



Study on prescribing pattern for topical corticosteroids in outpatient department of dermatology at a tertiary care teaching hospital

Rahul Sabbul¹, Minnu Shaji², Doddappa Hiremath³

1 Lecturer, Department of Pharmacy Practice, N.E.T. Pharmacy College, Raichur-584103, Karnataka, India.

2 Pharm D Intern, Department of Pharmacy Practice, N.E.T. Pharmacy College, Raichur-584103, Karnataka, India.

3 Principal & HOD, Department of Pharmaceutics, N.E.T. Pharmacy College, Raichur-584103, Karnataka, India.

ARTICLE HISTORY

Received: 09.05.2021

Accepted: 02.06.2021

Available online: 30.06.2021

DOI:

10.5530/ajphs.2021.11.7

Keywords:

Prescribing pattern, WHO prescribing indicators, OPD, Corticosteroids, PMLE

*Corresponding author:

Phone : +91 - 8309495395

Email : srahul.pharmd@gmail.com

ABSTRACT

Most of the skin diseases are chronic and require treatment for a prolonged period. Topical corticosteroids constitute the mainstay of treatment for many skin conditions. This is due to their extraordinary anti-inflammatory as well as immunosuppressive actions. A study was carried out at a tertiary care teaching hospital in order to evaluate the Prescribing pattern of corticosteroids to provide rational drug use. The aim of study is to analyse the prescribing patterns of corticosteroids in outpatient department (OPD) of Dermatology and to enhance the appropriate use of drugs. This is a prospective observational study conducted in 64 patients of either sex visiting dermatology OPD over a period of three months at NMCH and RC, Raichur, Karnataka. The data collected from the prescription sheets of patients into a well-designed data collection form and the same is analysed with the help of WHO prescribing indicators. The data was collected from 64 patients. All the steroids were prescribed by brand name (100%). The most common skin condition encountered in this study is Polymorphous light eruption (PMLE) (21.87%) followed by psoriasis and alopecia areata (9.37%). The widely prescribed topical steroid was clobetasol (18.75%), desonide (18.75%), followed by fluticasone propionate (15.62), hydrocortisone (15.62%), beclomethasone, mometasone, betamethasone dipropionate. (68.66%). The most common skin disease observed in the study is PMLE. Low potency and very high potency drugs are most widely prescribed and this will help to enhance the rational drug use.

INTRODUCTION

Most of the skin diseases are chronic and require treatment for a prolonged period which holds the risk of adverse effects [1]. The pattern of skin diseases varies from one country to another and across different parts within the same country. The prevalence of skin diseases in the general population varies from 11.6% to 63% as seen in various studies. Many people suffer from common skin problems that are common in all the age groups [2]. In India, the most prevalent dermatological conditions include dermatitis, urticaria, fungal skin infections, acne, alopecia, psoriasis, skin cancer and adverse drug reactions on the skin [3]. Among the drugs used in dermatology are antibiotics, antifungals, scabicides, vitamins, anti-allergics, keratolytics, emollients, and topical corticosteroids.

Of all these, topical corticosteroids constitute the mainstay of treatment for many skin conditions. The topical steroids were introduced in late 1950s for dermatologic disorders associated with inflammation. Topical steroids are of two types, potent and weak based on their efficacy [4].

The various indications for which topical steroids are used include psoriasis, vitiligo, eczema, atopic dermatitis, phimosis, acute radiation dermatitis, and lichen sclerosus [1]. This is due to their extraordinary anti-inflammatory as well as immunosuppressive actions. They can be administered by local or systemic route [5]. Prolonged, inappropriate, or excessive use of topical steroids can lead to various cutaneous and systemic adverse effects [1].

Prescribing drugs is an important skill which needs to be

continuously assessed and refined. It reflects the physician's attitude towards selecting the most appropriate and rational treatment [6]. The aim of study is to analyse the prescribing patters of corticosteroids in outpatient department (OPD) of Dermatology and to enhance the appropriate use of drugs.

MATERIALS AND METHODS

This prospective observational study was conducted on patients who were receiving topical corticosteroids in the dermatology OPD for a period of three months from December 2020 to March 2021 in Navodaya Medical College, Hospital and Research Centre (NMCH and RC) Raichur. A total of 64 prescriptions were collected and analysed during the study period. The data was collected in a well-designed data entry form and the collected data includes demographic details, symptoms, diagnosis, drugs prescribed by generic or band names, number of drugs prescribed, frequency and duration of administration. All the patients prescribed with topical steroids in the outpatient department of dermatology were included in the study. All the in-patients who are admitted in the dermatology ward, pregnant women and patients prescribed with oral corticosteroids were excluded from the study. All the collected data were analysed with the help of WHO prescribing indicators.

RESULTS

Out of 64 patients included in the study, 30 (46.8%) were females and 34 (53.1%) were males. Most of the study participants were belong to the age group less than 20 years 28(43.75%) followed by 21-40(37.5%) and 41-60 (18.75) (Figure 1). The age group ranged from 3 months to 55 years. In about 64 prescriptions, 220 drugs were prescribed.

The most common indication were Polymorphous light eruption 14 (21.87%) followed by psoriasis 6 (9.37%), and alopecia areata 6 (9.37%), pyoderma, lichen simple chronius, scabies with eczematization, scabies with insect bite reaction and irritant contact dermatitis 4 (6.25%), air borne contact dermatitis, liptip vitiligo, mollusum contagiorism, tinea incognita, pityriasis rosea, balanopositis, allergic contact dermatitis, popular

urtricaria, compound nevus epidermal nevus 2 (3.12%).(Table 1).

Topical corticosteroids commonly prescribed were very high potent clobetasol 12 (18.75%) and low potency desonide 12 (18.75%), and medium potent fluticasone propionate 10 (15.62) and low potent hydrocortisone 10 (15.62%) followed by beclomethasone, mometasone, betamethasone dipropionate. (Table 2)

Every single prescription contain one corticosteroid either alone or in combination with antifungal, antibiotic, inorganic agent and keratolytic agent. The commonly prescribed combination is hydrocortisone + fusidic acid 10 (15.62%) and least prescribed combinations were clotrimazole + beclomethasone and mupirocin + fluticasone 2 (3.12). (Table 3)

In prescriptions, strength and quantity were lacking however information's like route of administration, frequency and duration 63 (98%) were mentioned. All the drugs in the prescription 64 (100%) were prescribed by brand name.

DISCUSSION

Assessment of quality of medical care is carried out by medical audit. Prescription audit is a part of medical audit which is meant for improving the quality of patient care. It is the critical assessment of medical and health-care system with a view to bring about necessary improvement in the same.

In the present study, a total of 64 prescriptions were collected from the patients visited the outpatient department of dermatology ward. Out of 64 patients 34 (53.1%) were male and 30 were female (46.87%). It is similar to the study conducted by Srinath S et al [7] and altered results were observed in a study by Purushotham K et al [8] which showed higher no. of female patients than male patients.

Now regarding the age distribution, the majority of patients 28 (43.75%) were in the age groups less than 20 years, followed by the those between the age of 21-40 years 24(37.5%) and 12(18.75%) for those between 41-60 years similar to Purushotham et al [8].

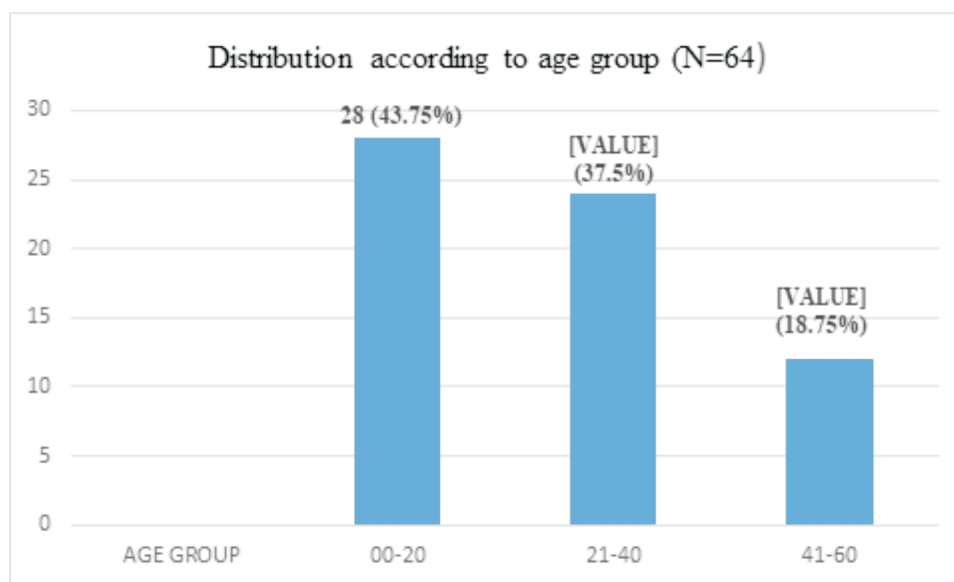


Fig. 1 : Distribution according to age group (N=64)

Table 1 : Common skin diseases in dermatology OPD

Skin disease	Number of patients (%)
Polymorphous light eruption	14 (21.87%)
Psoriasis	6 (9.37%)
Alopecia areata	6 (9.37%)
Pyoderma	4 (6.25%)
Lichen simple chronius	4 (6.25%)
Scabies with eczematisation Scabies with insect bite reaction	4 (6.25%)
Irritant contact dermatitis	4 (6.25%)
Air borne contact dermatitis	2 (3.12)
Liptip vitiligo	2 (3.12)
Mollusum contagiorism	2 (3.12)
Tinea incognita	2 (3.12)
Pityriasis rosea	2 (3.12)
Balanoposittis	2 (3.12)
Compound nevus	2 (3.12)
Epidermal nevis	2 (3.12)
Allergic contact dermatitis	2 (3.12)
Popular urtricaria	2 (3.12)

Table 2 : Potency of corticosteroids

Topical Steroid	Potency	Percentage
Clobetasol	Very high potent	18.75%
Beclomethasone	Potent	12.5%
Hydrocortisone	Low potent	15.62%
Mometasone	High potent	12.5%
Desonide	Low potent	18.75%
Fluticasone	Medium potent	15.62%
Betamethasone	High potent	6.25%

Table 3 : Combinations of topical steroid

Topical steroids	Salicylic acid	Fusidic acid	Mupirocin	Zinc sulphate	Clotrimazole	Total
Clobetasol	8	0	0	0	2	10
Beclometasone	0	6	0	0	0	6
Hydrocortisone	0	10	0	0	0	10
Mometazone	0	4	0	0	0	4
Fluticasone	0	0	2	0	0	2
Betamethasone dipropionate	0	0	0	4	0	4
Total						36

The common skin conditions encountered in this study were Polymorphous light eruption (PMLE) 14 (21.87%) followed by psoriasis and alopecia areata 6 (9.37%). This is in contrast to the study conducted by Rajan P [6] et al and Rohini et al [2]. The reason for this is the temperate climate observed in this region. Most of the people in this area are exposed to sunlight for a long period of time which results in development of PMLE. The most common corticosteroid prescribed in the study is very high potent clobetasol propionate 12 (18.75) and low potent desonide 12 (18.75). This findings is similar to the study done by Jena et al [9] and Bylappa et al [10]. The reasons for this is, availability of medications at hospital pharmacy and according to physician's interest. Whereas a study by Javsen et al [11] showed betamethasone as the commonly used topical corticosteroid.

In this study, topical corticosteroids were prescribed in combination with other topical agents like fusidic acid, salicylic acid, clotrimazole, zinc sulphate, and mupirion. This findings is similar to the study done by Rajan P et al [6].

In this present study, all the drugs were prescribed by brand name, this findings were found similar to the studies done by Kumar et al [12] where 64(100%) brand names usage was reported.

The study have few limitations. It was carried out for a short period of time (3 months) with less sample size. Follow-up of patients to identify ADR's to corticosteroids were not possible due to short duration. For topical corticosteroid preparations the finger unit measure method can be explained to the patients for the appropriate use of medications. Follow-up should be done thoroughly. Future studies should be carried out to overcome these limitations for better patient care.

CONCLUSION

Prescribing pattern studies always acts as a tool to assess prescribing, dispensing and distribution of medicines. The most common skin disease observed in the study is PMLE. Low potency and very high potency drugs are most widely prescribed

corticosteroids in NMCH and RC. Prescription pattern studies help to generate baseline details of the prescription which can be used in researchers and policymakers. This studies helps to enhance the rational drug use.

CONFLICT OF INTEREST

No conflict of interest

ACKNOWLEDGEMENT

We express our sincere thanks to Shri S Reddy, Chairman, Navodaya Educational Trust, Dr Ashok Mahendraker, Medical Superintendent NMCH and RC, Raichur and Dr H Doddayya, Principal NET Pharmacy College and Head of Department of Dermatology NMCH and RC, Raichur for their support during the study.

REFERENCE

- Rathod SS, Motghare VM, Deshmukh VS, Deshpande RP, Bhamare CG, Patil JR. Prescribing Practices of Topical Corticosteroids in the Outpatient Dermatology Department of a Rural Tertiary Care Teaching Hospital. IJD. 2013; 58(5):342-45.
- Gupta R, Malhotra P. Prescribing pattern of corticosteroids among the dermatology inpatients in a tertiary care teaching hospital of north India - A retrospective, observational study. Natl J Physiol Pharm Pharmacol. 2018; 8(2):158-62.
- Ritter JM, Lewis LD, Timothy GKM, Ferro A. Drugs and the skin. A textbook of clinical pharmacology and therapeutics, 5th edition, London, Hodder Arnold. 2008:411-419
- Saranakumar RT, Prasad GS, Ragul G, Mahanta GP, Manna PK, Moorthi C. Study of prescribing pattered of topical corticosteroids in the department of dermatology of a multispecialty tertiary care teaching hospital in south India. Int.J.Res.Pharm.Sci. 2012; 3(4):685-87
- Sheth HJ, Chaudhary RG, Malhotra SD. Evaluation of

- corticosteroid use in outpatient department of dermatology of a tertiary care teaching hospital: a prospective observational study. MEDRESEARCH. 2019; 7(3):243-51.
6. Nerurkar RP, Kokane MR, Mehta MN. Study of prescribing pattern of topical corticosteroids in dermatology out patients department in a tertiary care hospital in India. Int J Basic Clin Pharmacol. 2016;5(5):2194-98.
 7. Srinath S, Kavitha R, Dhanalakshmi K, Andrews LP. Assessment of Prescribing Pattern and cost analysis of topical steroids for skin disorders in dermatological outpatient department if a tertiary care hospital. Int J Basic Clin Pharmacol. 2019;8(7):1559-1562.
 8. Purushotham K, Eesha B R. Prescription Trend of Topical Corticosteroids in Outpatient of Dermatology in a Tertiary Care Hospital in Tumakuru, Karnataka. Int J Pharmacol and Clin Sci. 2016;5(3)77-72.
 9. Jena M, Panda M, Patro N, Mishra S. Pattern of utilization of corticosteroids in department of dermatology at a tertiary care teaching hospital. J Chem Pharm Res. 2014;6(8):86-91.
 10. Bylappa BK, Patil RT, Pillai RT. Drug prescribing pattern of topical corticosteroids in dermatology unit of a tertiary-care hospital. Int J Med Sci Public Health. 2015;4(12)1702-1707.
 11. Javsén C, Suman RK, Patil VG, Deshmukh YA. To study prescription pattern of corticosteroids in skin OPD in tertiary care teaching hospital. Asian J Pharmacol Toxicol. 2014;2(4):23-6.
 12. Kumar AM, Noushad PP, Shailaja K, Jayasutha J, Ramasamy C. A study on drug prescribing pattern and use of corticosteroids in dermatological conditions at a tertiary care teaching hospital. Int J Pharm Sci Rev Res. 2011;9(2):132-5.



Cite this article : Rahul Sabbu, Minnu Shaji, Doddayya Hiremath
Study on prescribing pattern for topical corticosteroids in outpatient department of dermatology at a tertiary care teaching hospital
Asian J. Pharm. Hea. Sci.. 2021;11(2):2457-2461. DOI : 10.5530/ajphs.2021.11.7