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Research article

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To evaluate the awareness and P- DRUG selection among general practitioners in a rural area of Tamil Nadu- a questionnaire based study

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ABSTRACT

Background

Medical science in general and therapeutics in particular is undergoing rapid change and the tremendous growth of the pharmaceutical industry has led to the production of many drugs. This makes it complicated for the physician to prescribe drugs rationally.

Methods

69 General Practitioners in rural area in and around Perambalur district were given questionnaire for selection of P-drugs for common conditions like Diabetes Mellitus, Hypertension, Peptic ulcer, Asthma, Diarrhoea, Respiratory Tract Infections, Infarction prophylaxis and Typhoid fever. The Questionnaire was designed with the following headings: Diagnosis, Group of drugs and Preferred drug that group from by the practitioner based on safety, affordability, need, and efficacy (SANE criteria). The physicians were requested to fill the questionnaire.

Results

Out of 69 general practitioners participated, 65 doctors responded to complete the questionnaire. Thirty four of them were aware of the concept of P-Drugs. About the opinion regarding the concept of P-Drugs, 17 doctors commented that it is a good concept and more effective in prescribing practice. Rest others are having different opinion about P-Drugs like; It is cheaper, It reduces side effects and we can have our own list of drugs. 8 physicians those who are aware about P-Drug concept gave no opinion.

Keywords: General practitioners, P- drug, Proforma, Rational use of drugs, WHO P-Drug Concept.

INTRODUCTION

The concept of personal drugs to be included in undergraduate pharmacology curriculum. Various suggestions were made from several teachers that undergraduates should be sensitized towards the P-drug concept and rational use of drugs. Usually teaching methods involve problem based learning, group discussion and power point presentation. To compare the efficacy, safety and cost were recommended for a “Guide to good prescribing practice” Students used to get confused by these terminology.

On the other hand general practitioners in rural population in our India like developing country are the doctors who can be easily met for the simple medical ailments. [1] They treat large number of illness at a primary health care level and this makes them to use different drugs of different classes. [2] We must expect that every doctor should select his/her personal drug for a particular illness. Medical science in general and therapeutics in particular is undergoing rapid changes and tremendous growth of the pharma industry which lead to the production of many drugs. This makes it complicated for the physician to prescribe drugs rationally. [3] More number of researches were being done and elaborately analysed to know the factors which are influencing the drug prescribing pattern and decision of an individual doctor. So it is more important to observe the maximum established and most recommended guidelines on drug prescription for the benefit of the patient as well as the nation. [4] P- drug referred to as “Preferred” or “Particular” or “Personal” drug is the drug chosen by the physician for a particular disease to treat it in a cost effective manner. The notion was to make physicians get familiar with few P-drugs selected from the national essential drug list, based on efficacy, safety, suitability, and cost.[5] WHO has given guidelines to good prescribing practice which gives guidelines for a structured problem solved six steps to choose personal drugs which will be ideal for the beneficial i.e., the patient.[6]

Different authors tends to argue regarding the choice of particular drug for a particular condition. The ultimate motive is that the exercise should focus on how to prescribe rather than what to prescribe. Most of the physicians either belong to rural or urban area, admitted to rely upon the information from

medical representatives and of course an interest in research in research activities seems to be lost.

There are four reasons that indicate why a P-Drug should never be the one that has been suggested or dictated by clinical features, senior doctors or of course by sales representatives.

- a) The recent and the costliest drug need not be a better one than a pharmacoeconomic drug belongs o same group.
- b) By keeping the prescribers of own taste of drugs, they are able to prescribe in a very effective manner.
- c) The doctor can have an alternative drug where the P-Drug concept can't be utilized.
- d) The doctors are the final authority for their patient's well-being and the complete responsibility of the patients belongs them only. So that they can't blame the other doctors.

While physician can and should draw an expert opinion and consensus guidelines, they should always think for themselves.

Example for selecting a P-Drug for amoebic dysentery

Amoebiasis is one of the common infections encountered in clinical practice and easy to understand the pathophysiology as well as the treatment modality of amoebiasis. For that we have to select and analyse the preferred drugs with standard textbooks of pharmacology.

Exercise

A 50 year-old male patient complains of bloody, mucoid stools and abdominal pain. No history of alcohol abuse. You have diagnosed as acute amoebic dysentery. Choose an appropriate drug and mention its dosage schedule and duration of treatment.

Answer

Choosing a P-drug can be divided into five steps:

- 1) Define the diagnosis
- 2) Specify the therapeutic objective
- 3) Make an inventory of effective groups of drugs
- 4) Choose an effective group according to criteria
- 5) Choose a P-drug

Step 1: Define the diagnosis

Amoebiasis is a protozoal infection caused by Entamoeba histolytica by ingestion of amoebic cysts in contaminated food or water. In the intestine, they

transform into trophozoites which live on the colonic mucosal surface or invade it. The cysts remain as commensals on the mucosal surface which passes into the stools and serve to propagate the disease. They form amoebic ulcers and cause acute dysentery. It is characterized by the presence of blood and mucus in the stools. In Chronic intestinal amoebiasis patient has vague abdominal pain, amoeboma. Trophozoites also invade liver and the brain where they produce amoebic abscess and systemic disease. Carriers are those who harbour the parasites without developing the disease but the cysts are present in their faeces and they infect others.

Step 2: Specify the therapeutic objective

Feco-oral route is the route of transmission for amoebiasis. Poor hygiene plays a major role in the spread of the disease. For prevention of transmission of the disease avoidance of contaminated food, water and good sanitation can help. But here, we are dealing drug treatment only. The therapeutic objective here is to treat the signs and symptoms, to eradicate the disease, prevent transmission of the disease and further complications.

Step 3: Make an inventory of effective groups of drugs

The first criterion for any group of drugs is the efficacy. Here, the drugs must have anti-amoebic activity. There are five groups of drugs with this activity;

- 1) Nitroimidazoles [e.g., metronidazole, tinidazole, secnidazole, ornidazole]
- 2) Alkaloids [e.g., emetine, dehydroemetine]
- 3) Amide [e.g., diloxanidefuroate]
- 4) 8-Hydroxyquinolines[e.g., iodochlorohydroxyquin, diiodohydroxyquin]
- 5) Antibiotics [e.g, tetracyclines, paromomycin]

Step 4: Choose an effective group according to criteria

According to criteria of efficacy, safety, suitability and cost of treatment an effective group should be selected [8].

Efficacy

In order to be effective, the drug has to reach a minimum plasma concentration and the kinetic profile of the drug must allow for this with an easy dosage schedule. Kinetics should be compared on the

grounds of Absorption, Distribution, Metabolism and Excretion (ADME)

Safety

Priority should be given to drugs of proven efficacy and safety in order to meet the needs of the majority of the people. Unnecessary duplication of drugs and dosage forms should be avoided.

Suitability

Although the final check will only be made with the individual patient, some general aspects of suitability can be considered when selecting your P-drugs. Contraindications are related to patient conditions, such as other illnesses which make it impossible to use a P-drug that is otherwise effective and safe. A change in the physiology of your patient may influence the dynamics or kinetics of your P-drug: the required plasma levels may not be reached, or toxic side effects may occur at normal plasma concentrations

Cost of treatment

The cost of the treatment is always an important criterion, in both developed and developing countries and whether it is covered by the state, an insurance company or directly by the patient. Cost is sometimes difficult to determine for a group of drugs, but you should always keep it in mind. Certain groups are definitely more expensive than others. Always look at the total cost of treatment rather than the cost per unit. The cost arguments really start counting when you choose between individual drugs.

The final choice between drug groups is your own. It needs practice but making this choice on the basis of efficacy, safety, suitability and cost of treatment makes it easier.

This is important for evaluation and necessary modifications in the prescribing practices of the prescribers to achieve the rational and cost effective medical care. General practitioners are more easily approachable doctors by the society. So in the study we analysed prescriptions of general practitioners who are practicing in rural area to find out the drug prescribing pattern and rationality of prescription from them. [9]

Objectives

Primary objective

To assess the awareness and selection of P-drugs among general practitioners in rural areas.

Secondary objective

To create awareness among rural general practitioners.

MATERIALS AND METHODS

Methodology

69 General Practitioners in rural area in and around Perambalur district were given questionnaire for selection of P- drugs for common conditions like Diabetes Mellitus, Hypertension, Peptic ulcer, Asthma, Diarrhoea, Respiratory Tract Infections, Infarction prophylaxis and Typhoid fever .The Questionnaire was designed with the following headings: Diagnosis, Group of drugs and Preferred drug that group from by the practitioner based on safety, affordability, need, and efficacy (SANE criteria). Doctors were asked to fill the questionnaire. After getting back that filled questionnaire,i gave a pamphlet which contains an basic information about P-Drug concept.

Study design

A Questionnaire based study.

Study area

Rural area around Perambalur, Tamil Nadu

Study period

2 months

Study population

65 Doctors

QUESTIONNAIRE

STUDY ABOUT THE CONCEPT OF P-DRUGS

1. Are you aware about the concept of P-Drugs?
Yes / No
2. What do you think about the concept of P-Drugs?
3. What drug will you prefer for Hypertension:Please tick your choice and mention the drug.
 - a) Beta Blockers _____

- b) ACE Inhibitors _____
- c) Calcium channel blockers _____
- d) Thiazides _____
- e) Others _____

4. What drug will you prescribe for Diarrhoea?

5. What drug will you give for Peptic Ulcer:
 - A) H2 receptor blockers _____
 - B)Proton pump inhibitors _____
 - C) Antacids _____ D) Others _____
6. What drug will you prefer for Typhoid fever in adults:
7. Which Anti-Diabetic drug will you prescribe in type 2 DM?
8. What is your Preferred antibiotic for upper respiratory tract infections :

9. What is your favourite drug for Bronchial Asthma?
10. Your preferred choice of antiplatelet agent in Ischemic cardiac disease?
Aspirin / Clopidogrel
11. Reason for your P-Drug (Multiple choices)
 1. Cheaper
 2. Available elsewhere
 3. Lesser side effects
 4. Influenced by representatives

Inclusion criteria

General Practitioners among rural area

Exclusion criteria

- a. Those who are not willing to participate in the study
- b. Quacks

RESULTS

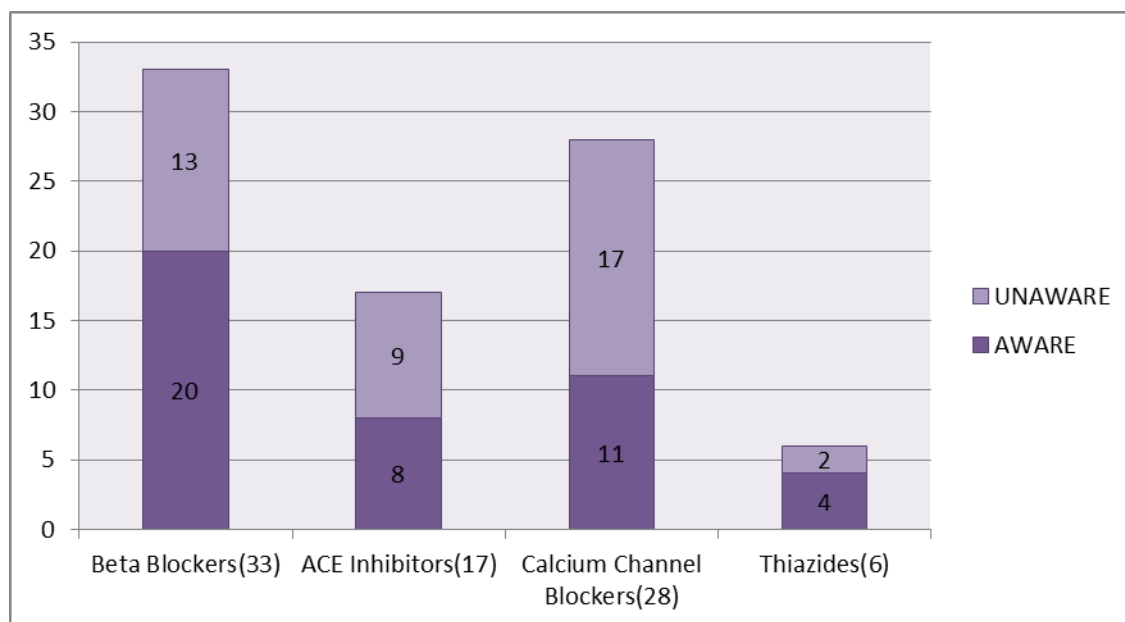
Out of 69 general practitioners, 65 doctors responded to complete the questionnaire. Thirty four of them, already know the concept of P-Drugs. In view of the opinion regarding the concept of P-Drugs, 17 doctors commented that it is a good concept and more effective in prescribing practice. Rest others are having different opinion about P-Drugs like; It is cheaper, It reduces side effects and We can have our own list of drugs. 8 physicians those

who are aware about P-Drug concept, gave no opinion.

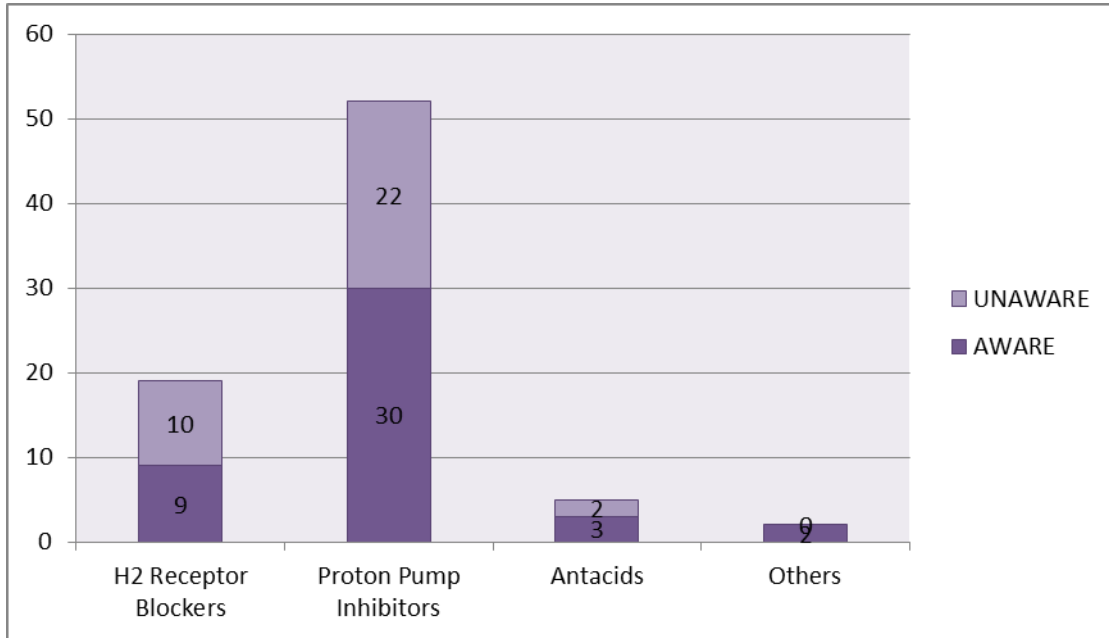
In case of Hypertension Beta blockers were commonly prescribed by 33 general practitioners. Out of those who are aware of P-Drug concept, Atenolol (11) was prescribed more frequently followed by Metoprolol (3) and Propranolol (1). Among those who are unaware about this concept, 6 doctors prescribed Atenolol, 4 doctors prescribed propranolol, 3 of them Metoprolol. Calcium channel blockers comprises 28 prescriptions out of which 17

doctors were unaware of that concept. Only 11 doctors those who are aware of the concept, prescribed CCBs as a preferred drug in hypertension. Next to CCBs, ACE inhibitors were preferred by 16 doctors. Most of them (9) chose Enalapril as a prime ACE Inhibitor. Lisinopril, Captopril, Ramipril- each drug by 1 Doctor. Only one Doctor who knows the concept of P-drugs wrote Telmisartan as a ARB. Thiazides were preferred by 6 and other group of anti-hypertensives were chosen by 8 doctors.

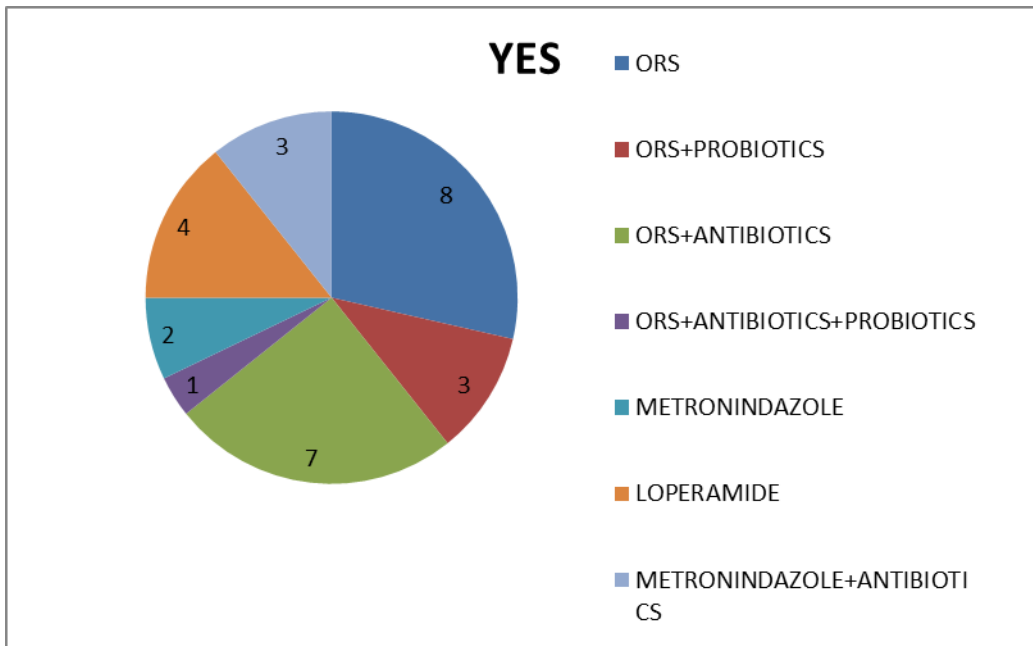
Beta blockers (33) > CCB (28) > ACE Inhibitors (16) > Thiazides (6) > ARB (1)

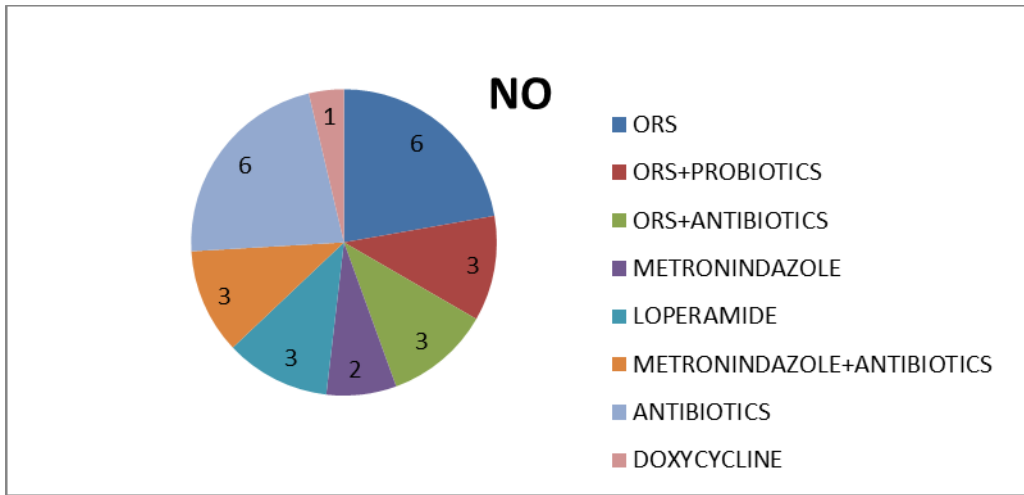


Peptic ulcer

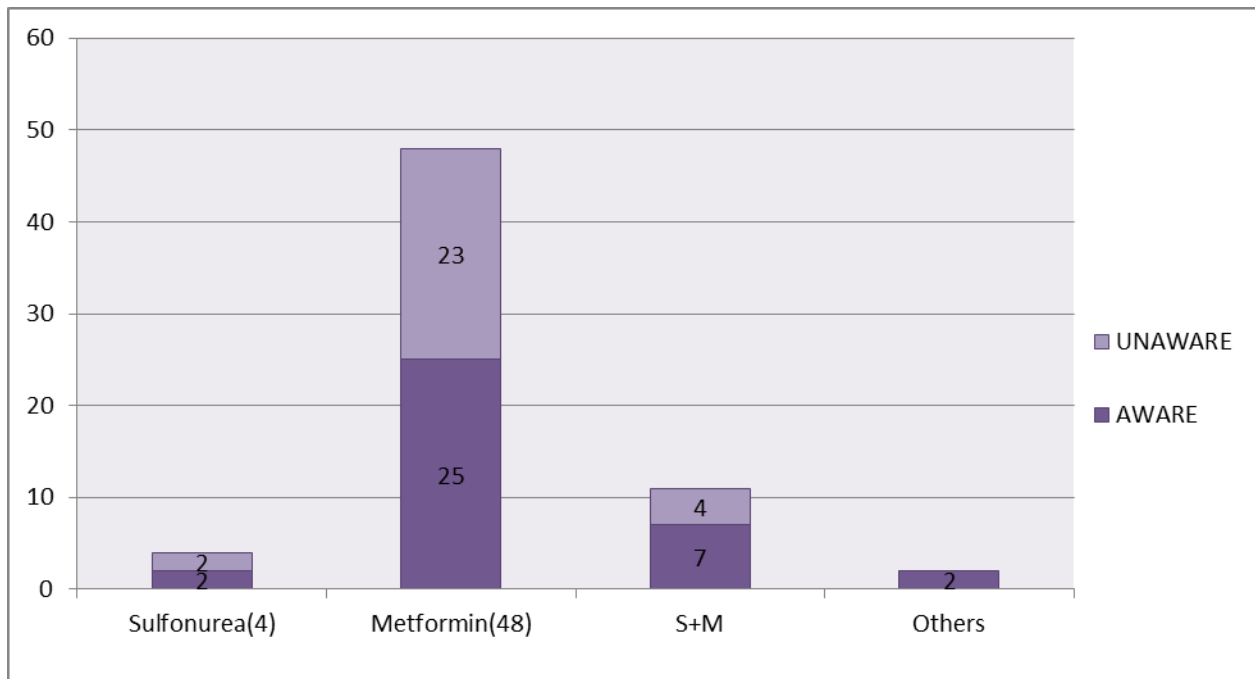


Diarrhoea

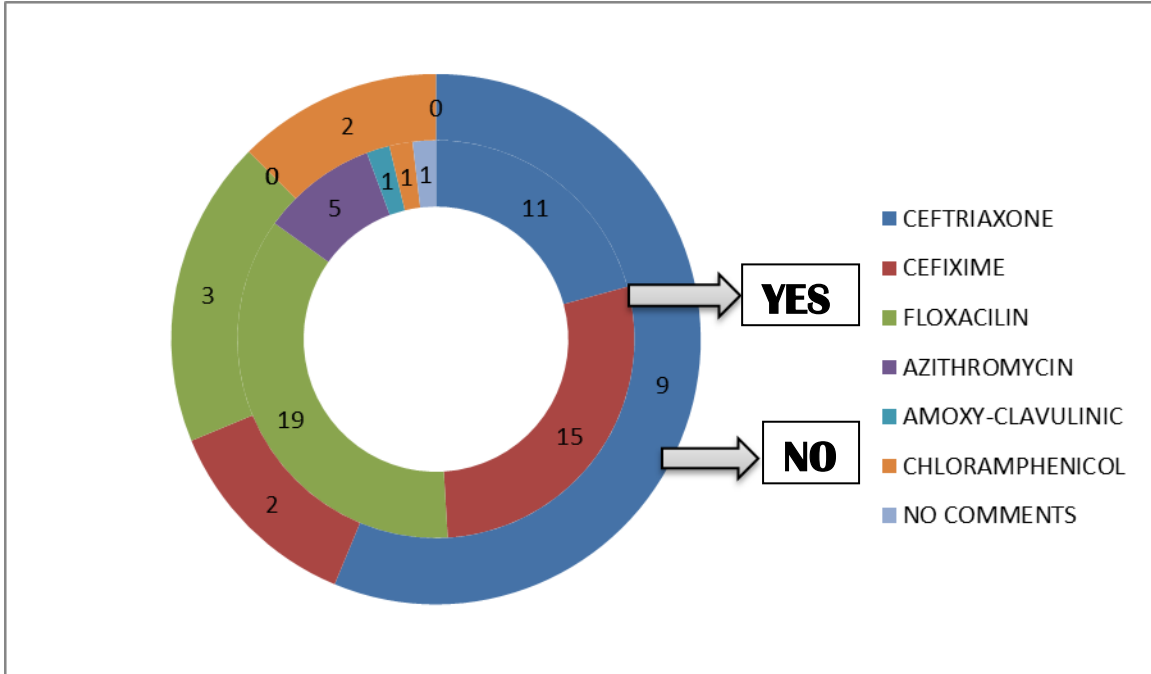




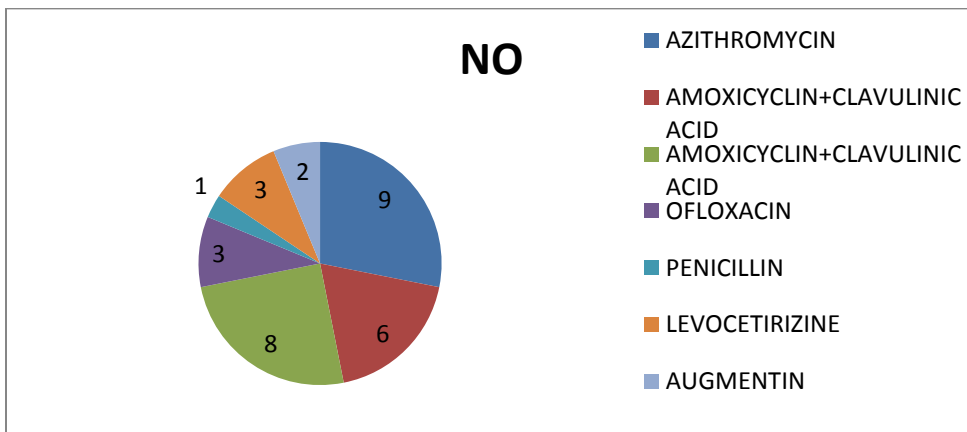
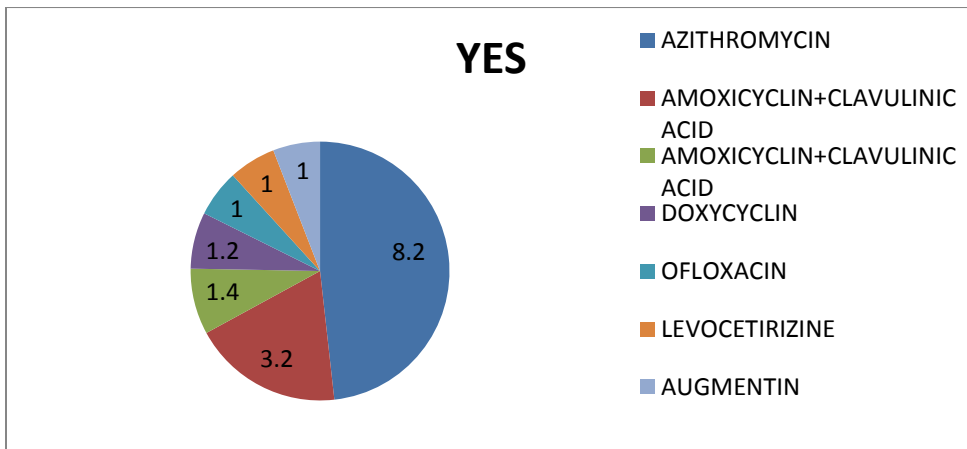
Type-2 diabetes mellitus



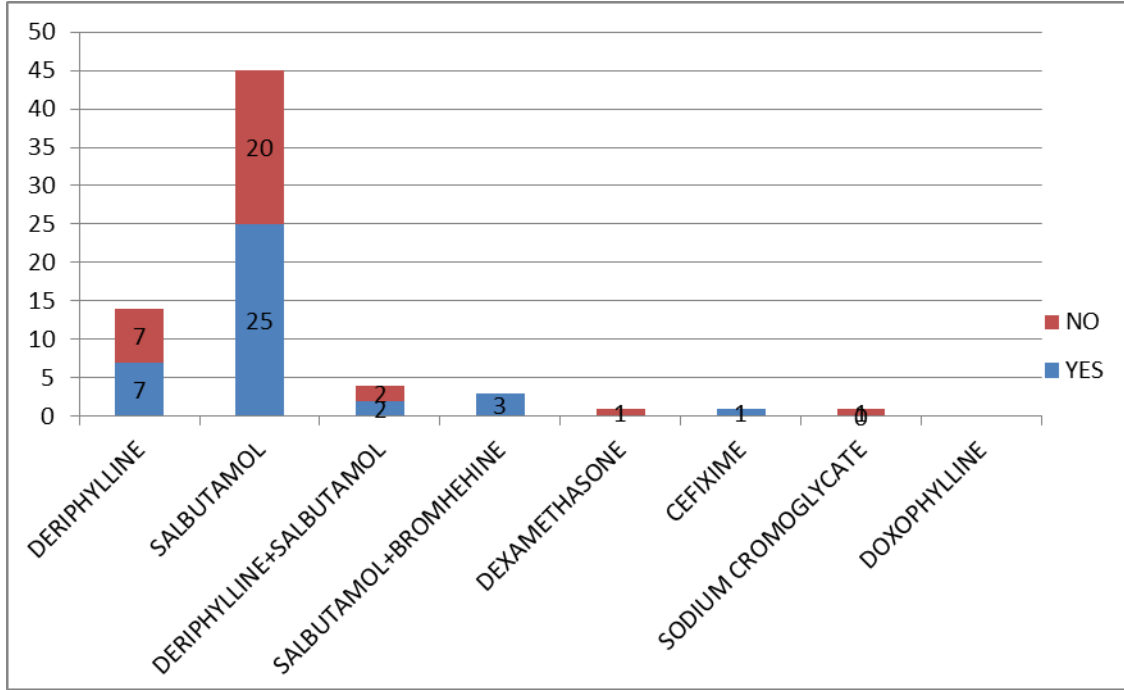
Typhoid fever



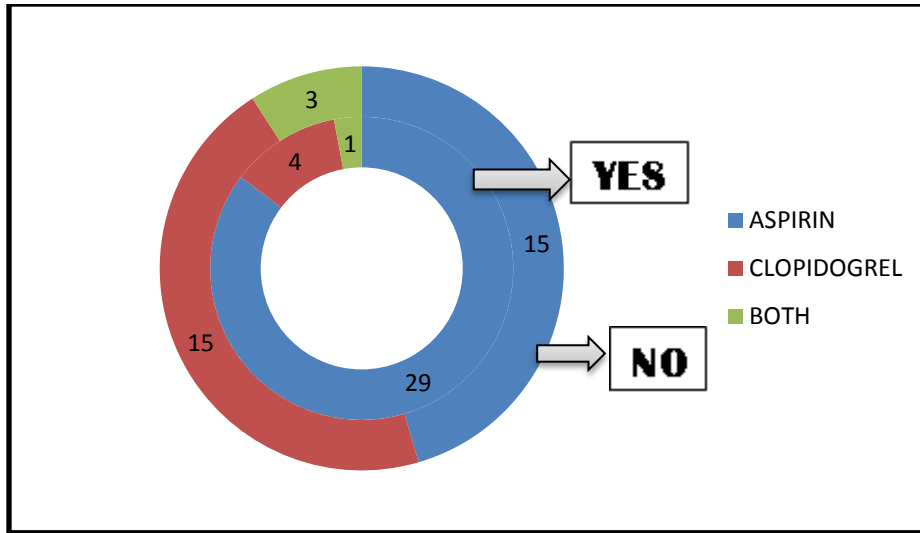
Antibiotic for upper respiratory tract infection



Bronchial asthma



Anti-platelet agents



Finally we made a question to reason out in choosing their P-Drug. Majority of doctors (44) revealed that being its cheaper and having lesser side

effects. Few of them (16) reasoning out to select the P-Drug being it is available elsewhere. None of them ticked the option i.e., influenced by representatives.



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CONCEPT OF P-DRUGS

“ Guide to Good Prescribing ”

P- drug referred to as “Preferred” or “Particular” or “Personal” drug is the drug chosen by the physician for a particular disease to treat it in a cost effective manner.

WHO has recommended four criteria for comparison of drugs as, efficacy, safety, cost, and suitability.

Suitability takes into account the convenience of dosage form, dosage schedule, and route of administration. It also considers the safety features like contraindications and drug interactions.

P-drugs enable you to avoid repeated searches for a good drug in daily practice. And, as you use your P-drugs regularly, you will get to know their effects and side effects thoroughly, with obvious benefits to the patient.

P drug selection can reduce the chances of irrational prescribing. Lastly, it considers the socioeconomic status of individual patient before prescribing.

WHY P DRUGS

- a) The latest and the most expensive drug is not necessarily the best, the safest or the most cost-effective,
- b) By developing one's own set of P-drugs, one can learn to handle pharmacological concepts and drug-related data in an effective manner.
- c) By compiling one's own set of P-drugs, one can prescribe alternatives when the P-drug cannot be used .
- d) One has the final responsibility for his / her patient's well being, which he / she cannot pass on to others.

WHO has given the **Guide to Good Prescribing**, which gives guidance for a structured problem solved six step process, in choosing and prescribing a suitable drug for an individual patient.

STEP 1: Define the patient's problem

STEP 2: Specify the therapeutic objective

STEP 3: Verify the suitability of your P-drug

STEP 4: Write a prescription

STEP 5: Give information, instructions and warnings

STEP 6: Monitor (and stop?) the treatment

THANK YOU .

DISCUSSION

Understanding the P- drugs concept is essential for rational prescribing which includes the right drug, given to the right patient, in the right dosage, at the right cost. P-drugs vary from nation to nation and physician to physician because of different drugs in different costs. P-drug selection must not depend on aggressive pharmaceutical marketing as the latest or the costliest drug may not be the most efficacious and safe one.

Nearly half of the doctors are unaware of prescribing essential drugs/ P-Drugs. Even those who were seems to be are aware of a good prescribing practice/GCP only 3 of them were knowing well about the concept of P-Drugs.

According to our study older and proto type drugs were preferred as they are cost effective by majority of doctors. Newer drugs were least prescribed as evident from this study. Concept of P-Drugs is a new addition to the medical curriculum. Hence most of the senior as well as junior physicians should aware about it because as they were exposed little towards this concept of P-Drugs in their pharmacology curriculum during MBBS. This indicates that the P-Drug concept has confined to pharmacology and has not become popular among clinicians. Not only the involvement of clinicians, the teachers in medical college need to organize problem based medicine curriculum for themselves. Students can be motivated towards the concept of P-Drugs through effective

lectures and hands on training as short project work in practical hours in undergraduate curriculum.

CONCLUSION

There is always lack of awareness regarding P-Drug and its selection towards most of the rural general practitioners. Our study provides guidelines as an alert in prescribing proper drugs. It is very important in selecting preferred drugs for common ailment like gastric ulcer, diabetes mellitus, bronchial asthma, typhoid fever & others. Thus we are not only assessing the awareness regarding P-drug selection but also creating awareness by issuing pamphlets which contains adequate and relevant information about P-drugs after collecting the questionnaire from the general practitioners. It is an indirect way of giving continued medical education for good clinical practice.

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