

Prescription Analysis of H₁ Antihistamines among Out-Patients of Dermatology Department of a Tertiary Care Teaching Hospital in Chhattisgarh.

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Abstract

Background: Antihistamines having H-1 receptor blocking properties are one of the preferred agents for treatment of allergic symptoms of various dermatological disorders. There are guidelines which allow rational use of these drugs. But a significant number of these agents are prescribed irrationally. To strengthen rational use periodic assessment of prescribing patterns may modify therapeutic effectiveness and unwanted adverse drug reactions.

Materials and Methods: A prospective observational study was carried out for a period of 3 months in the outpatient Department of Dermatology of Government Medical College Hospital, Raigarh. The prescriptions having at least one H1 Antihistamine drug prescribed were taken for the study. The collected prescriptions were analyzed in terms of legibility, demographic details of patients, pattern of skin diseases reported, trends in antihistamine drug usage and WHO prescription indicators.

Results: Out of the total 508 collected legible prescriptions 284 were males. The majority of patients were in the age group of 31-40 years (33.27%). Scabies, dermatophytosis and eczema were the top three disorders for which antihistamines were prescribed. Overall second-generation H1 antihistamines were prescribed more commonly. Levocetirizine was the highest prescribed antihistamine (59.15%).

Conclusion: The present study reveals that the use of first generation Antihistamines has been decreased for treating cutaneous diseases. But still significant number of first generation drugs have been prescribed in many prescriptions. The introduction of standard treatment guidelines, audits and upgrading undergraduate curriculum can surely improve use of these drugs.

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I. Introduction

Skin is the largest organ of human body and it is susceptible to injury by various extrinsic and intrinsic factors. Extrinsic factors are environmental, chemical, infections whereas intrinsic factors constitute metabolic, genetic and immunological. With this many systemic diseases are having their dermatological manifestations.¹ In developing countries like India dermatological diseases have a significant impact on people's quality life as weather, social status, religions and culture are widely varied in different parts of the country.² In India, the most prevalent dermatological conditions include eczema, allergic dermatitis, urticaria, infections, acne, psoriasis, alopecia, skin cancer and adverse drug reaction.³ In the treatment of skin diseases, H₁-antihistamines are one of the most frequently and widely used medications.⁴ Antihistaminic drugs are widely used medications in dermatological disorders apart from corticosteroids and antibiotics.⁵ They are primarily used for symptomatic relief of allergic reactions such as urticaria, angioedema, rhinitis, conjunctivitis, and pruritus associated with skin disorders.⁶ The older first-generation H₁ antihistamines penetrate readily into the brain to cause sedation, drowsiness, fatigue, impaired concentration and memory. These drugs have detrimental effects on learning and examination performance in children and impairment of skillful work like driving in adults.⁷ The newer second-generation drugs are free from such disadvantages.^{8,9} Periodic monitoring of drug utilization pattern is one of the methods to analyze rational use of drugs and has been an effective tool to constitute revised treatment guidelines.¹⁰

II. Materials And Methods

This prospective observational study was carried out for a period of 3 months. It commenced from 1st January 2018 to 31st March 2018 in dermatology outpatients of LSLAM Government Medical College Hospital, Raigarh. The study took place after getting ethical clearance from Institutional Ethics Committee. Patients of either sex and age seeking care in dermatology outpatient department of Medical college hospital Raigarh were included in the study. Patients requiring admission in dermatology department for various reasons were excluded from the study. A total number of 539 OPD prescriptions having H₁antihistamine drug were collected and analyzed using various parameters like

1. Legibility of prescriptions,
2. Demographic details of patient,
3. Pattern of dermatological diseases,
4. Trends of prescribing antihistamines
5. WHO prescribing indicators

III. Results

In the study period total 537 prescriptions were collected among which 407 were legible (75.80%), 101 were legible with effort (18.80%) and 29(5.40%) were illegible. So excluding 29 prescriptions total 508 prescriptions were analyzed which contained at least one antihistamine drug.

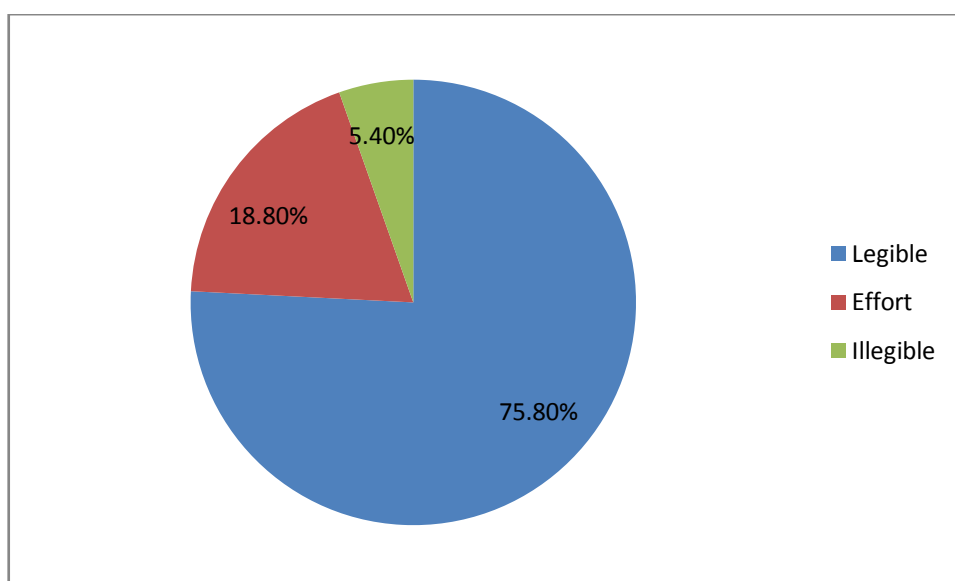


Figure 1: Legibility of prescriptions

In 508 prescriptions 284 patients were male and 224 were female.

The majority of patients were in the age group of 31-40 years (33.27%) followed by 21-30 years (18.31%) .

Table no 1: Demographic profile of patients

Age distribution	Percentage (Among 508 prescriptions)
0-10 year age group	31(6.1%)
11-20 year age group	86(16.93%)
21-30 year age group	93(18.31%)
31-40 year age group	169(33.27%)
41-50 year age group	62(12.20%)
51-60 year age group	27(5.31%)
61-70 year age group	18(3.54%)
71-80 year age group	14(2.76%)
81-90 year age group	8(1.57%)
Sex Distribution	Percentage
Male	55.9%
Female	44.1%
Transgender	-----

Total 519 antihistamines were prescribed in 508 prescriptions. In 11 prescriptions 2 antihistamines were prescribed. Otherwise rest of all prescriptions were having one antihistamine prescribed . Among 519

levocetirizine (59.2%) was the most commonly prescribed H₁ antihistamine drug followed by cetirizine, hydroxyzine, pheniramine, fexofenadine, doxylamine and loratidine.

Table no 2: Distribution of antihistamines

Antihistamines	Numbers (Among 519)	Percentage
Levocetirizine	307	59.15
Cetirizine	118	22.74
Hydroxyzine	46	8.86
Chlorpheniramine	21	4.05
fexofenadine	11	2.12
doxylamine	9	1.73
Loratidine	7	1.35

In 519 H₁ antihistamines drugs 309 were written in their generic names. 506 drugs were prescribed from national list of essential medicine and 53 drugs were prescribed in fixed dose combinations. Only 45 drugs were written in capital letters.

Table no 3: Prescription parameters

Prescription Parameters	Percentage
Drugs written in capital letters	8.67%
Antihistamines prescribed from NLEM	97.68 %
Antihistamines prescribed in generic name	59.53%
Fixed dose combinations of antihistamines	10.21%

In skin diseases scabies was highest followed by dermatophytosis, eczema, psoriasis, allergic contact dermatitis, urticaria, psoriasis, pemphigus, lichen planus, insect bite hypersensitivity and adverse drug reactions.

Table no 4 : Distribution of skin diseases

Skin Diseases	Number	Percentage
Scabies	104	20.47
Dermatophytosis	96	18.8
Eczema	83	16.34
Allergic Contact dermatitis	72	14.17
Urticaria	43	8.46
Psoriasis	36	7.09
Pemphigus	23	4.53
Insect bite hypersensitivity	19	3.74
Lichen planus	17	3.35
Adverse Cutaneous drug Reactions	15	2.95

IV. Discussion

In this study 5.40% prescriptions were illegible and 18.80 percent prescriptions were readable with effort. Only 8.67% drugs were written in capital letters, which should be 100 percent according to recent guidelines. Writing drugs in capital letters automatically improve legibility of prescriptions.¹¹⁻¹³ Around 59.53% drugs were written in generic names which is far below WHO guidelines. This indicates that our prescribing tendencies are typically influenced by the drug manufacturing companies for bidirectional profits.¹³ The cost per prescription also gets increased for this. The use of generic drugs reduces the incidence of dispensing error and decrease cost burden. The prescribers therefore must be aware of the use of generic drugs and for this regular meetings should be arranged to make them aware about the advantage of using generic drugs.⁵ In analysis of diseases scabies and dermatophytosis were leading cause. In some previous studies psoriasis, eczema and allergic contact dermatitis were the leading cause.¹⁴ This signifies variation in environmental, genetic and socioeconomic factors which lead to differences in incidence and prevalence of diseases. Among fixed dose combinations levocetirizine- montelukast was on the top. Among prescribed drugs levocetirizine was maximally prescribed drug which belong to second generation H₁ Antihistamines.¹⁵ In some previous studies first generation drugs were on the top.¹⁴ Second-generation antihistamines, being more lipophobic or hydrophilic lack antihistamine side effects like sedation, drowsiness, fatigue, impaired concentration and memory. They are also free from anti cholinergic side effects such as sedation and dry mouth, which are commonly associated with first-generation antihistamines.¹⁶ In this present study besides levocetirizine a significant number of drugs were from first generation. So, physicians must assume the unwanted reactions of these first generation drugs and should prescribe them cautiously.

V. Conclusion

Dermatological disorders comprise a significant number among outpatient department and H₁ antihistamines are prescribed tremendously. Keeping in mind about therapeutic indication, contraindications and adverse drug reactions we can improve rational use of H₁ antihistamines.

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