A Study On Drug Utilisation Pattern In Dermatology Opd With Cost Analysis In A Teaching Hospital, Chennai

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ABSTRACT:
Skin is the part of integumentary system (The integumentary system is an organ system consisting of the skin, hair, nails, and exocrine glands. The skin is merely a couple of millimeters thick yet is far and away the most important organ within the body. The retrospective analysis of dermatology OPD record of 6 months (1st February 2020 to 31st July 2020) was carried out during the study period. The proforma for collecting data was designed. Demographic details , diagnosis and Given for each patients were recorded. The data collected was condensed, and the most chart was prepared for Data analysis.During the study period,a total of 400 patients case records were studied and analysed. Out of 400 patients, 276 patients were male, and 124 patients were female. A maximum number of patients in the age group 31 to 40 years (96), followed by (152) Of patients in the age group 21 to 30 years.The average cost per prescription was 140.5. the average hospital pharmacy cost per prescription was 35.6. the average outside pharmacy cost per prescription was 130.2.To conclude the prescription should be rational and hospital guidelines should be followed in consideration of patient's financial status.

1. INTRODUCTION:

Skin is the part of integumentary system (The integumentary system is an organ system consisting of the skin, hair, nails, and exocrine glands. The skin is merely a couple of millimeters thick yet is far and away the most important organ within the body. The average person's skin weighs 10 pounds and has a surface area of almost 20 square feet), that constitutes the largest organ of human body and , it is exposed to injury by various external factors such as environmental, chemical, infectious agents as well as internal factors such as metabolic, genetic and immunity(1) . The skin disorders have serious harm effects on quality of life of the general population by increasing the sufferings in terms of physical, social , psychological as well as it increases money burden of most of the skin diseases are chronic and requires longer duration of time (2). The skin disorders a part 2% of total OPD consultations worldwide (3). The skin disorders in India are common and include pyoderma, psoriasis,acne, urticaria,

dermatitis, alopecia,scabies fungal skin infections etc,(4). Prescribing of drugs is an important skill , which needs to be continuously estimate and refined. It shows the doctor's skill in diagnosis and attitude towards selecting the most appropriate cost effective treatment (5). The rationale use of drugs requires the prescription of well documented drug at an optimal dose, together with the Correct in formation at an affordable cost (6). Various combinational drug generally used in the treatment of skin diseases like antibiotics, antifungal, steroids, salicylic acid, antihistaminic , vitamins & minerals (7).

There are 3 types of core drug use indicators prescribing indicators, patient care and facility indicators. We used only prescribing indicators for this study.
1.Average number of drugs per prescription
2.Drugs prescribed by generic name and it's percentage
3.Prescription with an antibiotic prescribed and it's percentage
4.Prescription with an injection prescribed and it's percentage
5.Drugs prescribed from an essential drug list and it's percentage(8).

Prescription order is an significant document between the physician and the patient. It is an order for a scientific medication for an individual at a specific time. It brings into focus the diagnostic acumen and therapeutic proficiency of the physician with instructions for restoration of the patient's health (9). Medication problem is tragic and costly for patients and professionals alike(10). Rational use of drug is defined by the WHO as "patients receive medicines appropriate to their clinical needs in doses that meet individual requirements for an adequate period of their own time, at the lowest cost to them and their community"(11). The successful outcome of therapy would depend on the choice of the proper use of drugs, which represents the important aspect of prescription (12). The next is the choice of a regimen such as what dose and duration are needed and route of administration. The monitoring efficacy, adherence to local guidelines and policies (13). The treatment of diseases by the use of essential drugs, prescribed by their generic names, has been emphasized by the WHO and the National Health Policy.(14).WHO highlights two associated problems regarding the drug situation in the developing world: one out of three people living in the developing world are in need of essential drugs although there are concurrent higher rates of inappropriate drug-use and drug resistance.(15).The WHO also estimates that 50 percent of all medicines are inappropriately prescribed, dispensed, or sold(16). It is estimated that third world countries spend 30-40% of their total health budget on drugs some of which are useless and expensive and doubles their expenditure on drugs. This expenditure can be minimized by prescribing drugs by generic name and selection of drugs from essential drug list(17).
In recent years, economic evaluation has become an integral part of health service research and soon it will become more influential. Four main analyses exist for full economic evaluation:
1.*Cost – Minimization*
2. *Cost – Effectiveness*
3.*Cost – Utility*
4.*Cost – Benefit (18)*
Cost-minimization analysis (CMA) is the simplest method from the 4 evaluation methods. It should be performed and is acceptable when two interventions are shown to supply an equivalent , or similar, effects. If two therapies are considered clinically equivalent, then only the costs of the interventions need to be considered(19).
It has been estimated that fifty or more medicine expenditure is being wasted through irrational prescribing, dispensing and patient use of drugs . Irrational polypharmacy paves path for adverse drug reactions (ADRs), which is reported to be as high as 28%. Studies were done in different areas of the world reveal different drug use patterns. Irrational overuse of medicines

can stimulate inappropriate patient demand and cause reduced access and attendance rates thanks to medicine stock outs and loss of patient confidence in health(20).

The study of prescribing pattern and price analysis may be a component of medical audit which seeks monitoring, economic evaluation and necessary modifications within the prescribing practices of the prescribers to achieve rational and price effective medical aid which can be beneficial to patients. The ultimate goal of the dermatological prescription analysis will be a message to the prescriber to achieve rational medical care(21).

2. MATERIALS AND METHODOLOGY:

Study design: It was a descriptive, cross- sectional, retrospective observational study.
Study period: The study was conducted during the period of 1ˢᵗ August 2020 to 31ˢᵗ October 2020.
Study place: Study was conducted in the dermatology department of Saveetha medical college , Chennai
Ethical approval: The study was conducted after obtaining the permission of the Institutional Ethics Committee and permission also taken from the department of dermatology.
Inclusion Criteria: OPD record of the patients who visited dermatology OPD between the period 1ˢᵗ February 2020 to 31ˢᵗ July 2020 were analysed during the study period (1ˢᵗ August 2020 to 31ˢᵗ October 2020).
Exclusion Criteria: Incomplete data entry records were excluded from the study.
METHODOLOGY:
The retrospective analysis of dermatology OPD record of 6 months (1ˢᵗ February 2020 to 31ˢᵗ July 2020) was carried out during the study period. The proforma for collecting data was designed. Demographic details , diagnosis and Given for each patients were recorded. The data collected was condensed, and the most chart was prepared for Data analysis.
STATISTICAL ANALYSIS:
The overall information generated was entered in Microsoft Excel sheet, and results were expressed in the form of a percentage.

3. RESULTS

During the study period,a total of 400 patients case records were studied and analysed. Out of 400 patients, 276 patients were male, and 124 patients were female. A maximum number of patients in the age group 31 to 40 years (96), followed by (152) Of patients in the age group 21 to 30 years.Several drugs prescribed per patient were varied in between 1 to 6. The average number of drugs per prescription was found to be 2.025.
Levocetirizine (74.07%) were the most commonly prescribed antihistamines. Itraconazole (58.17%) were the most commonly used antifungal drugs. Miconazole (69%) were the most commonly used topical antifungal drug, followed by ketaconazole (10%) . Among steroids betamethasone (58%),Prednisone (30%) were the most commonly used steroids by oral route while clobetasol were the most commonly used steroids by topical route. Clindamycin were the most commonly used drug for acne, followed by adapalene. Our study revealed that percentage of drugs prescribed from the WHO essential drug list was only 13%.Drugs which prescribed by the generic name was 82%.

Table:1

S.No.	Indicators	pre-intervention	post-intervention
1	Average number of drugs per prescription	1.98	2.025
2	Percentage of drugs prescribed by generic name	78	82
3	Percentage of prescriptions with an antibiotics prescribed	50	40
4	Percentage of prescriptions with an injections prescribed	3.27	2.78
5	Percentage of drugs prescribed from essential drug list(EDL)	14	16

Table:2

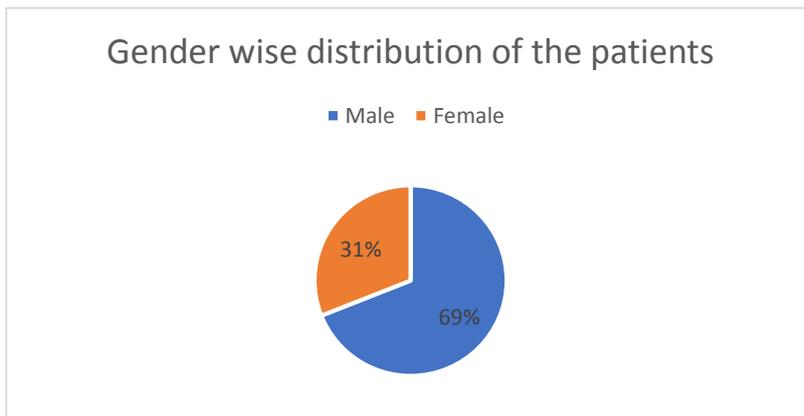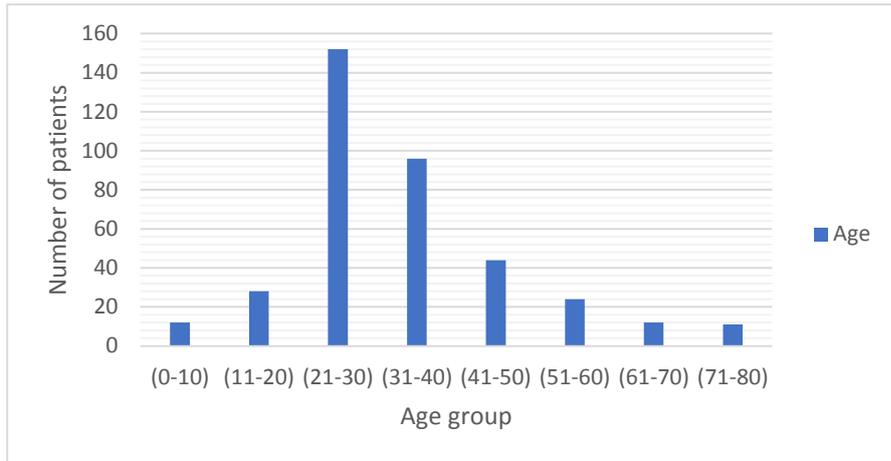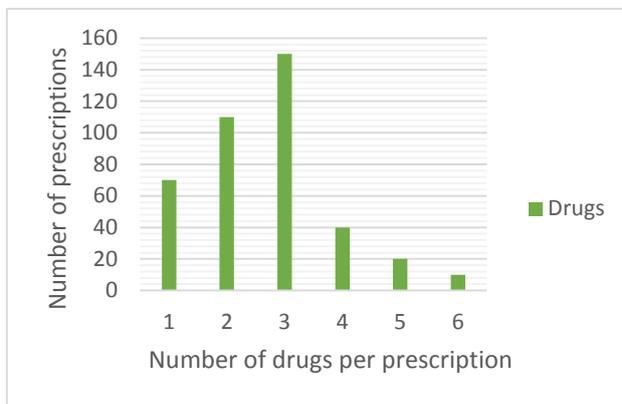| S.No.	Parameter	Cost in INR
1.	Average total cost per prescription	140.5
2.	Average hospital pharmacy cost per prescription	35.6
3.	Average outside pharmacy cost per prescription	130.2

Fig:1

Gender wise distribution of the patients

■ Male ■ Female

31%
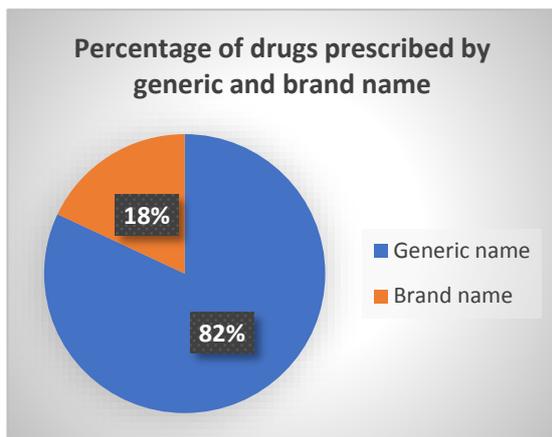69%

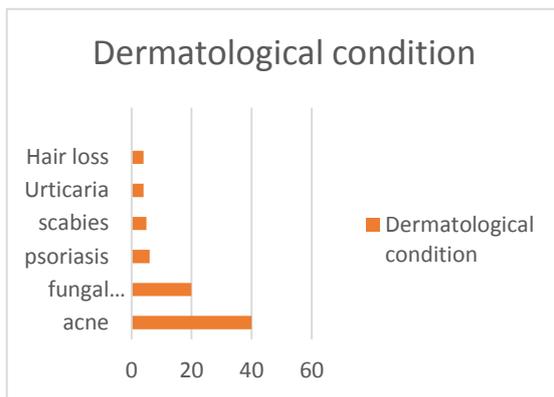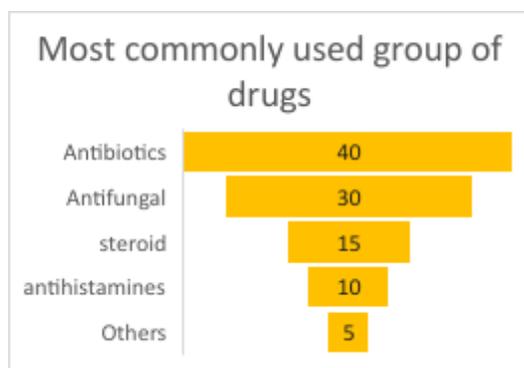**Fig:2**

Fig:3

Fig:4

Fig:5

Fig:6

4. DISCUSSION:

A prescription by a doctor may be taken as an indication of the doctors attitude towards the disease and the role of drugs in its treatment. Prescription is a written instruction given by a qualified medical practitioner with the intent to provide medicine or treatment for the benefit of the patient. Thus, the prescription in other words reflects the doctor knowledge and his attitude to treat the patient with due consideration of the patient's condition physically as well as financially(22).Thus, aim of the study was to help the dermatology prescriber in achieving rational and affordable treatment to their patients in terms of cost. This will also help in the mission of providing "Health care to all"(23).

In this study, the most common diagnosis was acne 40%. The most common drug prescribed was antibiotics.The average number of drugs per prescription was 1.38.

In our study we found acne and fungal infections are common disorders. The factors responsible for the above finding can be the humid environmental condition, overcrowding, poor hygiene and lack of water. These diseases can be predictors of the morbidity condition of that region.

Antibiotics were the most frequently prescribed drug followed by antifungal and steroids. The antibiotics which were prescribed for the most of acne, cellulitis and pyoderma. The antifungals which were prescribed for the most of athelete foot,jock itch, ring worm and yeast infection. The steroids are used for the topical purposes like psoriasis, lichen planus, eczema. The antihistamines are used for allergic reactions. Others treatments used are Injections, cryotherapy.

Clindamycin,erythromycin, tetracycline were the most common drugs used for antibiotics. Clotrimazole, itraconazole, ketaconazole were the most common drug used for antifungals. Clobetasol, betamethasone was the most common drug used for steroids. Levocetirizine, hydroxyzine was the most common drug used for antihistamines. Permethrin cream used for the scabies. Others, adrenaline injection used for urticaria.

The average cost per prescription was 140.5. the average hospital pharmacy cost per prescription was 35.6. the average outside pharmacy cost per prescription was 130.2.

The limitation of our study was that it was one time cross sectional and while calculating cost of treatment, we did not measure the actual direct costs and indirect costs. Direct costs involve cost of the drugs, cost of travelling, taking time off from work. Among the direct costs, hospital and outpatient expenses form the bulk.

5. CONCLUSION:

To conclude the prescription should be rational and hospital guidelines should be followed in consideration of patient's financial status. The prescription audit can be an eyeopener for the prescribers. There is dire need for physicians training with regards to rational use of drugs and pharmacoeconomics. The hospital administration can look into issues in the hospital by continuous monitoring the prescriptions and hence make the essential drugs available. The actual direct costs and indirect costs were not studied, which is the limitation of this study.

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