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A Report on the Prescribing Trend In/Of a Hospital in Rural Area like Kamptee

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ABSTRACT

Background: To report the trend in prescription and what are the drug interactions observed in a variety of prescription get from a hospital at kamptee in February 2017.

Methods: We analysed the prescriptions which are collected by us and we check the drug trend, drug interactions, and the essential drug is prescribed by a physician or not.

Results: Total 45 no. of prescriptions are analysed by us from that most of the prescriptions contains antibiotics and NSAIDs used with PPI. There are many drug interactions observed between mild and moderate type and many of the drugs are not of essential drugs that are prescribed by the physician.

Conclusion: Antibiotics, NSAIDs, and PPI are most widely used to prescribe by the physician. Only 5-6% drugs are prescribed from the essential drug list and 40-45% of prescriptions having drug interactions.

Keywords: Prescribing Trend, Drug Interactions, Essential Drug List.

1. INTRODUCTION

Today, in India, there seems to be no demand for pharmaceutical care in the market. It is because the people are not yet aware of it there is an absence of even the word "Pharmacist" in the latest national health policy of India. It is evident that "merely" selling medicines have very little value and recognition. It is up to us pharmacists to create, and cater to this demand, not only in the interest of the health of the people but also in our own interest. It is hard to see how pharmacy and its practitioners will service if we do not keep abreast of the changes we are facing.

The time has come to change good pharmacy practices guidelines drafted by the IPA (Indian pharmaceutical association) in March 2002, has laid the path on which we all have to tread and move forward the mission of pharmacy practice is to provide medications, other healthcare products, relevant information, and professional services and to help people and society to make the best use of them. Every activity in the pharmacy (from procurement, storage, to handling and feeling of prescription, to provide patient information and rational use of medicines) need to be done with certain systems and confidence, in order to give the right touch of professionalism and care. GPP (good pharmacy practice) could be the foundation on which the working in a pharmacy can be based, and which can give the best outcomes in the delivery of medical service and care of the patient. While the basic concepts of pharmaceutical care and GPP are largely identical. It can be said that GPP is the way to implement pharmaceutical care.

1.1 Pharmacy Profession and Indian scenario

The Profession of Pharmacy is an integral part of the healthcare system worldwide. Pharmacies with well-organized practice can go a long way to ensure quality health care for the patient. In the past, Pharmacists were responsible for dispensing medications only. Slowly, the traditional role of pharmacists is expanding and now pharmacists are playing a role as a vital team member in the direct care of patients, especially the new generation pharmacists who have Pharm. D. Pharmacists play a major role in providing health-care services by means of community pharmacy services in rural areas where physicians are not available or where physician services are too costly for meeting the health-care necessities. Many reforms are yet needed to improve job satisfaction among Indian pharmacists such as higher salaries, more job opportunities in government offices, recognition of pharmacists as health care professionals and changes in the Pharm. D and pharmacy curriculum.

GPP is defined as "The practice of pharmacy that responds to the needs of the people who use the Pharmacists services to provide optimal, evidence-based care. To support this practice it is essential that there be an established national framework of quality standards and guidelines."

1.2 Rational use of Medicine

Rational use of medicines requires that "Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community".

1.2.1 A Major Global Problem

Irrational use of medicines is a major problem worldwide. WHO estimates that more than half of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take them correctly. The overuse, underuse or misuse of medicines results in wastage of scarce resources and widespread health hazards. Examples of irrational use of medicines include: Use of too many medicines per patient ("polypharmacy"); inappropriate use of Antimicrobials, often in inadequate dosage, for nonbacterial infections; over-use of injections when oral formulations would be more appropriate; failure to prescribe in accordance with clinical guidelines; inappropriate self-medication, often of prescription-only medicines; non-adherence to dosing regimes.

1.3 Concept of Essential Medicines

World Health Organization (WHO) introduced the concept of essential medicines in 1977. Essential medicines are those that satisfy the priority health care needs of the population. They are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price, the individual and the community can afford. The implementation of the concept of essential medicines is intended to be flexible and adaptable to many different situations; exactly which medicines are regarded as essential remains a national responsibility. Experience has shown that careful selection of a limited range of essential medicines results in a higher quality of care, better management of medicines (including improved quality of prescribed medicines), and a more cost-effective use of available health resources. The WHO has developed the first essential medicines list in 1977 and since then the list has been revised every 2 years. The current one is the 20th model list released on Mar 2017. The essential medicine list contains limited cost-effective and safe medicines, while the open pharmaceutical market is flooded with large number of medicines many of which are of doubtful value. The model list of WHO serves as a guide for the development of national and institutional essential medicine list. The concept of essential medicines has been worldwide accepted as a powerful tool to promote health equity and its impact is remarkable as the essential medicines are proved to be one of the most cost-effective elements in health care.

2. OBJECTIVE

1. To determine/reveal/enumerate the drug category used in a model Hospital:
Determination of the number of category of the drugs is used in the hospital to prescribe in the regular out-patient department.
2. To identify the drug-drug interaction from the prescription:
Categorization of Drug-Drug Interactions in the prescriptions based on the mechanism involved; determination of the severity of Drug-Drug Interactions in the prescription; determination of the relationship between the number of the drugs in the prescription and its potential for Drug-Drug Interactions; determination of the potential interactions of the drugs with foods.
3. To compare the prescribed drugs with the essential drug list:
Determination of the drugs which are prescribed from the essential drug list to the various patients; also the determination of the alternative drug from the essential drug list of the same category.

3. PLAN OF WORK

1. Visit the hospital in a rural area like Kamptee.
2. Collecting the photocopy of prescription.
3. Decoding the prescriptions.
4. Categorize the given drugs in the prescription.
5. Checking the drug whether it is available in the essential drug list.
6. Checking drug interactions into the available prescriptions.
7. Interpretation of results.

4. METHODOLOGY

- We visited the hospital in the rural area like Kamptee near our college for the collection of the number of prescriptions of the various types of the patients.
- When we visited that hospital, first we talked with the physician to give us the prescriptions but due to unavailability of prescriptions, they suggested to us that we can take prescriptions data from the pharmacy of this hospital. Then we collected the prescription from the pharmacy of the same hospital.
- We got the total 45 no. of the prescriptions from there in the form of a photocopy of the prescription data.
- We decoded that prescriptions from the book drug today by seeing the brand name from the prescription and find it in the drug today for the generic name or its drug composition with its drug content and we make one list which contains sr. no., sex of the patient, brand name, and composition or generic name of it.
- Then we also write the class or category of the drug from which the drug belongs and from that, we can also determine the use of the drug which disease or for what purpose they should prescribe by the doctor.
- From that data we checked the which category of the drugs are prescribed most to the patient and the same category of the drugs were prescribed in how many no. of the prescriptions to get the percentage of the different types of the class of drugs used to prescribed by the doctor.
- Next, we check the drug- drug interaction in all prescriptions which we decided. We check that whether the drugs or combination of the drugs prescribed by the doctor contains any drug-drug interaction or any drug-food interaction was seen in it or not.
- And the last thing we checked from the prescriptions is that whether the drugs which are prescribed by the doctor are present in the essential drug list or not. If not present in the essential drug list so what alternative drug is prescribed by the doctor in the prescription and is it safe or not.
- And then we make graphs of the checked data and got a conclusion from it which is given at the last.

5. RESULTS

• GRAPH FOR THE CATEGORY USED TO PRESCRIBE

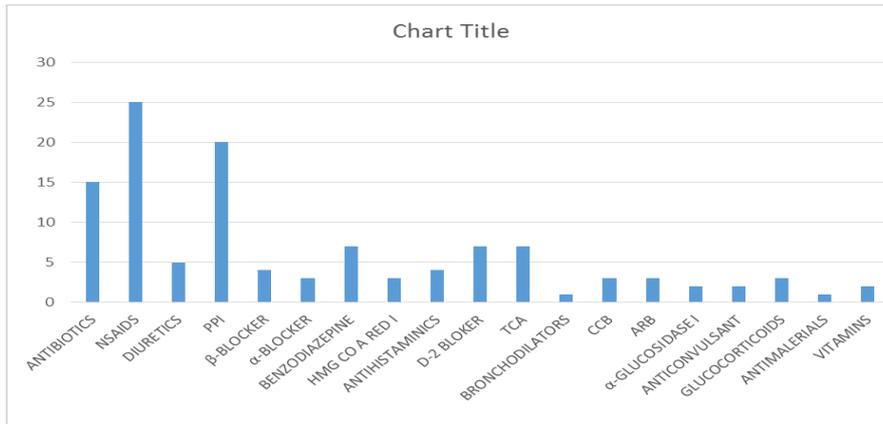


Chart no. 1: Graph of the categories used to prescribed by physician in our collected prescriptions

• GRAPH FOR THE PRESCRIPTION DRUG LIST MATCHED FROM ESSENTIAL DRUG LIST

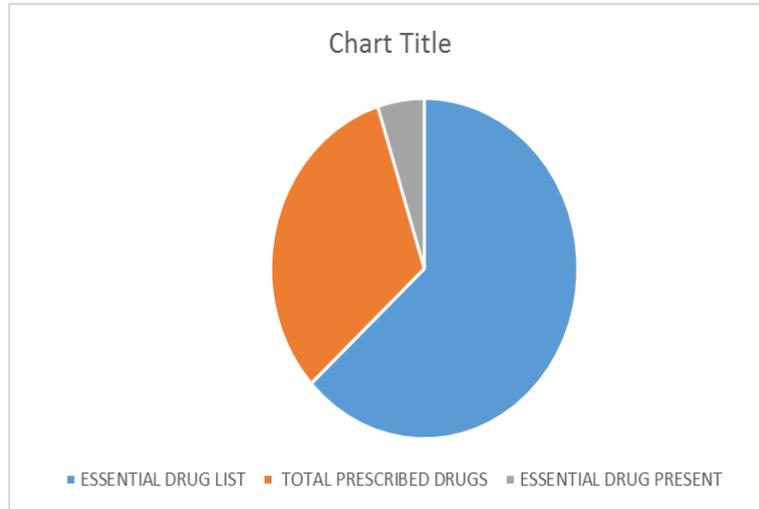


CHART NO. 2: HOW MUCH PRESCRIBED DRUGS MATCHED WITH ESSENTIAL DRUG LIST

Essential drug list	Total prescribed drugs	Essential Drug present
438	221	34

CHART NO. 3: NO OF ESSENTIAL DRUGS, NO OF TOTAL PRESCRIBED DRUGS AND NO OF ESSENTIAL DRUG PRESENT IN PRESCRIPTIONS

● **INTERACTION WHICH IS SEEN IN PRESCRIPTION**

- | | |
|-----------------------------------|---|
| 1. Vancomycin with Diclofenac. | 15. Hydrochlorothiazide with Pantoprazole |
| 2. Clopidogrel with Pantoprazole. | 16. Hydrochlorothiazide with Ramipril |
| 3. Aspirin with Ramipril. | 17. Hydrochlorothiazide with Metformin |
| 4. Levothyroxine with Metformin. | 18. Clonazepam with Telmisartan |
| 5. Metoprolol with Clonazepam. | 19. Metoprolol with Prazosin |
| 6. Spironolactone with Ramipril. | 20. Clonazepam with Escitalopram |
| 7. Furosemide with Pantoprazole. | 21. Propranolol with Spironolactone |
| 8. Propranolol with Furosemide. | 22. Azithromycin with Levofloxacin |
| 9. Cefpodoxime with Pantoprazole. | 23. Ondansetron with Lumefantrine |
| 10. Amikacin with Diclofenac. | 24. Ceftriaxone with Amikacin |
| 11. Clonazepam with Paroxetine. | 25. Paroxetine with Food |
| 12. Lumefantrine with food. | 26. Cefpodoxime with food |
| 13. Atorvastatin with food. | 27. Methylprednisolone with food |
| 14. Sucralfate with food. | 28. Escitalopram with food |

● **DRUGS WHICH CAN BE GIVEN IN PLACE OF THE PRESCRIBED DRUGS FROM THE**

Sr.	Prescribed drug	Alternate drug from essential drug list
1	Codeine	Dextromethorphan
2	Nortryptiline	Imipramine
3	Clorzoxazone	Atraqiniumbesylate
4	Clonazepam	Lorazepam
5	Dexketoprofen	Diclofenac
6	Voglibose	Glimiperide
7	Amitryptiline	Imipramine
8	Paroxetine	Fluoxetine
9	Famciclovir	Acyclovir

ESSENTIAL DRUG LIST:

Chart no. 4: Essential drugs which can be given in place of this prescribed drugs

6. CONCLUSION

- Antibiotics, NSAIDs, and PPI are most widely used to prescribed by a physician:
If any microbial disease is caused by patient or any condition which is related to microbial attach so that antibiotics are prescribed and that time the pain is there in a patient to relief from pain NSAIDs are prescribed and the PPI is used to prescribed to decrease or not to cause acidity due to antibiotics and other drugs also.
- Only 5-6% drugs are prescribed from the essential drug list:
Some of the drugs in the essential drug list that is not suitable for the patient with respect to other comorbidities or due to patient health so that physicians used to prescribe other drugs which are not given in essential drug list.
- 40-45% of prescriptions having drug-drug interactions:
The drug interactions which are present in the prescriptions are to be of mild or moderate category so that these are safe but if sometimes it may cause seriousness in the patient so physician has to stop to

prescribed the drugs which cause moderate drug interactions or them have to prescribed these drugs only in case of emergency or not availability of other drugs.

7. REFERENCES

1. Akram Ahmad*, SulemanAtique, Rajesh Balkrishnan, and Isha Patel “Pharmacy profession in India: Current scenario and recommendations”.
2. D. Brahma, M. Marak, J. Wahlang “Rational use of drugs and irrational drug combinations”.
3. Drug today DT: 91 and DT: 94
4. Drug Index
5. Essentials of Medical Pharmacology 7th edition, Jaypee Publication by K.D. Tripathi.
6. Good Manufacturing Practices for Pharmaceuticals A plan for total QC from manufacturer to consumer By Sidney H. Willig
7. Good Pharmacy Practice, Training Manual for Community Pharmacist in Indian settings, Indian Pharmaceutical Association Central Drugs Standard Control Organization W.H.O. India Country Office, 2006
8. International Pharmaceutical Federation (FIP), advancing pharmacy worldwide- good manufacturing practices.
9. Physicians desk reference 63rd edition 2009, www.pdr.net
10. Rang and Dale’s Pharmacology by H. P. Rang, M. M. Dale, J. M. Ritter, R. J. Flower, G. Henderson, Seventh edition.
11. www.drugs.com/interaction-checker