noted in case report form. Assessment tools

WHOQOL-BREF questionnaire: WHOQOL-BREF, a generic health-related questionnaire developed by the WHOQOL group was selected to quantify the health-related quality of life of patients. The WHOQOL-BREF has 24 different facets and

provides a range of scores on all the four dimensions of quality of life: physical health, psychological, social relationships, and the environment. WHOQOL-BREF is available in both self-administered and interviewer-administered forms.^{1,2,4}

Scoring the WHOQOL-BREF: Participants express the extent of suffering experienced by them in the preceding two weeks on a 5 point Likert scale ranging from 1 (not at all) to 5 (completely)². Physical, psychological, social and environment domain scores were calculated.

The domain score was calculated using the mean score of items within each domain. The sum of respective item scores was used to calculate the mean raw domain score. All domain scores are reported between 4 and 20 (mean scores for each multiplied by 4) in order to make domain scores comparable with the scores used in the WHOQOL-100. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life).

The WHOQOL-BREF questionnaire is available in 19 different languages including Hindi and thus is a suitable instrument for comprehensively evaluating the QOL (Quality Of Life) in health care facilities in India.

DLQI

Data on quality of life was obtained from a self-administered questionnaire using the dermatology life quality index (DLQI). It is a 10 item questionnaire, which covers six aspects of daily life experienced during the past week: (1) symptoms and feelings, (2) daily activities, (3) leisure items, (4) work and school, (5) personal relationship items, and (6) treatment. The DLQI score is calculated by summing the score of each question, with a maximum score of 30 and a minimum score of 0. The higher the score, the greater the impairment of life.³

Score:-

- 0-1 no effect at all on patient's life
- 2-5 small effect on the patient's life
- 6-10 moderate effect on the patient's life
- 11-20 very large effect on the patient's life
- 21-30 extremely large effect on the patient's life

Medication adherence : A questionnaire was developed with the purpose of assessing patient compliance , identifying medication errors and

the circumstances surrounding adherence behavior. A total of 10 questions were to be answered. Each item is measuring a specific medication-taking behavior. Response categories are yes/no for each item. The maximum score being 10 and the minimum score being 0. The scores were calculated and classified into low (≤ 3), medium (4-7) and high adherence (≥ 8).

Results : Total of 150 patients diagnosed with eczema completed the questionnaire and the data was analyzed. Seventy two (48%) male patients and seventy eight (52%) female patients participated. The mean value and standard deviation for age of the patients was 36.77 ± 13.26 years. The median duration of eczema in patients was 18 months.

In our study, 58 (38.66%) patients were housewives, 22 (14.66%) were unemployed, 16 (10.66%) were manual laborers while 2 (1.33%) were industrial workers .Six patients (4%) had history suggestive of dermatitis due to a chemical allergen. Table 1 summarizes the characteristics of the study population.

Table 1: Characteristics of study population [N=150]

Variable	Number (%)
Gender	
Male	72(48%)
Female	78(52%)
Age (years)	
Less than 40 years	86(57.33%)
40 years and above	64(42.66%)
Education Level	
No formal education	28(18.66%)
Primary education	30(20%)
Secondary education	23(15.33%)
Higher secondary education	48(32%)
Graduate	21(14%)
Duration of symptoms	
Less than 1 year	44(29.33%)
1 year to 2 year	43(28.66%)
2 years and more	63(42%)

The mean values of four 'raw domain score' as per WHOQOL-BREF questionnaire is

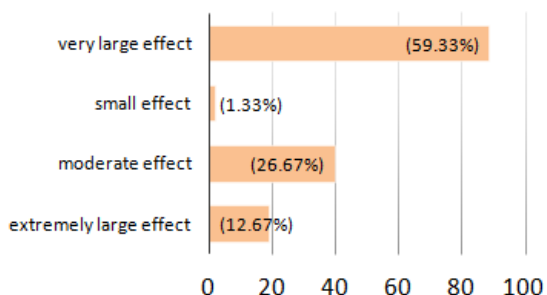
shown in the table 2. Higher scores denote higher quality of life.

Table 2 : Mean values for WHOQOL-BREF raw domain score (N=150)

Domain	Mean ± SD
Physical	12.166± 2.52
Psychological	11.17 ± 2.64
Social	07.55 ± 2.05
Environmental	12.06 ± 3.40

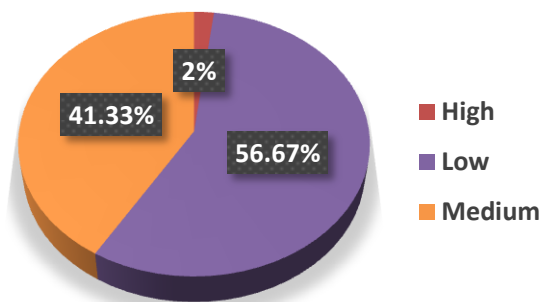
The variables in DLQI questionnaire with highest scores were “itch, painful, sore or stinging” (1.8 ± 0.6), “self-consciousness or embarrassed” (0.9 ± 0.9) and “prevented from working” (0.6 ± 0.8) whereas the items with lowest scores were “problems caused by the treatment” (0.1 ± 0.4) and “sexual difficulties” (0.3 ± 0.6). The effect on life using DQLI is shown in Figure 1.

Figure 1:- DLQI-Effect On Life (N=150)



Of the total study participants, 56.67% were low adherent to the prescribed medication whereas medium adherent and high adherent constituted 41.33% and 02% respectively, as shown in figure 2.

Figure 2:- Medication Adherence (N=150)



Two aspects namely medical adherence among the patients on treatment and impact on quality of life was analyzed in the study population. It was found that about 31.76% (27/85) with higher secondary education demonstrated low adherence while only 14.51% (09/62) college/university graduates showed high compliance to the treatment. Table 3 shows the association between education level and medical adherence. About 75.30% (64/85) patients had very large effect on DLQI. Table 4 shows the association between medical adherence and quality of life and the mean scores [x̄] of DLQI of each subgroup of medication adherence.

Table 3: Association of Education level of patients with Medical Adherence (N=150)

	No formal education	Primary education	Secondary education	Higher secondary education	College/ University
Low adherence (N=85)	15(17.65%)	19(22.35%)	12(14.11%)	27(31.76%)	12(14.11%)
Medium adherence (N=62)	12(19.35%)	10(16.13%)	11(17.74%)	20(32.25%)	09(14.51%)
High adherence (N=03)	01(33.33%)	01(33.33%)	00(00%)	01(33.33%)	00(00%)

Table 4: Association of Medical Adherence with Quality of Life (N=150)

Medical Adherence	DLQI – effect on life			
	Small effect (N=02)	Moderate effect (N=40)	Very large effect (N=89)	Extremely large effect (N=19)
Low adherence (N=85)[x̄ =15.54]	00 (0%)	05 (5.88%) [x̄=7.80]	64 (75.30%) [x̄=14.20]	16 (18.82%) [x̄=23.31]
Medium adherence (N=62)[x̄=10.98]	00 (0%)	35 (56.46%) [x̄=7.82]	24 (38.70%) [x̄=14.25]	03 (4.84%) [x̄=21.66]

High adherence (N=03)[\bar{x} =07.33]	02 (66.67%) [\bar{x} =5]	00 (0%)	01 (33.33%)	00 (0%)
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* \bar{x} = Mean DQLI score

Discussion :Eczema is a common skin condition which requires proper and timely dermatological care. Studies published in the past have shown significant impact on quality of life of an individual suffering from eczema.⁵⁻¹² This study was conducted to evaluate the impact on quality of life and medication adherence of the population group attending the outpatient facility of department of dermatology.

In our study, women and men were almost equally affected (52% and 48% respectively). In this research, about 86 (57.33%) patients had onset of disease before the age of 40 years. Only 11(7.33%) patients had onset of disease before the age of 20 years in our study.

Among women the commonest age group involved was between 20-29 years (39.74%) and among men it was 40-49 years (33.3%). Thus it was observed that in this study population, the majority belonged to the young and middle-aged group.

As compared to men, the earlier onset of eczema among women, predominantly the housewives, may be due to the exposure to allergens and various irritants. In our study, 58 (38.66%) patients were housewives, 22 (14.66%) were unemployed, 16 (10.66%) were manual labourer while 2 (1.33%) were industrial workers. Usage of soaps and detergents was found to be the commonest aggravating factor in majority of the patients (55.6%) which is quite similar to the trends seen in some studies.^{13,14}

The results shown in the study done by Charan et al had 23.9% patients with a positive history of atopy and that noted by Agner et al had 23.5% patients with atopy as the primary etiology.^{5,15} Our study had about 22.66% patients who presented with a history of atopy.

Eczema and psoriasis may coexist in the same individual, both simultaneously and consecutively. In our total study population, 2.66% had psoriatic eczema disease and 11.33% had persistent disease which was in accordance with the results observed by Agner et al.⁵

The DLQI can provide more accurate insight into the impairment of quality of life experienced by patients. This may help in making more appropriate clinical decisions. In the study conducted by Cvetkovski et al, the mean DLQI score was 5.5.⁸ The categories 'work/school' and 'symptoms and feelings' were most severely affected alike in our study.⁸ The mean DLQI score in this study was 13.49, underlining that eczema has a significant negative impact on the quality of life. This observation was quite similar to that reported by Agner et al and Charan et al.^{5,15} Duration of disease did not significantly affect the quality of life (DLQI) in patients in contrast to the study by Agner et al.⁶

We also used WHOQOL-BREF assessment tool which conceptually fits with the WHO definition of QOL. It is a self-report questionnaire which assesses 4 domains of quality of life (QOL): physical health, psychological health, social relationships, and environment. In addition, there are 2 items that measure overall QOL and general health. Among the four domains of WHOBREF QOL, the highest mean \pm SD score was observed in physical health domain (12.16 \pm 2.52) and also psychological health domain (11.17 \pm 2.64). However, the lowest mean \pm SD score was observed in Social Relationship domain (7.55 \pm 2.05), implying that study population had relatively less satisfaction of their personal relationships and sexual activity.

Medical adherence plays an important role in the degree of cure and in turn the effect, the disease has on the quality of life especially in dermatological diseases. More compliant the

patient is to the treatment lesser is the chance of relapse and recurrence and indeed improves the disease related quality of life. Out of total three highly adherent patients, two had a small effect on life. Despite of being highly adherent to the treatment, one patient had a very large effect on the quality of life. The patient was on medication for about 10 years so the chronicity of the disease condition may be one of the possible/probable cause of this massive impact on patient's life.

Of the total 150 patients, 85 (56.67%) were low adherent to medication. The arithmetic mean score of DLQI of total population is 13.49. The subgroup under 'low adherence' had mean score of 15.54, which is more than that of the entire population. Secondly, in the low adherence group, about 75.30%, with very large effect on life had mean score of 23.31.

The limitation of the study included lack of non-dermatologic comparison group and no follow up was done. The association between the severity of the disease and the quality of life was not evaluated. Also, our study had smaller sample size so the results cannot be generalized.

Conclusion :The factors such as social stigmatization, high stress levels, physical limitations and psychosocial conditions are experienced by patients with eczema. Our study concluded that eczema has effect on social and environmental parameter of quality of life. Also, medical adherence is one of the key factors that determines the impact of the disease on patient's quality of life. Interventions including patient education can improve adherence and eventually treatment outcomes.

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