

Prescription Pattern of Drugs used in Eczema Patients Visiting Dermatology Department

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Abstract

Eczema is referred as the "itch that rashes" because of the dry skin that causes a rash when scratched or rubbed. It affects about 2-10% of adults and 15-30% of children during the course of their lifetimes. In India, prevalence of eczema ranges from 0.44 - 2.8%. 60% of instances start to manifest within the first year of life. The objective of the study was to assess the drug prescribing pattern in eczema and by identifying the prescription pattern helps the patients in lowering the burden of flares seen in eczema and also aid in the optimization of anti-eczema drugs with improved efficacy, minimal toxicity and to ensure the physical and psychological well-being of the patients. Rational prescribing is ethical and greatly increase the standard of drug therapy in addition to resulting in reduced widespread health hazards such as increased incidence of adverse effects and drug interactions. It promotes physician to adhere with the guidelines and the patients receive the right medications for their specific clinical needs, in doses that are suitable for them, and for a sufficient amount of time. This will help to reduces symptoms, quicken healing of skin and prevent further skin damage.

Objective: The objective of the study was to assess drug prescribing pattern in eczema patients visiting Dermatology Department.

Methodology: This was a Cross Sectional study, carried out in the Out-Patient Department of Dermatology, ESIC MC-PGIMSR and Model Hospital, Rajajinagar, Bengaluru. A total of 110 samples were collected, of which 10 were dropped out and 100 samples were selected for the study and statistically analyzed using Microsoft Excel.

Results: The result demonstrates that a total of 100 patients, majority of Eczema cases occurred between the ages of 46-55 years and the distribution was observed to be equal among both the genders. The patients in this study had excoriation followed by Edema as symptoms. Among 100 patients, 8 different types of eczema were found out and in that dermatitis were mostly seen type of eczema. The study found that Corticosteroids, moisturizing agents, and antihistamines were mostly prescribed for the treatment of eczema.

Conclusion: By identifying the prescription pattern of drugs used in Eczema patients helps in lowering the burden of flares seen in eczema and also aid in the optimization of anti-eczema drugs with improved efficacy, minimal toxicity and to ensure the physical and psychological well-being of the patients. The study concluded that the Dermatologist in this hospital were prescribed mostly Cetrizine, Mometasone Furoate and Desonide Cream. This will help to reduces symptoms, quicken healing of skin and prevent further skin damage.

Keywords: Eczema, Prescription pattern, Excoriation, Edema, Dermatitis

1. Introduction

Eczema is the inflammation of skin characterized by itching, erythema, swelling, papules, crusting of skin, later lichenification and scaling of the skin. Eczema is also referred to as dermatitis. The eczema lesions typically appear in the folds of skin behind the knees and in front of the elbows in older children or adults. The majority of eczema sufferers often get better with age. Soap and detergent, cosmetics, clothing, jewelry, sweat, climate changes, dust, and allergies are the main causes of eczema.¹ People with a history of atopy in their parents are more likely to acquire eczema, the childhood can exhibit characteristics of both infancy and maturity, but will eventually choose the adult form as time goes on.²

Dermatitis is more prevalent in rural ones, Dermatitis is a member of the "Atopic March" trio. The most frequent ones include working in damp environments (or around water in general), irritants, hazardous substances, and mechanical skin irritation.^{3,4} The pathophysiology behind dermatitis is a hereditary component, according to research. The gene Filaggrin, which is essential for skin cell maturity, has been found to have a frequent mutation. Atopic dermatitis histology is non-specific^{5,6} There are many types of eczema, the most common type of eczema are, however there are 7 known types of eczema. All forms of eczema will itch. They are atopic dermatitis, contact dermatitis, hand eczema, seborrheic dermatitis, stasis dermatitis, dyshidrotic eczema, nummular dermatitis.⁷ The most prevalent chronic inflammatory skin condition is atopic dermatitis, AD is the condition that most heavily burdens disability.^{8,9} When a foreign material comes into touch with the skin in a delayed hypersensitive reaction known as allergic contact dermatitis, skin changes take place.¹⁰ hand eczema is portrayed as a condition that degrades patients' quality of life (QoL) and has an array of negative effects on their physical, material, social, and psychological well-being.¹¹ When the epidermal barrier malfunctions, as it does in AD patients, endogenous factors are mostly to blame.¹² Effective treatment for adults must take into account changes in lifestyle and metabolism that come with age in order to enhance effectiveness and avoid negative pharmacologic effects.¹³

Drug utilization studies that focus on the prescribing, dispensing, and administration of medications are known as prescription pattern monitoring studies (PPMS). They support reducing drug addiction and misuse while promoting the responsible use of controlled substances. WHO estimates that half of all patients fail to take their medications as directed and that more than half of all prescriptions for medications are written, administered, or promoted inappropriately. The goal of PPMS is to make it easier for a population to take drugs responsibly. Irrational pharmaceutical use is a significant global issue.¹⁴

The main objective of the study was to assess drug prescribing pattern in eczema patients visiting Dermatology Department. It promotes physician to adhere with the guidelines and the patients receive the right medications for their specific clinical needs, in doses that are suitable for them, and for a sufficient amount of time. This will help to reduce symptoms, quicken healing of skin and prevent further skin damage.

2. Materials And Methods

The study was carried out in the Out-Patient Department of Dermatology, ESIC MC-PGIMSR and Model Hospital, Rajajinagar, Bengaluru. This was a cross-sectional study and carried out for a period of 6 months. A total of 110 samples were collected, of which 10 were dropped out and 100 samples were selected for the study. A data collection form was designed to collect sample demographic aspects, socio-economic

condition, severity symptoms, history of present illness, medication history and medication details includes dose, frequency, route of administration, dosage form, duration.

2.1. Study procedure

The study commenced after the approval of the Institutional Ethics Committee. The investigator had chosen the study subjects based on the inclusion and exclusion criteria from the medical records available in the Department of Dermatology. Relevant data from the files was obtained and recorded on the data collection form or entered into an electronic data collection form and then in a Microsoft Excel sheet. The data so obtained was segregated in a Microsoft Excel sheet, assessed, and appropriate statistical analysis was performed.

2.2. Statistical analysis

All recorded data were entered and analyzed using MS Excel for determining for the statistically significant. Descriptive statistics were computed for quantitative variables and frequencies and percentages were calculated for categorical values. Column charts, pie-charts, bar graphs were applied to find the nature of data distribution.

3. Results

The study was conducted in the Out-Patient Department of Dermatology and it was carried out over a period of 3 months and a total of 110 samples were collected. Of these, 10 sample was dropped out due to insufficient data, so the overall sample size was 100. Patients were categorized based on age as given in Table 1. Out of 100 patients included in the study, 30 (30%) patients belong to the age group of 46–55, followed by 25 patients in the age group of 36–45. And the least belongs to the age group of above 65 (n = 9, 9%).

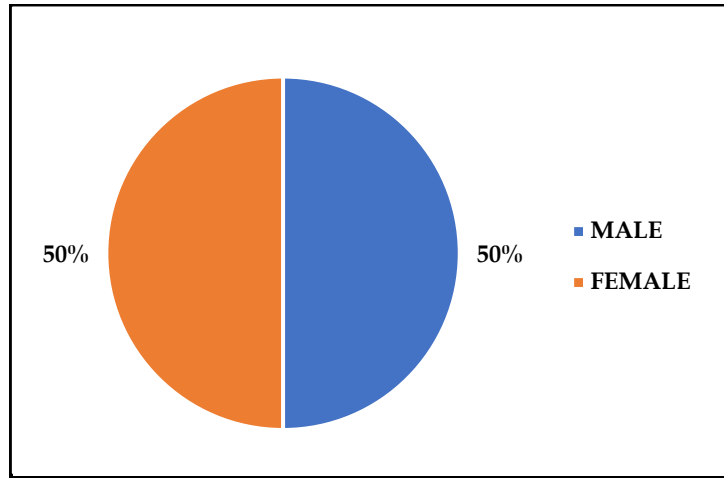
Table 1. Age distribution in Eczema

Age group (years)	Total number of patients	Percentage (%)
18-25	11	11
26-35	10	10
36-45	25	25
46-55	30	30
56-65	15	15
>65	9	9
	100	100

Gender Distribution

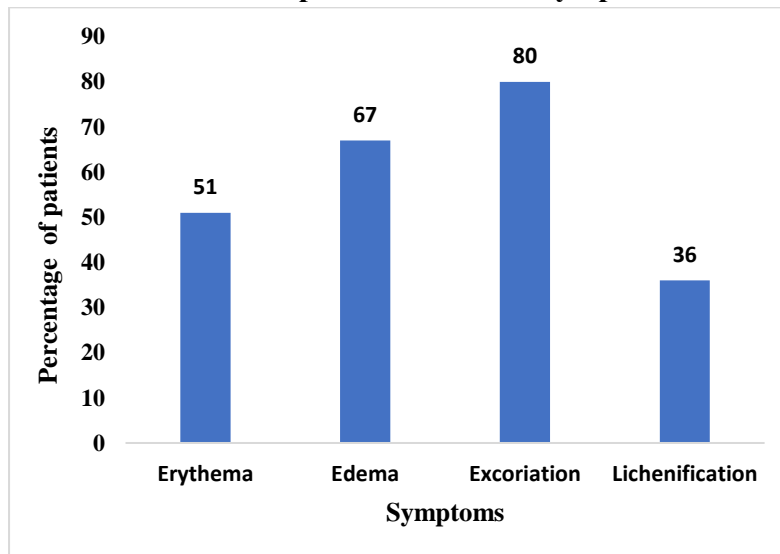
Patients were categorized based on gender as given in Table 2. In this study, the gender was evenly distributed among the 100 samples, contributing 50% to each.

Figure 1: Gender distribution in Eczema



The patients were distributed based on the symptoms and the most patients were found to have excoriation.

Figure 2: Distribution of patients based on symptoms in Eczema



There were 8 different types of Eczema found in the study and in which dermatitis was mostly seen as shown in Table 2.

Table no: 2 Distribution of different types of Eczema

Type of Eczema	Number of patients	Percentage (%)
Dermatitis	54	54
Contact Dermatitis	11	11
Allergic Contact Dermatitis	11	11
Irritant Contact Dermatitis	13	13
Seborrheic Dermatitis	7	7
Hand Eczema	2	2
Atopic Dermatitis	1	1
Unspecified Eczema	1	1
Total	100	100

Prescription pattern based on the types of Eczema

Out of 54 patients, 41 patients received Antihistamine (Cetirizine tablet) were mostly found, While least number of patients received Antibiotics as shown in Table 3.

Table 3: Prescription Pattern of drugs in Dermatitis patients

Drug category	Drugs	Number of patients	Total no. Of patients n=54	Percentage (%)
Antihistamine	Cetirizine tablet	41	41	76
Topical Corticosteroid	Mometasone furoate cream	20	36	67
	Clobetasone cream	13		
	Desonide lotion	3		
Antifungal	Ketoconazole lotion	4	6	9
	Fluconazole capsule	1		
Antibiotics	Clindamycin gel	1	2	4
	Doxycycline tablets	1		
Keratolytic emollient	Urea, lactic acid, propylene glycol and light liquid paraffin cream	12	12	22
Moisturizing agent	White soft paraffin	41	41	76
Antibacterial + corticosteroids	Fusiwal M cream (fusidic acid + mometasone)	10	10	19

Table 4: Prescription Pattern of drugs in CD patients

Drug category	Drugs	Number of patients	Total no; of patients n=11	%
Topical corticosteroid	Desonide cream	2	2	18
	Mometasone furoate	5	5	45
	Fluocinolone acetonide cream	1	1	9
	Clobetasone cream	1	1	9
Antihistamine	Cetirizine Tablet	10	10	91
Moisturizing agent	White soft paraffin	5	5	45
Keratolytic emollient	Urea, lactic acid, propylene glycol and light liquid paraffin cream	1	1	9

Antibacterial + corticosteroids	Fusiwal m (fusidic acid + mometasone)	3	3	27
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Table 5: Prescription Pattern of drugs in Allergic Contact Dermatitis patients

Drug category	Drugs	Number of patients	Total no; of patients n=11	%
Topical corticosteroid	Desonide cream	2	2	18
	Desonide lotion	6	6	55
	Mometasone furoate	4	4	36
Antihistamine	Cetirizine	8	8	73
Keratolytic emollient	Urea, lactic acid, propylene glycol and light liquid paraffin cream	1	1	9
Moisturizing agent	White soft paraffin	3	3	27
Antifungal	Ketoconazole lotion	6	6	55
Tetracycline antibiotics	Doxycycline tablet	1	1	9

Table 6: Prescription Pattern of drugs in Irritant Contact Dermatitis patients

Drug category	Drugs	Number of patients	Total no. of patients n=13	%
Antihistamine	Cetirizine tablets	11	11	85
Moisturizing agent	White soft paraffin	10	11	85
	Glycerine lotion	1		
Corticosteroid	Desonide lotion	6	8	62
	Mometasone furoate	2		
Antibacterial + corticosteroids	Fusiwal m (fusidic acid + mometasone)	3	3	23

Table 7: Prescription Pattern of drugs in Hand Eczema patients

Drug category	Drugs	Number of patients	Total no; of patients n=2	%
Antihistamine	Cetirizine	1	1	50
Moisturizing agent	White soft paraffin	2	2	100
Topical corticosteroid	Desonide cream	1	2	100
	Clobetasone cream	1		

Table 8: Prescription Pattern of drugs in SD patients

Drug category	Drugs	Number of patients	Total no; of patients n=7	%
Antihistamine	Cetirizine	1	1	14
Topical corticosteroid	Desonide cream	1	2	29
	Desonide lotion	1		
Antifungal	Fluconazole capsule	4	4	57
	Ketoconazole lotion	7	7	100
	Terbinafine HCl cream	1	1	14
Keratolytic agent	Salicylic acid 2% facewash	1		14
	Urea, lactic acid, propylene glycol and light liquid paraffin cream	2	2	29
Immunosuppressant	Tacrolimus Ointment	1	1	14
Moisturizing agent	White soft paraffin	1	1	14
Antibiotics	Clindamycin gel	3	3	43
Antifungal + keratolytic agent	Ketoconazole and Salicylic acid	1	1	14

Only 1 patient was identified with AD and was received with Mometasone Furoate Cream and Levocetirizine Tablet (n=1) respectively. And one patient identified with UE was received with Cetirizine, White soft paraffin, Desonide cream, Clobetasone Cream, U RYL Cream, Fusiwal M Cream (n=1) respectively.

4. Discussion

The study was conducted in the Out-Patient Department of Dermatology in ESIC PGIMS and Model Hospital, Rajajinagar, Bengaluru. The study was carried out for the period of 3 months including a total of 100 participants from 110 participants enrolled for the study, based on the inclusion criteria.

The majority were in the age range of 46–55 years, followed by the age group of 36–45 which the second age group is almost similar to the age group participants in the study of Thouseef A *et al.*,¹⁵ (2022) where prevalence of Eczema patients was higher in the age group of 21-40 years. Our study, observed that the prevalence of Eczema was equally among males and females which is in contrast to the study conducted by Thouseef A *et al.*, in which the majority of study population were females (53%) compared to males (46.5%).

On analyzing the prescription of Dermatitis patients, Moisturizing Agent and Antihistamine were the most commonly prescribed drugs contributing 76% each, followed by Corticosteroid in 67%. White Soft Paraffin and Cetirizine were most commonly prescribed drug. The result of the study is similar to that of the study conducted by Thouseef A *et al.*, in which out of 207 drugs prescribed to 86 patients, Antihistamines were the largest class of drugs prescribed (37.68%) followed by Corticosteroids with (22.71%) and moisturizing agent with (14.1%).¹⁵ (2022)

In the present study, only 7 patients had Seborrheic Dermatitis in which all of them received Ketoconazole Lotion and only 57% received Fluconazole Capsule, followed by keratolytic agent and Corticosteroid by 2 patients respectively. Antihistamines (Cetirizine), Immunosuppressants (Tacrolimus

Ointment) and Moisturizing Agents (White soft paraffin) were least prescribed. The result of our study is similar to that of the study conducted by Gupta AK *et al.*, in which the author found that the most implicated group of Antieczema drugs was Ketoconazole followed by keratolytic agents and Corticosteroid.¹⁷ (2003)

Out of 11 patients with Contact Dermatitis, 91% received Antihistamines (Cetirizine tablet), followed by Corticosteroid (Mometasone Furoate cream) 45% and Moisturizing Agent, White Soft Paraffin (45%). This is almost similar to the study done by Spring S *et al.*, which reported that the most prescribed topical medicament for CD was Corticosteroid (30%).¹⁸ (2023)

Out of 2 patients with Hand Eczema, both of them received Moisturizing Agent and Cetirizine, Corticosteroid such as Desonide Cream, Clobetasone Cream were received by each patient. These results were similar to the study conducted by Soost S *et al.*, which concluded that topical corticosteroid (76.6%) was frequently prescribed for the treatment of HE, mostly Clobetasone.⁴⁵ (2012) Only 1 patient was identified with Atopic Dermatitis and was received Mometasone Furoate Cream and Levocetirizine Tablet. The result of this study is similar to that of study by Goh YY *et al.*, in which the author found that the majority of patients received Topical Corticosteroid were the mainstay of AD management.¹⁹ (2018).

5. Conclusion

In the study demonstrates that a total of 100 patients, majority of Eczema cases occurred between the ages of 46-55 years and the distribution was observed to be equal among both the genders. The patients in this study had excoriation followed by Edema as symptoms. Among 100 patients, 8 different types of eczema were found out and in that dermatitis were mostly seen type of eczema. The study concluded that Corticosteroids, moisturizing agents, and antihistamines were mostly prescribed for the treatment of eczema by the dermatologist in the hospital. Patients with dermatitis, contact dermatitis received Cetirizine tablets as an antihistamine, while Mometasone Furoate cream, Clobetasone cream as corticosteroids and moisturizing agent mostly. Ketoconazole lotion was given to all the patients with seborrheic dermatitis. By identifying the prescription pattern of drugs used in Eczema patients helps in lowering the burden of flares seen in eczema and also aid in the optimization of anti-eczema drugs with improved efficacy, minimal toxicity and to ensure the physical and psychological well-being of the patients. In eczema, this will help to reduces symptoms, quicken healing of skin and prevent further skin damage.

6. Acknowledgement

I express my sincere gratitude to all the people who have been associated with this project. I take this opportunity to thank everyone who helped and supported me directly or indirectly to make this a suc

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