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Evaluation of Prescribing Pattern in Outpatient's at Secondary Level Government Hospitals in Tamilnadu

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ABSTRACT

This study was conducted to Asses the prescribing pattern in representative sample of 24 secondary level government hospitals in Tamilnadu. A copy of the prescription was obtained with the help of a pre-inserted carbon, in a special format. Data for only 'first encounter prescriptions' was collected for all patients attending the Outpatient Department (OPD). A total of prescription has been collected. About 68 percent of the prescriptions contained only one diagnosis. The average number of drugs per prescription was 4. About 80 percent of the drugs were prescribed by generic names and about 53 percent of the prescribed drugs were in combination. About 12 percent of the prescriptions contained at least one injection, while 56 percent contained at least one antibiotic. In 16 percent of the prescriptions a vitamin or tonic was prescribed. About 46 percent of the single ingredient formulations were as per the WHO 2003, Essential Medicines List (EML). Based on the findings of the Prescription Audit an EML was prepared for each category of the secondary level hospitals, for use in the OPD. Prescription audits are useful in generating data on morbidity, which forms the basis for preparing the list of essential medicines. Mechanisms necessary for improving Prescription practices are suggested.

Keywords: Essential Medicines, International Classification of Diseases, Morbidity Pattern, prescription audit, secondary level hospitals.

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INTRODUCTION

Improvement in the prescribing practices of doctors working in the project hospitals is one of the initiatives taken up, to improve the quality of care. A prescription audit was considered appropriate to improve the usage of drugs by the doctors working in government hospital in Tamilnadu. The World Health Organization (WHO) proposed core prescribing indicators[1] for prescription audit and drug utilization studies [2]. The focus of Indian studies has mainly been on the WHO core-prescribing indicators such as the range and number of drugs per prescription. Another study reported that half of the patients received more than one antibiotic. Chemist- and hospital pharmacy–based studies reported that polypharmacy was the norm and about 75 percent of the prescriptions contained Fixed Dose Combinations (FDCs). An analysis of prescriptions for diarrhea also revealed that about 60 percent contained FDCs. Another study of 292 prescriptions for diarrhea reported use of 63 different drugs [3]. The prescription audit studies have been conducted in diverse settings like outpatients and inpatients in hospitals, hospital pharmacy, retail medical stores in the community, percent contained two diagnoses, the remaining five percent contained three diagnoses. A prescription audit was conducted in outpatient's department at 24 secondary level government hospitals in Tamilnadu. To explore current prescribing pattern in the OPDs, detect the frequently prescribed drugs to treat the patients attending the OPDs. To analyze the prescription of drugs and prepare an essential medicines list (EML) for the four categories of project hospitals, for OPD use. To articulate measures to improve prescription practices of the doctors working in the project hospitals.

MATERIALS AND METHOD

The study was conducted on period of July to Aug 2011 at 24 secondary level Tamilnadu government hospitals. The prospective methodology has been used for the present study.

- The form designed was quite similar to the regular OPD chit used in govt hospitals. The forms were printed in duplicate with pre-inserted carbon.
- The form was given only to the 'new cases,'
- The hospital physicians were asked to use the specially designed forms in place of the regular OPD papers, till the supply was exhausted with doctor details.
- The filled in forms were collected from the participating doctors and analyzed.
- The diagnoses in the filled-in prescription forms were coded using International Classification of Diseases — 10 (ICD 10).[3] The Anatomical Therapeutic Chemical (ATC) Classification,[4] developed by the World Health Organization, was used for coding the drugs.

RESULTS AND DISCUSSION

Table 1: Morbidity Pattern — by hospital category

Diagnosis Name	Hospitals category				
	HMC	DHH	SDH 50	PHC	Total
Diseases of the respiratory system	451	268	203	68	**990**
Certain infectious and parasitic diseases	223	104	78	22	**427**
Diseases of the skin and subcutaneous tissue	362	155	82	68	**667**
Diseases of the digestive system	892	653	186	98	**1829**
Diseases of the ear and mastoid process	108	97	60	62	**327**
Diseases of the nervous system	203	32	21	08	**264**
Pregnancy, childbirth and the puerperium	38	26	80	102	**246**
Total	**2277**	**1335**	**170**	**428**	**4750**

1829 cases were reported in digestive system diseases from that 892 were reported at Hospital with Medical College, followed by 990 cases were reported in Respiratory tract diseases from that 451 were reported at Hospital with Medical College, only 8 cases were reported in nervous system diseases at Primary Health Centre.

HMC – Hospital with Medical College, DHH – District Head Hospital, SDH – Sub District Hospital, PHC – Primary Health Centre

Frequently Prescribed Drugs

Table 2 show the drugs usage in the Tamilnadu Hospital, the most wildly used drugs are ulcer Drugs (82%), Anti-inflammatory & Antipyretics Drugs (69%), and 59% of antibiotic are mostly used in various types of Diseases which we collected in the Tamilnadu Hospital level.

Follow-up Advice

Follow-up advice facilitated continuation of treatment and making any changes in the treatment wherever necessary. Advice on follow-up was mentioned only in about 21 percent of the cases. A period of three days was the most frequently prescribed follow-up duration (53 percent), followed by five days (18 percent).

Referral

A referral was indicated in only 7 percent of the cases. The proportion of referrals was relatively more at higher-level institutions (HMC and DHH) compared to lower level facilities (SDH50 and PHC). Referrals to four specialties namely surgery, physician, orthopedics, and ophthalmic accounted for about 42 percent. A few referrals were also to the lower level institutions, for the purpose of continuation of treatment in diseases like TB and Leprosy. Sample Size and Distribution The study included 24 hospitals, covering all eight administrative regions of the

state and all categories of Tamilnadu hospitals. The number of forms given to each category of hospitals is shown below.

HMC - 3

DHH - 5

SDH50 - 4

PHC - 12

Out of the 5023 filled-in forms collected, only 4750 filled-in prescriptions could be used for analysis. The data was collected during July and August, 2011.

Table 2: EML for OPD Use (Core List) — by hospital category

Drugs	HMC	DHH	SDH 50	PHC
Acetazolamide eye	Y	Y	Y	N
Acetyl salicylic acid (Aspirin)	Y	Y	Y	Y
Al. Hydroxide + Mg. Trisilicate	Y	Y	Y	N
Albendazole	Y	Y	Y	Y
Alprazolam	Y	Y	Y	Y
Aminophylline	Y	Y	Y	Y
Amitryptylline	Y	Y	Y	N
Amoxicillin	Y	Y	Y	Y
Ampicillin	Y	Y	Y	N
Amlodipine	Y	Y	Y	Y
Atenolol	Y	Y	Y	Y
Benzyl penicillin	Y	Y	N	N
Bisacodyl	Y	Y	Y	Y
Calcium lactate / other calcium salts	Y	Y	Y	Y
Carbamazepine	Y	Y	Y	N
Chloramphenicol	Y	Y	Y	Y
Chloramphenicol eye ear /drops	Y	Y	Y	Y
Chlordiazepoxide	Y	N	N	N
Chloroquine phosphate	Y	Y	Y	Y
Chlorpheneramine Maleate	Y	Y	Y	Y
Chlorpromazine	Y	Y	N	N
Cotrimazole	Y	Y	Y	Y
Dexamethasone	Y	Y	Y	Y
Diazepam	Y	Y	Y	N
Diclofenac	Y	Y	Y	Y
Dicyclomin	Y	Y	Y	Y
Diethyl carbamazine citrate	Y	Y	Y	N
Digoxin	Y	Y	Y	Y
Domperidone	Y	Y	Y	Y
Doxycycline	Y	Y	Y	Y
Enalapril	Y	Y	Y	Y
DRUGS	**HMC**	**DHH**	**SDH 50**	**PHC**
Erythromycin	Y	Y	Y	Y

Etophylline + Theophylline	Y	Y	Y	Y
Ferrous Sulfate / other iron Salt	Y	Y	Y	Y
Fluconazole	Y	Y	Y	N
Frusemide (Furosemide)	Y	Y	Y	Y
Gentamycin	Y	Y	Y	Y
Glibenclamide	Y	Y	Y	N
Haloperidol	Y	Y	N	N
Hydrogen Peroxide	Y	Y	Y	Y
Ibuprofen	Y	Y	Y	Y
Imipramine	Y	Y	N	N
Iodine	Y	Y	Y	Y
Iron + Folic acid	Y	Y	Y	Y
Isosorbide dinitrate	Y	Y	Y	Y
Isosorbide mononitrate	Y	Y	Y	N
Liquid paraffin	Y	Y	Y	Y
Metformin	Y	Y	Y	Y
Metoclopramide	Y	Y	Y	Y
Metronidazole	Y	Y	Y	Y
Multivitamin	Y	Y	Y	Y
Omeprazole	Y	Y	Y	Y
Paracetamol	Y	Y	Y	Y
Pentazocine	Y	Y	N	N
Phenobarbitone	Y	Y	Y	N
Prednisolone	Y	Y	Y	Y
Primaquine	Y	Y	Y	Y
Promethazine	Y	Y	N	N
Quinine sulphate	Y	Y	Y	N
Sodium valproate	Y	Y	Y	Y
Spirinolactone	Y	N	N	N
Salbutamol	Y	Y	Y	Y
Suplfamethoxazole + Trimethoprim	Y	Y	Y	N
Tertracycline	Y	Y	Y	N
Tetanus Toxoid	Y	Y	Y	Y

The flow chat shows the x-axis Type of Hospitals In Tamilnadu, y-axis The Prescription Collected From the Hospitals & the parameter show the Disease level. According to this Evaluation the Respiratory Disease Higher Level than the other Disease Collected for the Evaluation. Prescription pattern evaluation is help to improve prescribing practice in government hospitals Tamilnadu.

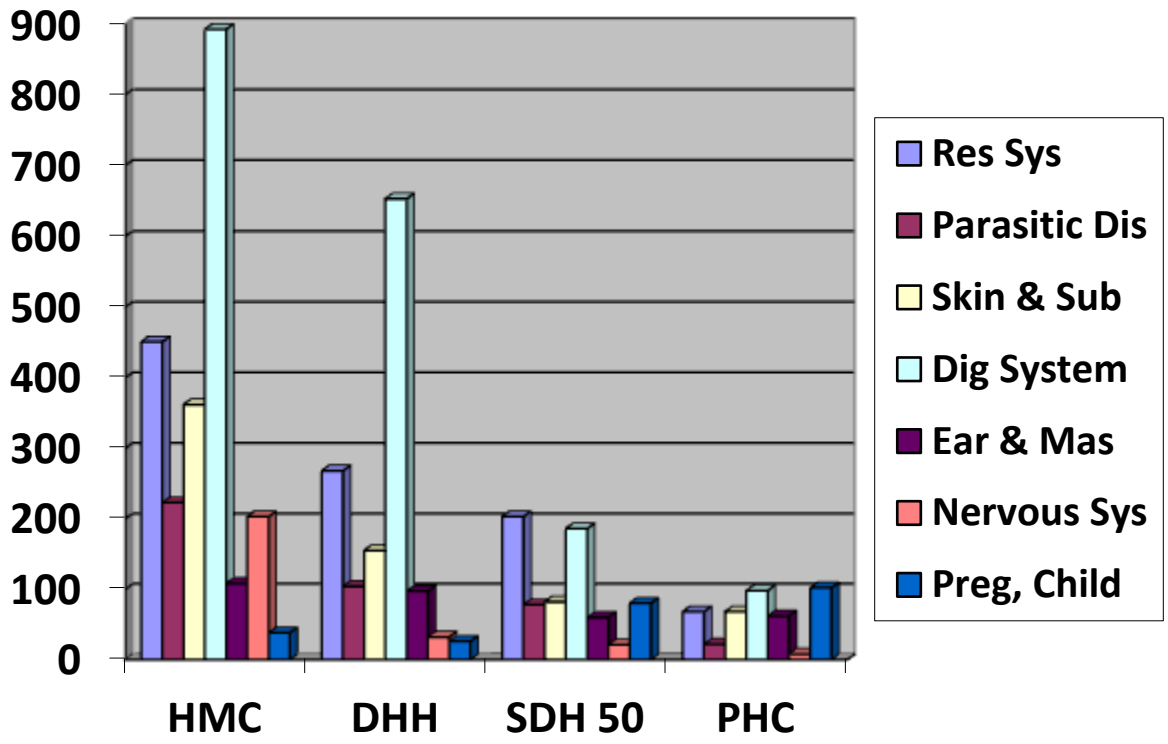

Figure: 1 Morbidity Pattern by Hospital Category

CONCLUSION

According to the study Hospital with medical college having more drugs to prescribe. It'll initiate the health professionals to make availability of newer drugs in government hospitals. Comparing the current usage of drugs with the standard treatment guidelines will enhance the effectiveness of treatment.

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