

## A Prospective Study to Assess the Proportion of Other Allergic Disorders in Eczema and the Effect of Counselling On Quality Of Life among Patients with Eczema

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**Abstract:** The term Eczema denotes red skin with eruptions containing liquid that oozes out. Eczema is characterized by itching, redness, oedema, papulovesicles in the acute stage, edema and scaling in the sub acute stage, and dry lichenified skin in the chronic stage. Eczema have a serious impact on patient's quality of life. The aim of our study is to assess the proportion of other allergic disorders in eczema and the effect of counselling on quality of life among eczema patients. The data were collected and recorded in a suitably designed proforma. The effect of patient counselling on quality of life was assessed using Dermatology Life Quality Index (DLQI) questionnaire and for children, Children Dermatology Life Quality Index (CDLQI) questionnaire. Information was provided through patient information leaflet. A total of 113 eczema patients were selected during the six months study period. Out of this, 25 patients were males and 88 patients were females. The most common allergic disorders found were asthma 59(52.2%), followed by allergic rhino conjunctivitis 35(31%), food allergy 22(19.5%) and drug allergy 16(14.2%). The majority of patients were in the age group less than 18 years and had a family history of eczema. The most commonly observed types of eczema were contact dermatitis 47(41.6%), followed by atopic 29(25.7%), discoid 17(15%), seborrhoeic 14(12.4%), stasis 3(2.6%), xerotic 2(1.8%) and asteatoic eczema 1(0.9%). Here, we concluded that bronchial asthma was found in higher proportion and the most commonly observed type was contact dermatitis. The quality of life in eczema patients were improved after effective counselling. The counselling decreases the mean value from 3.19 in pre counselling to 0.79 in post counselling which was found to be statistically significant ( $P < 0.05$ ).

**Key Words:** Eczema, dermatitis, bronchial asthma, allergic rhino conjunctivitis.

### I. INTRODUCTION

The term eczema denotes red skin with eruptions containing liquid that oozes out. The terms acute, subacute and chronic for eczema denote its clinical and histological features. Eczema is characterized by itching, redness, oedema, papulovesicles in the acute stage, edema and scaling in the subacute stage, and dry lichenified skin in the chronic stage. Pathologically, it is a distinctive inflammatory pattern of response of skin[1]. This study mainly focus to identify the other allergic disorders associated with eczema and to assess the effect of patient counselling on quality of life among patients with eczema.

### II. METHODOLOGY

The study was conducted for a period of 6 months and a total of 113 patients who were diagnosed with eczema were included in the study. This was a prospective observation study conducted at Dermatology department of Cosmopolitan Hospital, a tertiary care Centre.

#### Inclusion Criteria

- ✓ Patients of both genders.
- ✓ Patients or caregivers who are willing to participate in the study.
- ✓ Patients of any age group with eczema.

#### Exclusion Criteria

- ✓ Patients or caregivers who are not willing to participate in the study.
- ✓ Patients without proper medical records.

**Study procedure**

An informed consents were obtained as per ICMR biomedical research guideline format from the patients with eczema satisfying the inclusion and exclusion criteria. All relevant information's regarding the study were collected from case records and direct interview with the patient or caregiver. Data from patients were collected by using a suitably designed proforma. Additional demographics data of patient such as family history, occupational history, known allergies were obtained. History focus on allergic rhino conjunctivitis, bronchial asthma, food and drug allergies at any time in the life of the eczema patient. Both the patients and parents of children with eczema were educated about the other allergic disorders, disease and medications. To assess the quality of life of the patient, a suitably designed DLQI questionnaire and for children, CDLQI questionnaire were administered before and after counselling.

**Statistical analysis**

For data entry we had used the software Microsoft excel and for analysis SPSS (Statistical Package for Social Science) v.21 for WINDOWS. The effect of patient counselling on quality of life of patients with eczema was statistically analysed using Wilcoxon signed rank test.

**III. RESULT**

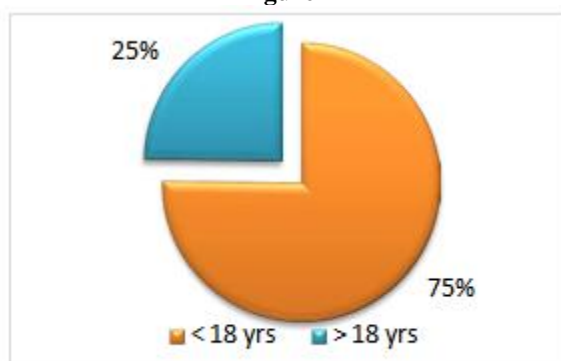
The proposed study entitled “A prospective study to assess the proportion of other allergic disorders in eczema and the effect of counselling on quality of life among patients with eczema” was a prospective observational study carried out in a multispecialty tertiary care hospital. In this study we analyzed the data of 113 Eczema patients admitted in the Dermatology Department. This study aimed to identify the other allergic disorders associated with eczema and to assess the effect of patient counselling on quality of life among patients with eczema. Demographics details of the patients In this section, data relating to demographic details of the patients were collected and calculated frequencies and percentages. The details are shown in the following tables:

**Table 1: Frequency and percentage distribution of patients based on age**

AGE	FREQUENCY	PERCENTAGE (%)
Less than 18 years	85	75.2
Greater than 18 years	28	24.8

From the table 1, it is seen that 85 out of 113(75.2%) patients were less than 18 years of age and 28 out of 113 (24.8%) patients were greater than 18 years of age group. The majority of the patients of the sample belongs to age group less than 18.

**Figure 1**



**Fig 1: Diagrammatic representation of distribution of patients based on age.**

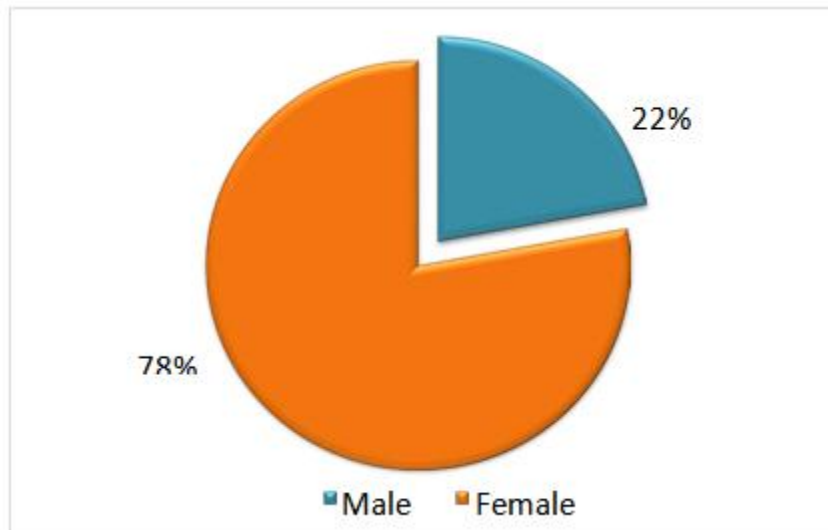
**Table 2**

GENDER	FREQUENCY	PERCENTAGE (%)
Male	25	22.1
Female	88	77.9

**Table 2: Frequency and distribution of patients based on gender**

From table 2, it is observed that 25 out of 113 (22.1%) patients were males and 88 out of 113 (77.9%) patients were females. The majority of patients in the sample were females.

Figure 2



**Fig 2: Diagrammatic representation of distribution of patients based on gender**

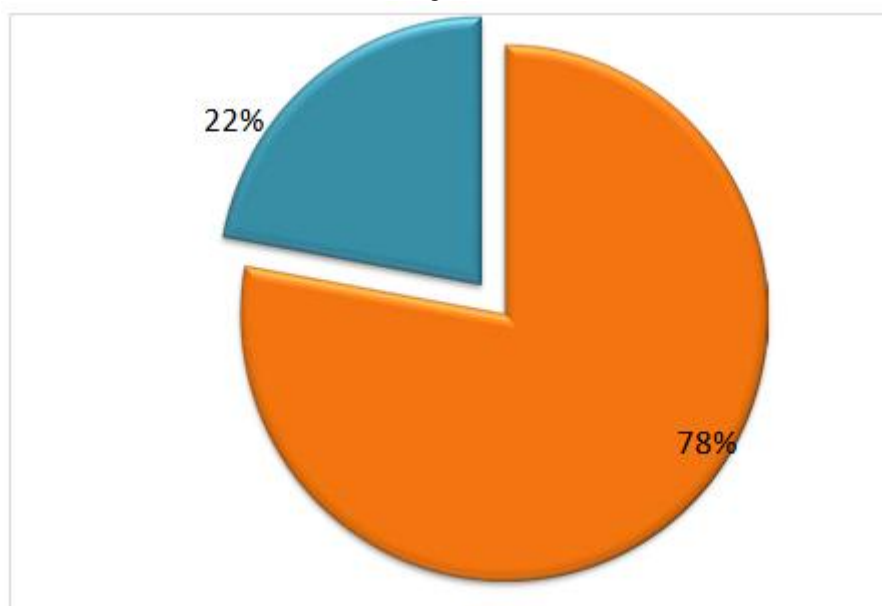
Table 3

<b>FAMILY HISTORY</b>	<b>FREQUENCY</b>	<b>PERCENTAGE (%)</b>
Yes	88	77.9
No	25	22.1

**Table 3: Frequency and distribution of patients based on family history**

From table 3, it is reported that 88 out of 113(77.9%) patients had a family history of eczema and 25 out of 113 (22.1%) had no family history. It concluded that most of patients in the sample population had a family history of eczema.

Figure 3



**Fig 3: Diagrammatic representation of patients based on family history**

Table 4

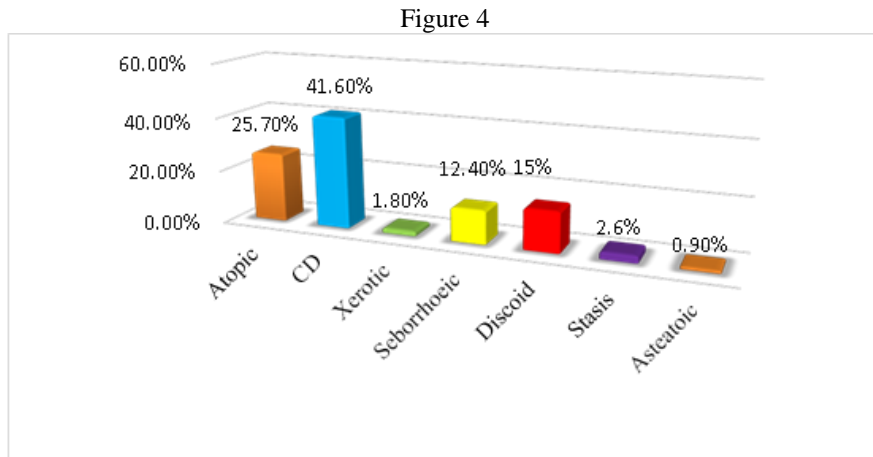
<b>TYPES</b>	<b>FREQUENCY</b>	<b>PERCENTAGE (%)</b>
Atopic eczema	29	25.7
Contact Dermatitis	47	41.6
Xerotic eczema	2	1.8

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Seborrhoeic eczema	14	12.4
Discoid eczema	17	15
Stasis eczema	3	2.6
Asteatoic eczema	1	0.9

**Table 4: Frequency and distribution of patients based on types of eczema**

From table 4, it is revealed that 29 out of 113 (25.7%) patients had atopic eczema, 47 out of 113 (41.6%) had contact dermatitis, 2 patients (1.8%) had xerotic eczema, 14 out of 113 (12.4%) had seborrhoeic eczema, 17 out of 113 patients had discoid eczema, 3 patients (2.6%) had stasis eczema and only one person had asteatoic eczema. The majority of patients in the sample had contact dermatitis.



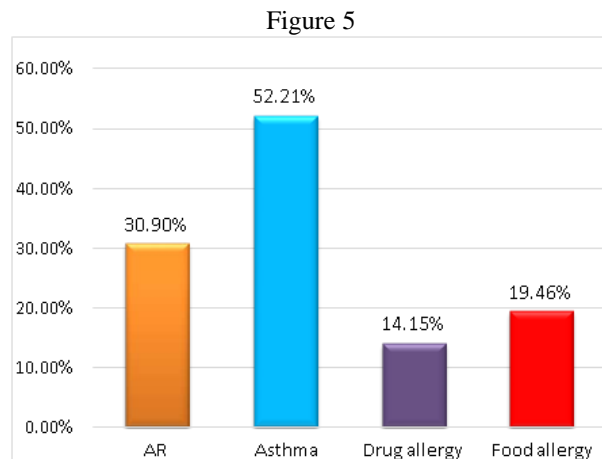
**Figure 4: Diagrammatic representation of distribution of patients based on types of eczema**

**Table 5**

ALLERGIC DISORDERS	FREQUENCY	PERCENTAGE (%)
Allergic Rhino conjunctivitis	35	31
Bronchial Asthma	59	52.2
Drug Allergy	16	14.2
Food Allergy	22	19.5

**Table 5: Frequency and distribution of patients based on other allergic disorders with eczema**

Table 5 shows that 35 out of 113 (31%) patients had allergic rhino conjunctivitis with eczema, 59 out of 113 (52.2%) patients had bronchial asthma, 16 (14.2%) patients had drug allergy and 22 (19.5%) had food allergy. From our study we concluded that bronchial asthma is found in higher proportion among patients with eczema.



**Fig 5: Diagrammatic representation of distribution of patients based on other allergic disorders with eczema**

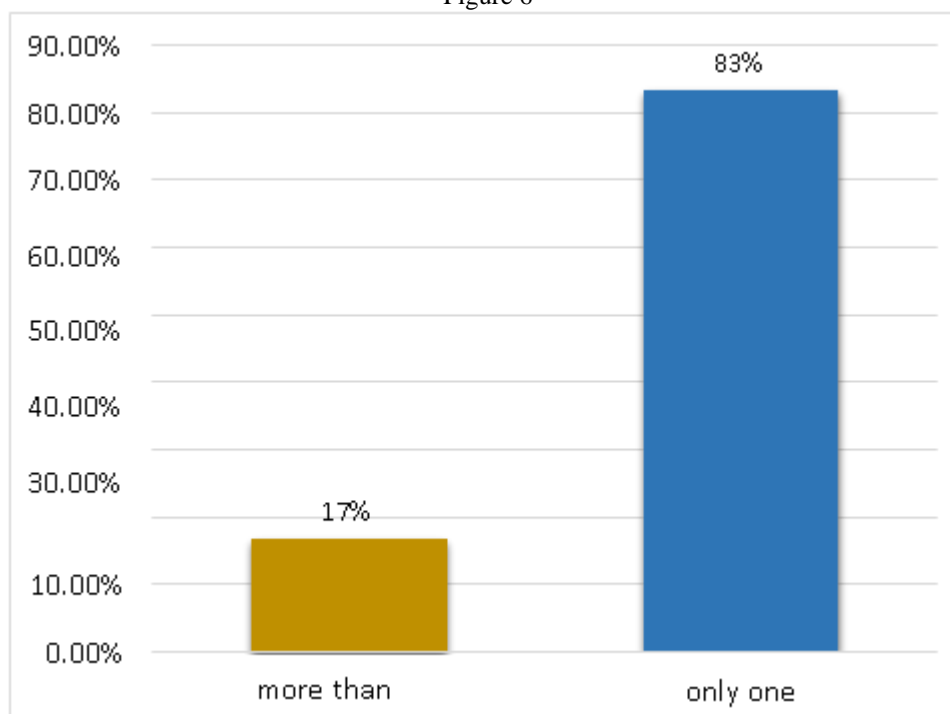
Table 6

COMORBID ALLERGIC DISORDER	FREQUENCY	PERCENTAGE (%)
More than one	19	17
Only one	94	83

**Table6: Frequency and distribution based on comorbid allergic disorder other than eczema**

From table 6, it is revealed that 19 out of 113 (17%) patients had more than one comorbid allergic disorder other than eczema and 94 (83%) patients had only one allergic disorder other than eczema.

Figure 6



**Fig 6: Diagrammatic representation of distribution of patients based on more than one allergic disorder other than eczema**

### Effect on pre-counselling

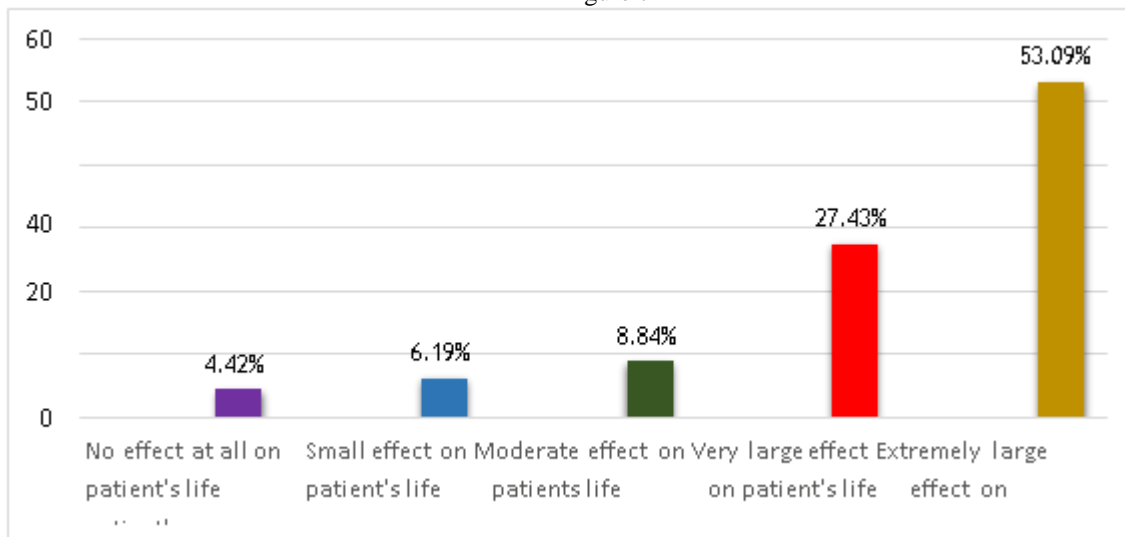
The effect of patient counselling was assessed using Dermatology Life Quality Index (DLQI) questionnaire and for children, Children Dermatology Life Quality Index (CDLQI) questionnaire. Both of them contains 10 questions and appropriate scoring for each questions. The assessment of patient before counselling showed that eczema had extremely large effect on patient's quality of life. The counselling was given on causes of eczema, types of eczema and management of dry skin that leads to eczema and other information about the disease. Thus improved the adherence to therapy and improved quality of life.

Table 7

Pre counselling	Frequency	Percentage (%)
No effect at all on patient's life	5	4.45
Small effect on patient's life	7	6.19
Moderate effect on patient's life	10	8.84
Very large effect on patient's life	31	27.43
Extremely large effect on patient's life	60	53.09

**Table 7: Frequency and distribution of patients based on pre counseling**

Figure 7



**Fig 7: Diagrammatic representation of distribution of patients according to pre counseling**

**Effect on post counselling**

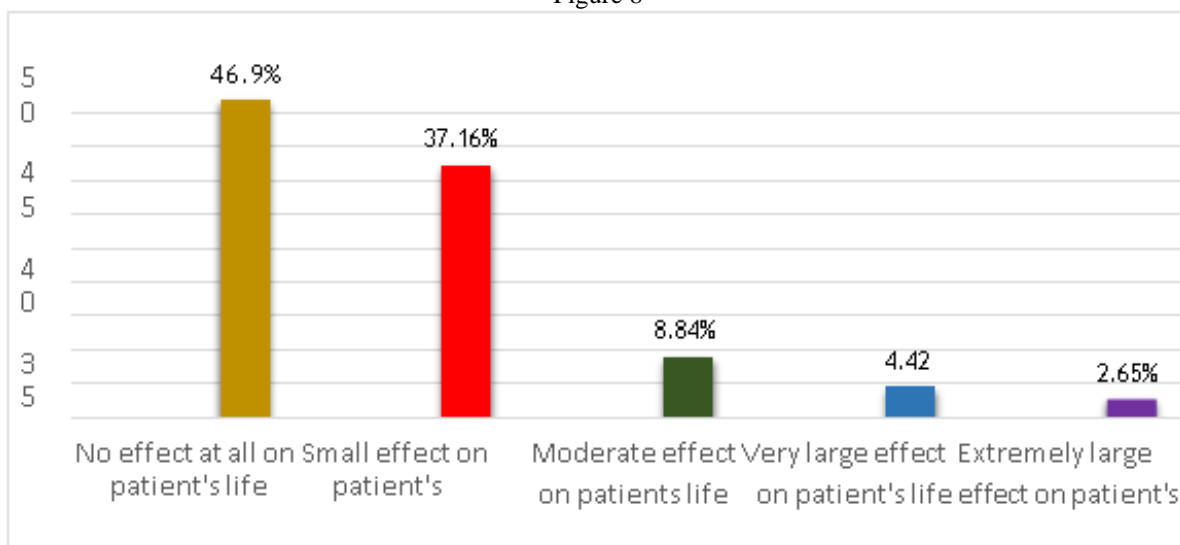
After counselling and treatment period, it was found that disease eczema had no effect on patient's quality of life.

Table 8

Post counselling	Frequency	Percentage (%)
No effect at all on patient's life	53	46.9
Small effect on patient's life	42	37.19
Moderate effect on patient's life	10	8.84
Very large effect on patient's life	5	4.42
Extremely large effect on patient's life	3	2.65

**Table 8: Frequency and distribution of patients based on post counselling**

Figure 8



**Fig 8: Diagrammatic representation of distribution of patients according to post counseling**

**Effectiveness of patient counseling**

Table 9

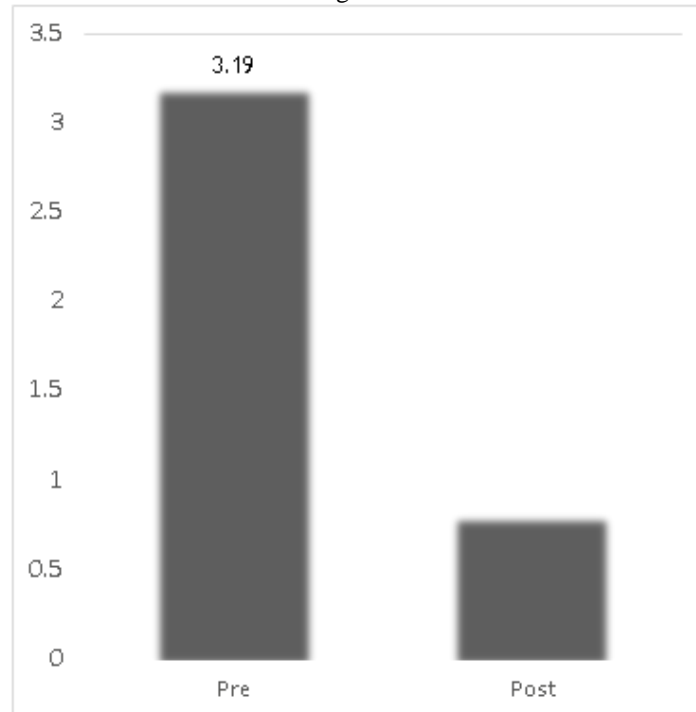
Counselling	Mean	SD	N	Mean difference	Paired t	P
Pre	3.19	1.11	113	2.4	17.27 **	0.0001
Post	0.79	0.97	113			

\*\* : Significant at 5% level (P< 0.05)

**Table 9: Effectiveness of patient counseling**

The figure given below shows that the mean value has decreased from 3.19 in pre counselling to 0.79 in post counselling cases with a mean difference of 2.4 and the change is significant (P< 0.0001).

Figure 9



**Fig 9: Diagrammatic representation of effectiveness of patient counseling**

**IV. DISCUSSION**

Our study was conducted with 113 eczema patients for a period of 6 months in a tertiary care hospital. We categorized the patients into two groups: those aged below 18 years and those above 18 years of age. From our study we concluded that most of patients with eczema belonging to less than 18 years of age group and majority of patients were females because they are more exposed to allergens compared to males. These findings were similar to study conducted by M Innes Asher et.al [17]. We also found that family history play a major role in the occurrence of eczema like skin disorders. In our study 88 patients out of 113 had a family history of eczema. This shows a strong genetic link for the development of disease.

The main aim of our study was to assess the proportion of other allergic disorders with eczema. From the study we concluded that bronchial asthma (52.21%) were found in higher proportion, followed by allergic rhino conjunctivitis (30.9%), food allergy (19.46%) and drug allergy (14.15%). We also analyzed the most commonly occurring type of eczema in our study participants and it revealed that contact dermatitis were common, followed by atopic (25.7%), discoid (15%), seborrhoeic (12.4%), stasis (2.6%), xerotic (1.8%) and asteatotic eczema (0.9%). The study conducted by H Yuksel et.al [18] states that asthma was diagnosed in 28.1% of children with eczema. Ricci G et.al states that children with eczema have been reported to have asthma or rhinitis frequently, at a rate as high as 34.1% and 57.6% respectively [21]. In our study drug allergy were found in lowest proportion and also it is evident that 16.8% had more than one allergic disorder other than eczema.

The assessment of patient during pre-counseling showed that disease had extremely large effect (53.09%) on patient’s quality of life. Whereas, during the post counseling session, the skin disease had no effect (46.9%) on patient’s quality of life which was a good sign.

Effectiveness in patient counseling is increased significantly. The mean score was raised from 3.19 to 0.79.

## V. CONCLUSION

Our study gives an idea about the proportion of other allergic disorders in eczema among the patient attended in the hospital. From our study we concluded that bronchial asthma was found in higher proportion, followed by allergic rhino conjunctivitis, food allergy and drug allergy. The incidence of eczema is more common in females and majority of them were less than 18 years of age. Most of the patients had a family history of eczema. The most commonly observed type of eczema was contact dermatitis, followed by atopic eczema, discoid, seborrhoeic, stasis, xerotic and asteatoic eczema. By analyzing the DLQI and CDLQI questionnaire we were able to assess the quality of life. From the pre and post counselling data, we found that environment pollutants and household allergens are major cause of disease. The counselling was found to be effective in changing the patient's perception about the disease and improves their knowledge.

## CONFLICT OF INTEREST

There is no conflict of interest between the authors.

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