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Pattern of Drug Utilization among the Out-Patients of Dermatology Department at a Tertiary Care Hospital

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ABSTRACT

Aim: To evaluate the epidemiology of skin diseases and drug utilization pattern in dermatology out-patient department of a tertiary care hospital.

Materials and Methods: This study was designed to be a prospective observational study and patients of all age groups and both the genders were included. Pregnant and lactating women, patients suffering from chronic & genetic conditions, and in-patients were excluded from the study. Specially designed patient data collection form which contains patient demographics, diagnosis and treatment chart was used to obtain all the required information for the study.

Results: In this study, a total of 300 study participants were observed with various dermatological conditions. Among them, 64 (21.3%) were found to be males and 236 (78.7%) were found to be females. Among the 300 study participants, most of the patients were observed in the age group 21-30 years (23.7%) followed by the age group 31-40 years (19.7%). In this study, most of the patients were diagnosed with fungal infections (31%) followed by eczematous diseases (67%) and parasitic infections (15.3%). Antihistamines (30.9%) were observed to be the most commonly prescribed drug classes followed by antifungals (24.3%). Among the antihistamines, cetrizine (75%) was the most commonly prescribed drug and in case of anti fungals, oral fluconozole (43%) & clotrimazole ointment (35%) were the most commonly prescribed drugs.

Conclusion: In this study, most of the patients were diagnosed with fungal infections followed by eczematous diseases and parasitic infections. Antihistamines were observed to be the most commonly prescribed drug classes followed by antifungals. Among the antihistamines, cetrizine was the most commonly prescribed drug and in case of anti fungals, oral fluconozole and clotrimazole ointment were the most commonly prescribed drugs. Patients must be educated properly in the aspect of dermatological complications and also regarding the pharmacological management for better prognosis by the health care professionals.

Introduction

Skin diseases are the most common health problems in humans and have significant impact on quality of life, productivity & mental health of individual and the family [1,2]. Physical appearance of skin influences nearly every aspect of life [3]. All age groups from neonates to the elderly are affected by skin diseases. Skin is exposed to injury by various intrinsic factors like metabolic, genetic & immunological and extrinsic factors such as environmental, chemical & infectious agents [4,5].

The pattern of skin diseases varies from one country to another and across different parts within the same country. The prevalence of skin disease in the general population varies from 11.16% to 63% as seen in various studies [6]. Epidemiological information is used to plan and evaluate strategies to prevent illness and as a guide to the management of patients in whom disease has already developed [7]. It is clear that epidemiological study has an important clinical impact for it can be used to understand the pathogenesis of diseases, improve diagnostic accuracy, help the patient to reduce risk factors and the physician to choose the correct therapeutic approach [8].

Drugs play an important role in improving human health and promoting well-being. However, to produce the desired effect, they have to be safe, efficacious and have to be used rationally [9]. Drug utilization study is an important component of pharmacoepidemiology. World health organization defines drug utilization as "the marketing, distribution, prescribing and use of drug in society, with special emphasis on medical, economical and social consequences".

Appropriate drug utilization studies are needed for evaluating proper utilization of drugs for efficacy, safety, convenience and economic aspects [10]. Drug utilization studies helps in the

understanding of prescription pattern as well as the quality of prescription in terms of rationality, drug interactions and financial burden of disease. These studies have a favorable impact on improving the standards of treatment, identifying drug related problems and providing useful feedback to the clinicians [11]. Collection of data on the utilization of drugs at the hospital out-patient level has been shown to be an effective tool to constitute guidelines for improving drug utilization patterns. This has resulted in more effective and rational therapy [12].

Skin diseases in developing world are often transmissible and contagious but are readily treatable. Even where eradication is impossible, control measures may be important in reducing the burden of illness [13]. Ignorance on seriousness of the disease and improper medication worsens the health condition. Keeping all these facts into consideration, the present study was planned to evaluate epidemiology of skin diseases and drug utilization pattern in dermatology out-patient department of a tertiary care hospital.

Materials and Methods

This study was designed to be a prospective observational study which was conducted over a period of 6 months in dermatology out-patient department of Government General Hospital, Kakinada, Andhra Pradesh.

Patients of all age groups and genders, who had a history of skin diseases, were randomly enrolled in the study. Pregnant and lactating women, patients suffering from chronic and genetic conditions, and in-patients were excluded from the study.

Specially designed patient data collection form which contains patient demographics, diagnosis and treatment chart was used to obtain all the required information for the study.

Results and Discussion

In this study, a total of 300 study participants were observed with various dermatological conditions. Among them, 64 (21.3%) were found to be males and 236 (78.7%) were found to be females.

Table 1 represents the age wise categorization of the study participants. Among the 300 study participants, most of the patients were observed in the age group 21-30 years (23.7%) followed by the age group 31-40 years (19.7%).

Table 1: Age wise categorization of the study participants

Age (in years)	Male (%)	Female (%)	Total (%)
0-10	20 (31.3)	16 (6.8)	36 (12)
11-20	12 (18.7)	42 (17.8)	54 (18)
21-30	12 (18.7)	59 (25)	71 (23.7)
31-40	5 (7.8)	54 (22.9)	59 (19.7)
41-50	4 (6.3)	38 (16.1)	42 (14)
51-60	3 (4.7)	22 (9.3)	25 (8.3)
61-70	8 (12.5)	5 (2.1)	13 (4.3)
Total	**64 (100)**	**236 (100)**	**300 (100)**

Table 2 represents the disease wise categorization of the study participants. In this study, most of the patients were diagnosed with fungal infections (31%) followed by eczematous diseases (67%), parasitic infections (15.3%), papulosquamous diseases (6.7%), auto immune disorders (4.7%), bacterial infections (4%) and pigmentary disorders (4%).

Table 2: Disease wise distribution of the study participants

Disease category	No. of patients (%)
Bacterial infections	12 (4)
Fungal infections	93 (31)
Viral infections	1 (0.3)
Parasitic infections	46 (15.3)
Scaling diseases	2 (0.7)
Papulosquamous diseases	20 (6.7)
Eczematous diseases	67 (22.3)
Pigmentary disorders	12 (4)
Photodermatoses	12 (4)
Autoimmune disorders	14 (4.7)
Scalp disorder	5 (1.7)
Sebaceous gland disorder	9 (3)
Metabolic disorder	1 (0.3)
Others	6 (2)
Total	**300 (100)**

Table 3 represents the fungal infections observed among the study participants. Among the 93 fungal infection cases, most of the patients were dioagnosed with Tinea Corporis (68.8%) followed by Tinea Capitis (6.5%).

Table 3: Fungal infections observed among the study participants

Name of infection	Total (%)
Tinea corporis	64 (68.8)
Tinea capitis	6 (6.5)
Tinea cruris	1 (1.1)
Tinea unguium	5 (5.4)
Tinea incognito	1 (1.1)
Tinea faciei	3 (3.2)
Pityriasis versicolor	7 (7.5)
Pityrosporum folliculitis	1 (1.1)
Candidiasis	3 (3.2)
Intertrigo	2 (2.1)
Total	**93 (100)**

Table 4 represents the eczematous disease observed among the study participants. Majority of the study participants were diagnosed with contact dermatitis (23.8%) followed by lichen simplex chronicus (22.3%).

Table 4: Eczematous diseases observed among the study participants

Name of disease	Total (%)
Eczema	6 (9)
Contact dermatitis	16 (23.8)
Seborrheic dermatitis	2 (3)
Atopic dermatitis	8 (11.9)
Nummular eczema	1 (1.5)
Lichen simplex chronicus	15 (22.3)
Pruritus	5 (7.5)
Senile pruritus	4 (6)
Prurigo	1 (1.5)
Prurigo nodularis	4 (6)
Prurigo simplex	1 (1.5)
Fissure feet	3 (4.5)
Pityriasis alba	1 (1.5)
Total	**67** (100)

Table 5 represents the parasitic infections observed among the study participants. Scabies (97.8%) was the most commonly observed parasitic infection in this study.

Table 5: Parasitic infections observed among the study participants

Name of infection	Total (%)
Scabies	45 (97.8)
Pediculosis	1 (2.2)
Total	**46 (100)**

Table 6 represents the papulosquamous diseases observed among the study participants. Psoriasis (45%) was the most commonly observed papulosquamous disease in this study.

Table 6: Papulosquamous diseases observed among the study participants

Name of the disease	Total (%)
Psoriasis	9 (45)
Palmoplantar psoriasis	6 (30)
Pityriasis rosea	1 (5)
Lichen planus	4 (20)
Total	**20 (100)**

Table 7 represents the auto immune disorder observed among the study participants. Urticaria (78.6%) was the most commonly observed autoimmune disorder followed by alopecia areata (14.3%).

Table 7: Autoimmune disorders observed among the study participants

Name of disorder	Total (%)
Urticaria	11 (78.6)
Alopecia Areata	2 (14.3)
Vasculitis	1 (7.1)
Total	**14 (100)**

Table 8 represents the bacterial infections observed among the study participants. Paronychia (33.3%) was the most commonly observed bacterial infection followed by folliculitis (25%).

Table 8: Bacterial infections observed among the study participants

Name of infection	Total (%)
Folliculitis	3 (25)
Impetigo	2 (16.7)
Bullous impetigo	2 (16.7)
Furuncle	1 (8.3)
Paronychia	4 (33.3)
Total	**12 (100)**

Table 9 represents the pigmentary infections observed among the study participants. Vitiligo (41.7%) was the most commonly observed pigmentary disorder followed by melasma (25%).

Table 9: Pigmentary disorders infections observed among the study participants

Name of disorder	Total (%)
Vitiligo	5 (41.7)
Melasma	3 (25)
Acanthosis Nigricans	2 (16.7)
Idiopathic Guttate Hypomelanosis	1 (8.3)
Post Inflammatory Hyperpigmentation	1 (8.3)
Total	**12 (100)**

Table 10 represents the various drug classes prescribed among the study participants. A total of 881 drugs were prescribed with different drug classes. Among them, 369 (41.9%) were found to be with topical dosage forms where as the remaining 512 (58.1%) were found to be with oral dosage forms. Antihistamines (30.9%) were observed to be the most commonly prescribed drug classes followed by antifungals (24.3%). Among the antihistamines, cetrizine (75%) was the most commonly prescribed drug and in case of anti fungals, oral fluconozole (43%) and clotrimazole ointment (35%) were the most commonly prescribed drugs.

Table 10: Various drug classes prescribed among the study participants

Drug class	Topical (%)	Oral (%)	Total (%)
Antifungal	119 (32.3)	95 (18.5)	214 (24.3)
Antibiotic	47 (12.7)	56 (10.9)	103 (11.7)
Antihistamines	0 (0)	272 (53.1)	272 (30.9)
Nutrirional supplements	0 (0)	71 (13.9)	71 (8.1)
Antiviral	0 (0)	1 (0.2)	1 (0.1)
Emollient	44 (11.9)	0 (0)	44 (5)
Anti-inflammatory	96 (26)	4 (0.8)	100 (11.4)
Proton pump inhibitor	0 (0)	10 (2)	10 (1.1)
Scabicide	48 (13)	0 (0)	48 (5.4)
Antihelminthic	0 (0)	1 (0.2)	1 (0.1)
Antimetabolite	0 (0)	2 (0.4)	2 (0.2)
Sunscreen	7 (1.9)	0 (0)	7 (0.8)
Keratoplastic and keratolytic agent	1 (0.3)	0 (0)	1 (0.1)
Others	7 (1.9)	0 (0)	7 (0.8)
Total	**369 (100)**	**512 (100)**	**881 (100)**

Conclusion

In this study, most of the patients were diagnosed with fungal infections followed by eczematous diseases and parasitic infections. Antihistamines were observed to be the most commonly prescribed drug classes followed by antifungals. Among the antihistamines, cetrizine was the most commonly prescribed drug and in case of anti fungals, oral fluconozole and clotrimazole ointment were the most commonly prescribed drugs. Patients must be educated properly in the aspect of dermatological complications and also regarding the pharmacological management for better prognosis by the health care professionals.

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