Research Article

Prescription Pattern for Dermatological Conditions among Specialists and General Practitioner

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ABSTRACT

Dermatological conditions are not always treated by a dermatologist; physicians from other specialists and fields are also involved. Knowing the prescription patterns can help in understanding the gap in treatment. The aim is to study the prescribing patterns and errors for dermatological conditions by physicians specialized in dermatology and others in ten pharmacies located in the Chennai city. A descriptive cross-sectional study conducted for a month from February – March 2013, analysing 972 prescriptions from ten pharmacies in an urban locality. Nearly 75% of the prescriptions contain more than three drugs. About 95% specialist prescriptions had diagnosis, while only 46% non-specialist prescriptions had diagnosis. There is severe lack in prescription completeness, almost all prescriptions lacked strength, quantity, direction of use, frequency, site of one or the other drugs. Steroid treatment forms the basis of therapy in 30% prescriptions. Very potent steroids were most frequently prescribed by specialist. Lack of diagnosis in the prescription given by non-specialist obviously shows there inconclusiveness to come to a diagnosis. Continuous medical educations must be there to have thorough understanding in dermatology by physicians from other specialist, since they are more frequently encountering skin lesions. Also as any other prescription audit study indicates this study also shows the seriousness of polypharmacy and its impact.

Keywords: Prescription practice, Dermatology prescriptions, dermatology practice, steroids.

INTRODUCTION

Dermatological symptoms cause panic in an individual, either due to their irritable nature of their appearance or due to their irritability of the lesion per se. People usually don't hesitate to visit the physician for their skin lesions when compared with other symptoms because of the attention it causes in himself and his relatives. Not always everyone have their luxury of visiting the specialist and consult any general practitioner for their ailment.

Physicians have thousands of differential diagnosis in front of them for every skin lesion and it becomes a tough task for the family physician if not for the specialist to come to a conclusive diagnosis. If diagnosis of a skin lesion is hard it becomes even harder for having rational prescriptions.[1,2]

Many systemic illnesses shows classic dermatological sign warranting systemic therapy[3] but to satisfy the patient's belief it became a common practice to prescribe a topical based treatment, worsening the existing polypharmacy[4].

Polypharmacy increases unnecessary cost of drug prescriptions, which may pose a bigger problem in developing countries, which invest lesser GDP for health[5].

The purpose of the study is to monitor and analyse the pattern of prescription trends for dermatological conditions among specialists in dermatology and related field compared with the general practitioner in private walk in clinics in an urban area around a tertiary care teaching hospitals in Chennai, Tamil Nadu. Being an urban area, cosmetic consciousness is prevalent, so volume of patient attending the clinics will be high and the same causes increased pressure from the patient on physician for immediate cure leading to irrational prescriptions.

The significance of the current study is to understand the drug utilization to know the standards of medical treatment at all levels in the health care system among specialist and non-specialists. This study also helped us to identify the problems of polypharmacy, lack of referral, lack of diagnosis and irrational prescription of topical drugs.

MATERIALS AND METHODS

Initiation of this study is conducted only after obtaining prior permission from Institutional Ethics Committee. This study is a cross-sectional survey of all prescriptions received at ten pharmacies situated near the tertiary care hospital in Chennai.

These ten pharmacies were selected by random sampling from each ward using a random number table.

The study sample included outpatient prescriptions given for dermatological ailments over a period of February-March 2013. The doctors were unaware of that their prescriptions were being audited.

The pharmacist in each pharmacy have been informed and instructed and their complete cooperation is sought[6]. Photographic copies using the pharmacist smartphones

or photocopies of the original prescriptions were used for the analysis of basic drug use and of medication errors.

The pharmacists were instructed to ensure that if the patient has been prescribed drugs for a skin lesion and also asked to ensure the prescription containing physician's qualifications, patient's age and sex. Any prescription missing the details were omitted for analysis, also prescriptions on piece of paper not containing any information about the prescriber or the patients details are excluded from the study. For classifying errors a mechanism was devised by conducting a pilot study.

Drugs prescribed were recorded for information containing each for indications if provided, drug dose, frequency of administration, route, dosage form for which prescribed, and duration of therapy. These parameters were used to analyse the WHO core indicators for prescription patterns[7], namely,

- Average number of drugs per prescription.
- Percentage of drugs prescribed in a generic name
- Percentage of prescriptions with an antibiotic prescribed
- Percentage of prescriptions with an injection.
- Percentage of drugs from the essential drug list.

Apart from these details the demographic details of the prescriptions is also analysed. Finally all the prescriptions were divided between specialist and non-specialist to compare the difference in their prescribing pattern. Specialist is considered to be one holding a M.D, DNB, and/or Diploma in Dermatology and related speciality degree. The non-specialist here includes physician practicing Evidence Based Medicine (EBM); either an M.B.B.S., and/or with speciality in other fields or physician holding any one of the AYUSH degree.

RESULTS

Our study sample consisted of about 972 prescriptions which satisfied our eligibility criteria. Total of 3691 drugs were present in those prescriptions. The mean drugs per prescription were found to be 3.81 and the ranging from 1 to 7 drugs per prescription. For 972 prescriptions 281(28.91%) were from specialist in dermatology, 71.09% were from non-specialist out of which 618(63.58%) practice evidence based medicine and 73(7.51%) practice any one of the AYUSH medicine. In demographic analysis Table 2, nearly 84% men were visiting EBM and almost equal around 39% goes to specialist in dermatology and AYUSH. Invariably highest proportion of children around 33% frequented the specialists.

Regarding drug use indicators Table 1, prescriptions by AYUSH had the highest frequency of injections 100%; nearly 20% of prescriptions had more than 2 injections. Antibiotics were present in little over 50% of the prescriptions, Table 3. More than 70% of prescriptions by non-specialist are in generic names. All prescriptions are based on topical therapy by AYUSH physicians and less than 20% prescription had their diagnosis on prescription while more than 95% prescriptions given by specialists had a diagnosis.

Table 1: Indicators of drug use.

S. No	WHO Core Indicators & other drug use indicators	Results			
		Specialist	Non-Specialist		Total
			EBM	AYUSH	
1	Average number of drugs per prescription (Mean ±SD)	3.27	4.00	4.26	3.81
2	Percentage of prescriptions with an injection.	2.49% (7/281)	85.28% (527/618)	100% (73/73)	62.45% (607/972)
3	Percentage of prescriptions with an antibiotic prescribed	49.11% (138/281)	55.34% (342/618)	36.99% (27/73)	52.16% (507/972)
4	Percentage of drugs prescribed in a generic name	42.11% (387/919)	73.15% (1809/2473)	76.59% (229/299)	65.70% (2425/3691)
5	Percentage of drugs from the essential drug list.	60.94% (560/919)	43.91% (1086/2473)	63.55% (190/299)	49.74% (1836/3691)
6	Percentage of prescriptions with topical formulation	78.29% (220/281)	80.58% (498/618)	100% (73/73)	81.38% (791/972)
7	Percentage of prescriptions with diagnosis	95.73% (269/281)	50.16% (310/618)	19.18% (14/73)	61.01% (593/972)

Table 2: Demographic analysis of prescriptions

Types of physician		Male	Female	Children
Specialists		61.57% (173/281)	38.43% (108/281)	33.10% (93/281)
Non-Specialists	EBM	83.66% (517/618)	16.34% (101/618)	18.28% (113/618)
	AYUSH	60.27% (44/73)	39.73% (29/73)	2.74% (2/73)

Table 3: Category of drugs in prescriptions.

Drug Category	Specialist	Non-Specialists		Total
		EBM	AYUSH	
Antifungals	15.02%	12.41%	3.01%	12.38%
Anti-allergics	12.95%	18.88%	30.40%	17.53%
Antibiotics	3.92%	4.41%	3.02%	4.33%
Steroids	29.16%	29.92%	40.47%	30.59%
Scabicides	8.49%	4.97%	0.33%	5.47%
Analgesics	3.92%	7.72%	1.00%	6.23%
Antacids	3.81%	3.56%	1.34%	3.52%
Vitamins & Minerals	0.54%	16.54%	15.40%	12.87%
Anti-dandruff preparations	7.62%	1.29%	0.67%	2.82%
Others/Traditional preparations	14.58%	0.28%	4.35%	4.25%

DISCUSSION

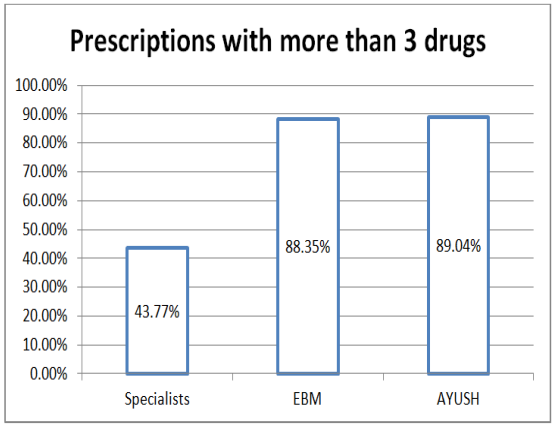

Figure 1

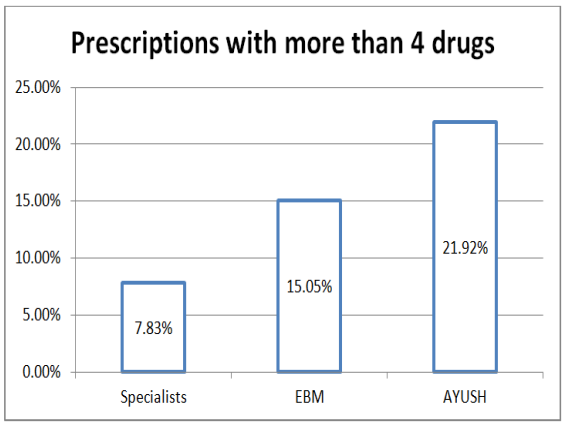

Figure 2

There are quite a number of studies providing the prescription pattern for different kind of symptoms[8] but comparing the prescription pattern of specialists and non-specialists in dermatological practice was lacking. Our study once again highlights the irrational prescription in a developing country. This irrational prescription causes severe economic burden, apart from the drug related burden.

We found the problem of polypharmacy is more evident. Average number of drugs prescribed by specialist is 3.27 and more than 4 for non-specialist. This was slightly higher than a study conducted in a tertiary hospital in Delhi, India ten years ago[9]. As seen in Figure 1 and Figure 2 only 40% of prescription contains more than 3 drugs given by specialist compared to nearly 90% of prescriptions by non-specialist. This suggest that it may be a lack in knowledge about the field is translated to prescriptions or may be the general practitioners prescribing other drugs for some other ailments. This assessment is lacking in our current study.

All prescriptions from AYUSH physicians contains an injection, followed by 85% of EBM physician; almost 98% of injections contained antihistaminic or steroid. But only 2.5% of the prescriptions had injections given by specialists. This may suggest that lack of conclusive diagnosis by non-specialist. Only 52% of antibiotics/antifungals were present, of which the prescription by AYUSH physician is less compared with specialist and EBM practicing non-specialist. This is clearly

different from other similar studies which show higher percentage of antibiotics[10-12].

Specialists are trending away in prescribing generic names while non-specialists prescribed quite high amount of drugs in generics. This would be due to lack of exposure to dermatological proprietary names. More fixed dose combination drugs were prescribed by physicians practicing EBM than others. This suggests unnecessary multidrug therapy for all the differential diagnosis of the presenting symptoms. 100% topical therapy can be seen in AYUSH physicians while others nearing 80%; this result may be due to physicians feeding the patients belief, that skin disease must be cured with skin cream.

95% of prescriptions given by specialists had a diagnosis in them, suggesting there confidence in providing a diagnosis. While only 50% of EBM non-specialist and 20% AYUSH physician provided a diagnosis. This is in contrary to a study conducted in a homeopathy hospital in West Bengal, India[13]. This may point out the knowledge in the dermatological field or this may also be due to improper prescription writing.

Children with skin lesions are preferred to a specialist as evident from 33% attending them[14]. Also women prefer specialist or a traditional therapy for their cosmetic trouble. It can also be seen that only 12% of prescriptions had a referral to a dermatologists, while the evidence from the pattern of prescriptions suggest a need of increased reference.

For every form of practice steroid forms the main stay of treatment with 30% drugs prescribed were steroids. But high potency steroids were most frequently prescribed by specialist rather than others. This is similar to one study conducted in Ambajogai, Maharashtra, India[11]. Steroids, antifungals and anti-allergics were the main stay of treatment for specialist, while steroids, anti-allergics and vitamins and minerals were the main component of therapy for non-specialists.

Our analyses through the prescription show a trend in prescribing increased number of steroids which should be limited when possible. Apart from the systemic toxicity of suppression of hypothalamic-adrenal axis, it has various local toxicity. Sizeable prescriptions of steroid had no dosage, frequency of application, directions of applications etc. This was more common in prescriptions of non-specialists. Suggestions of simple techniques like fingertip unit for both ends of the table will provide the understanding of amount to be used[15].

Since major dermatological lesions are dealt by the non-specialist, it is high time that proper knowledge of common skin lesions must be obtained. This can be done through continuing medical education programmes dealing with short problem based training on pharmacotherapy[16] and more focused workshops on rational drug use[17]. If moral and ethical responsibility is given priority in treating patients, there would be no irrational prescriptions; which avoids polypharmacy and related drug interactions causing drug induced skin lesion, keeping the patient in vicious cycle.

Understanding the importance of essential medicines for the benefit of patient's personal and social economics is needed. Establishing the social and economic implications of the prescription patterns to the community will shed light in understanding the gap to be filled in this field.

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