

Study on Prescribing Pattern among the Outpatients with Eczema in the Dermatology Department of a Tertiary Care Teaching Hospital

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ABSTRACT

Background: Eczema is a chronic, usual, non-infective inflammatory state characterized by intense pruritis, redness, and swelling. Eczema patients experience mild to severe systemic symptoms such as itching, pain, and sleep disturbances, resulting in a significantly diminished quality of life. **Methods:** This prospective observational study was conducted for six months to study the prescribing pattern of various drugs in eczema patients in the outpatient department of dermatology. 86 anti-eczema prescriptions were analyzed. Factors considered were age, gender, types of diagnosis, site of the disease, and anti-eczema drugs prescribed. **Results:** Out of 86 patients, females (53.5%) were more than males (46.5%). The majority of the patients (44.18%) belonged to the age group 21 to 40 years and allergic contact dermatitis was the most common (39.53%) and most commonly affected was lower limb (43.02%). Most drugs prescribed were topical agents (60.38%) when compared to oral drugs (39.62%). Antihistamines (37.68%) were found to be the most commonly prescribed medication

class. Levocetirizine (25.60%) was the most common drug prescribed in this study. Most of the prescriptions contained at least two drugs (61.63%).

Conclusion: A clinical pharmacist can help improve a patient's quality of life by assisting with prescription analysis and prescribing patterns. Studies can assist in providing feedback to physicians on current prescribing practices.

Key words: Prescribing pattern, Anti-eczema drugs, Levocetirizine, Eczema, Dermatology.

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INTRODUCTION

The biggest organ in the human body is the skin. The overall ecosystem of the place, including socio-cultural milieu, geography, nutrition, genetics, and so on, influences the prevalence and pattern of skin diseases. Through hospital-based studies, certain attempts have been made to categorize skin diseases.¹

Eczema narrates a number of inflammatory skin disorders. It is a chronic, usual, non-infective inflammatory state characterized by intense pruritis, redness, and swelling.² It has a prevalence of up to 20% in children and 5% in adults worldwide.³ Eczema and dermatitis are two words that are used synonymously.² Adults can encounter various types of eczema such as asteatotic eczema, eczematous drug eruptions, varicose eczema, lichen simplex, atopic eczema, contact dermatitis, nummular eczema, seborrheic eczema, photosensitive eczema, pompholyx eczema.⁴ Patients with eczema suffer from mild local to severe systemic symptoms such as itch, pain, sleep disturbance, leading to substantially reduced quality of life.³

The goals for the treatment of eczema include repairing and maintaining good skin integrity, alleviating symptoms, and improving the quality of life.⁴ The induction treatment options for eczema include topical corticosteroids and topical tacrolimus. The maintenance treatment includes proactive therapy with topical anti-inflammatory drugs and topical corticosteroids or topical tacrolimus intermittently. Use topical anti-inflammatory drugs at earliest signs of local recurrence. Therapy for complications of eczema such as bacterial infections include oral and/or topical antibiotics, and viral infections include oral and/or topical antiviral drugs. Treatment of severe refractory disease includes potent

topical corticosteroids, combination therapy with oral cyclosporine, combination therapy with ultraviolet therapy, combination therapy with psychosomatic therapy. Adjuvant therapy includes oral antihistamines, identification of trigger factors, and psychosomatic approach.⁵ The purpose of this study was to gather insight regarding the prescribing pattern of various drugs in eczema patients in the outpatient department of dermatology.

Even though medicines are among the therapeutic interventions that will promote improved health to the patients, rational use of those medications prescribed plays a major role in providing the therapeutic intervention that is efficient and sufficient. Rational use of medications means that the individual will receive the right medicine with adequate dose in the adequate duration of time at affordable cost, which also includes appropriate information with follow up.⁶ Prescription pattern monitoring studies form the main tool in the assessment of prescribing, dispensing and distributing medicines to carry out rational use of medicines. This pattern will facilitate the appropriate use of drugs and decrease drug misuse as much as possible.⁷ Also, the rational use of the drugs is necessary by the health care provider to avoid several clinical consequences caused by the misuse of the drug. Periodic auditing of the prescriptions to assess and monitor prescription pattern in eczema patients provide a tool to enhance the efficacy of the treatment, minimize the adverse effects causing and also optimize the cost of treatment by providing useful feedback to the health care provider.⁸

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MATERIALS AND METHODS

The study was carried out in the dermatology department of Justice K.S. Hegde Charitable Hospital, a tertiary care teaching hospital in Mangaluru, Karnataka, India

A prospective observational study was conducted for six months from October 2020 – March 2021 to study the prescribing pattern of various drugs in eczema patients in the outpatient department of dermatology after obtaining approval from the Institutional ethics committee (Ref No-NGSMIPS/IEC/05/2020), The minimum sample size of the study was determined to be 86. All outpatients diagnosed with eczema above 18 years and prescribed with a minimum of two drugs per prescription were included. Patients with unclear data were excluded in this study, including pregnant women and lactating women, patients who were not willing to give consent.

Prescriptions were reviewed, and necessary data were collected, including age, gender, diagnosis, disease site, drug name, class of drug, and frequency.

A suitable data collection form was designed to collect and document the data. Patients' information was gathered by using patient case notes and patient prescriptions. Patients' demographic parameters such as age and gender were considered for clinical presentation. Prescribing patterns of the anti-eczema drugs were analysed by collecting the details of drug usage, including frequency, dose, and route of administration. Finally, the results were analysed using descriptive statistical methods.

RESULTS

Gender-wise distribution

Out of 86 patients, 46 females (53%) and 40 were males (47%). Female patients were predominant compared to the male patient population in the study. The details are summarized in Table 1.

Age-wise distribution

Most patients were found between the age category of 21-40 years with 38 patients (44.18%), followed by the 25 patients (29.06%) in the age group of 18-20 years. The details are summarized in Table 1.

Types of Eczema

Allergic contact dermatitis was the most common type of eczema (39 patients, 39.53%) among the study population, followed by atopic eczema (31 patients, 36.05%). The details are summarized in Table 1.

Site of the disease

The most common site was the lower limbs in 37 patients (43.02%), followed by the upper limbs in 23 patients (26.74%). The details are summarized in Table 1.

Route of administration

207 drugs were prescribed to 86 patients, of which 125 (60.39%) were topical agents and 82 (39.61%) were oral agents. The details are summarized in Table 2.

Drugs prescribed in the study population

Antihistamines 78 (37.68%) was found to be a largely prescribed class of drug, which was then followed by topical corticosteroids 47 (22.71%), moisturizers 29 (14.01%), topical corticosteroids + antibiotics 29 (14.01%), antibiotics 10 (4.83%), antifungals 7 (3.38%), topical corticosteroids + antifungals 5 (2.42%) and oral corticosteroids 2 (0.96%). In the study population, levocetirizine was the highly prescribed drug 53 (25.60%) then followed by liquid paraffin 29 (14.01%). The details are summarized in Table 2.

Table 1: Demographics, eczema type, eczema site.

Criteria	Frequency (Percentage)
Gender	
Male	40 (46.5)
Female	46 (53.5)
Age in Years	
18-20	25 (29.06)
21-40	38 (44.18)
41-60	17 (19.76)
61-80	6 (6.97)
Type of Eczema	
Feet Eczema	4 (4.65)
Nummular Eczema	7 (8.14)
Allergic Contact Dermatitis	34 (39.53)
Atopic Eczema	31 (36.05)
Seborrheic Eczema	7 (8.14)
Chronic Eczema	2 (2.33)
Subacute Eczema	1 (1.16)
Site of Eczema	
Upper Limb	23 (26.74)
Lower Limb	37 (43.02)
Face	7 (8.14)
Neck	7 (8.14)
Scalp	6 (6.98)
Back	6 (6.98)

Distribution based on number of drugs per prescription

Out of 86 patients, most of them were prescribed two drugs (53 patients, 61.63%), followed by three drugs (29 patients, 33.72%). Only four patients (4.65%) have been prescribed four drugs.

DISCUSSION

This study included 86 outpatients of either gender, above 18 years. The study's main goal was to study the prescribing pattern of various drugs in eczema patients in the outpatient department of dermatology of a tertiary care teaching hospital.

In this study, it is found that out of 86 outpatients, the majority of the study populations are females (46 patients 53.5%) compared to males (40 patients, 46.5%). Similar results were obtained from a study done by Vemuri VR *et al.*, which showed that most were females (151 patients, 62%), less than half (94 patients, 38%) of them were males.⁹ Another research conducted by Divyashanthi CM *et al.*, also showed a predominance of female patients (48 patients, 59.26%) over male patients (33 patients, 40.74%).¹⁰

In this study, the maximum number of patients are seen within 21 to 40 years. (38 patients, 44.18%). A similar result was obtained from a study directed by Giri VP *et al.*, with the highest number of patients (80 patients) seen in the age group of 21 to 40 years.¹¹ In another study conducted by Vemuri VR *et al.*, the higher number (63 patients, 25.71%) with the onset of eczema was 20-29 years old.⁹ Also, in another study organized by Abraham MS *et al.*, most patients (36.17%) belong to 18 to 40 years.¹²

The most common site involved was the lower limb (37 patients, 43.02%). A similar result has been seen in the study directed by Scaria S *et al.*, where extensor surfaces (80%) were mostly affected surfaces.¹³ In the current study, out of 207 drugs prescribed to 86 patients, antihistamines

Table 2: Route of administration, drug category and drugs prescribed in the study population.

Route of administration (Frequency, Percentage)	Drug category	Drugs	Frequency (Percentage)	
Topical (125, 60.39)	Moisturizers	Liquid paraffin	29 (14.01)	
		Mometasone	11 (5.31)	
	Corticosteroids	Clobetasol	17 (8.21)	
		Desonide	6 (2.90)	
		Fluticasone propionate	11 (5.31)	
		Betamethasone	2 (0.97)	
		Ketoconazole	6 (2.90)	
	Antifungals	Luliconazole	1 (0.48)	
		Betamethasone + Fusidic acid	9 (4.35)	
		Clobetasone + Miconazole	7 (3.38)	
		Clobetasol + Fusidic acid	1 (0.48)	
	Corticosteroids + Antibiotics	Miconazole	5 (2.41)	
		Fluticasone propionate + Mupirocin	2 (0.97)	
		Hydrocortisone + Fusidic acid	5 (2.41)	
		Mometasone + Fusidic acid	2 (0.97)	
		Mometasone + Clotrimazole	3 (1.45)	
		Corticosteroids + Antifungals	Beclomethasone + Clotrimazole	6 (2.90)
			Fusidic acid	2 (0.97)
		Antibiotics	Mupirocin	2 (0.97)
			Levocetirizine	53 (25.60)
Antihistamines		Cetirizine	2 (0.97)	
	Desloratadine	22 (10.63)		
	Hydroxyzine	1 (0.48)		
Oral agents (82, 39.61)	Corticosteroids	Methyl prednisolone	2 (0.97)	
	Antibiotics	Amoxicillin + Clavulanic acid	2 (0.97)	

were the largest class (78, 37.68%) of drugs, followed by topical corticosteroids (47, 22.71%). A similar result has been seen in the study organized by Vemuri Vemuri *et al.* The largest group of drugs given were antihistamines, 221 out of 703 total drugs.⁹ In a study conducted by Scaria S *et al.*, there was a contrast in the result, that the majority of patients were prescribed with emollients (95%) followed by antihistamines (75%) and topical corticosteroids (75.0%).¹³ In another study organized by Pona A *et al.*, the highest class of drugs prescribed were topical corticosteroids (59%) followed by moistures (12%).¹⁴ In another study conducted by Divyashanthi CM *et al.*, topical and systemic corticosteroids were the most commonly advised drugs (45.54%), followed by antihistamines (30.69%).¹⁰ Antihistamines were most commonly prescribed in our study because they play an important role in the management of eczema. In the present study, levocetirizine (25.60%) was the most commonly prescribed drug, followed by liquid paraffin (14.01%). A similar result has been observed in a study organized by Vemuri VR *et al.*, where levocetirizine was the most commonly commanded antihistamines.⁹ In another study done by Divyashanthi CM *et al.*, the contrast in result has

been seen where the most commonly prescribed antihistamine drug was cetirizine (54.83%) followed by hydroxyzine (16.12%).¹⁰ In our study, levocetirizine is prescribed frequently because it is considered to have less sedative effect compared to cetirizine. In this study, the most commonly prescribed topical corticosteroid was found to be clobetasol (8.21%), followed by mometasone (5.31%) and fluticasone propionate (5.31%). The other study directed by Divyashanthi CM *et al.*, showed a divergence in result, where the most commonly given topical corticosteroid was desonide (55.56%) followed by mometasone (33.33%) and clobetasol (6.17%).¹⁰ The selection of a particular drug must be based on its efficacy and potency, by the size of the lesion, the location of eczema.

In the present study, out of 86 patients, most patients were given two drugs (53 patients, 61.63%) followed by three drugs (29 patients, 33.72%), and only four patients were prescribed four (4.65%) drugs. In a study conducted by Abraham MS *et al.*, a contrast result was obtained where the majority number of patients have prescribed three drugs (50.35%) followed by two drugs (24.46%).¹² In another study directed by Kumar MA *et al.*, most patients have been prescribed three (29.26%) drugs followed by four (24.39%).¹⁵

CONCLUSION

Prescribing pattern studies have become a significant tool for assessing healthcare systems. This study mainly focused on the prescribing patterns of anti-eczema drugs prescribed for eczema patients in the outpatient department of dermatology. In this study, females (53.5%) were predominant than males (46.5%). It was observed that the most affected patients were in the age between 21 and 40 years (44.18%). It was found that allergic contact dermatitis was the most common type of eczema (39.53%) found in the study population. It was also seen that lower limbs were the highly affected site of disease (43.02%), and levocetirizine (25.60%) was the most commonly prescribed drug for the treatment. In this study, topical (60.39%) and oral (39.61%) drugs for eczema were prescribed, including liquid paraffin, levocetirizine, mometasone, desloratadine, clobetasol fluticasone propionate, etc. respectively. This study concluded that careful and judicious use of anti-eczema drugs would allow better patient management and limit the endpoint morbidity and mortality arising from eczema. Therefore, there is a need for educational programs to facilitate rational use of anti-eczema drugs and promote accessible resources. A clinical pharmacist can be involved in prescription analysis and prescribing patterns, improving the patient's quality of life. Studies can help provide feedback to physicians on contemporary prescribing practices.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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