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ANALYSING RATES AND TRENDS OF ANTIBIOTICS PRESCRIPTION IN RURAL PARTS OF BHANDARA DISTRICT OF INDIA

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ABSTRACT

Study was carried out to find out the trends and rates of antibiotics prescribing by the physicians. Some patients and pharmacists were interviewed with prepared questionnaires. A study was conducted on the patients who are visiting to civil hospital, rural and primary health centers in Bhandara district. A total of 350 prescriptions were evaluated. For evolution of Prescriptions we follow the National list of essential medicine 2009 and Local guidelines for Prescription pattern. Among those 62.28 % of prescriptions were contain antibiotics and 37.72 % were not contain antibiotics. It indicates that the prescribing rate of antibiotics is higher. While evaluating prescriptions we observed that there were some common errors in prescribing antibiotic like, use of an antibiotics agents with inappropriate spectrum, unnecessary prescription of antibiotics, incorrect dosage and antibiotics were prescribed for viral infections that does not affect the viruses. This may leads to the development of antibiotic resistant bacterial population.

Because of this some efforts should be made like, promotion of good Prescription practices, physicians should follow the local guidelines, design education programme for pharmacist, nurses & other professionals working in these settings.

Keywords: Spectrum, bacterial resistance, WHO (World Health Organization)

INTRODUCTION

Prescription is a written order from a registered medical practitioner or other property licensed practitioner to a pharmacist to compound and dispense a specific medication for the patient. While considering present scenario about the use of antibiotics many questions are arising in mind like, whether health care providers follow appropriate diagnostic procedure, also about the correct selection of products and dosage regimen to fit underlying health problems? Whether they communicate with patient regarding proper label instructions, contraindications or dosage?

Common error in antibiotic prescription and misuse of antibiotics like, physicians not take into account the patients weight and history of prior antibiotics used. Since, both can strongly affect the efficacy of antibiotics. Prescribing inappropriate antibiotics like, use of antibiotic to the viral infections such as common cold that have no therapeutic effect. Dispensing of antibiotics over the counter because physicians prescribing same brands of an antibiotics. However this may leads to the development of antibiotic resistant bacterial population. Repeated and longer use of same brand of antibiotic leads to the emergence of resistant bacterial population which cannot be killed by that

antibiotic this is known as antibiotic resistance. The existence of antibiotic resistance bacteria creates the danger of life threatening infections that do not respond to antibiotics.

METHOD

Present study was conducted by randomly collecting 350 prescriptions from patients visiting to different health care centers including

civil hospitals, primary health care centers in rural and urban areas of Bhandara district. Patients and pharmacists get interviewed with prepared questionnaires, cross-sectional survey of prescription was done. National list of essential medicine 2009 and local guiding for prescription pattern was used as a reference for the evaluations of collected data.

Observations

Mostly prescribed antibiotics in different age groups with symptoms

Age Group (In Years)	No.of Prescriptions	Brand name	Symptoms
0-2	81	Septran	Cough,
2-4	30	(Sulphamethoxzole+	Rhinitis,
4-6	24	trimethoprim)	Fever,
6-8	07		Cold,
8-10	14	Amox (amoxicillin)	Pharyngitis,
10-12	05		Body ach,
12-14	09	Doxy (doxycycline)	Gastritis,
14-16	06		Itching,
			Scabies
16-30	57	Septran	Cough,
30-45	69	(Sulphamethoxzole+	Rhinitis,
75- 100	--	trimethoprim)	Fever,
		Amox (amoxicillin)	Cold,
		Cipro (ciprofloxacin)	Pharyngitis,
		Doxy (doxycycline)	Body ach,
		Cibran (ciprofloxacin)	Gastritis,
		Ciplox (ciprofloxacin)	Itching,
		Cifran (ciprofloxacin)	Scabies

RESULT

A total of 350 prescriptions were evaluated, where 63 Male, 111 Female, 113 Male Child & 63 Female Child. Evolution data suggests that 62.28 % of prescriptions were containing antibiotics among those 50.10% were in children and 37.72 % were not containing antibiotics indicating that prescribing rate of an antibiotics is higher. Physicians are commonly prescribing SEPTRAN, AMOX and DOXY in children and SEPTRAN, CIPRO, CIPROX, CIBRAN, CIFRAN, DOXY and AMOX in adults. While

physicians in rural hospital and primary health centers are following the same trends. None of the drugs were prescribed in generic name. We observed that some antibiotics were prescribed for cold and Fever.

Some patients and pharmacists were interviewed with prepared questionnaires from this we found that, prescriptions contain antibiotics with repeated brand name this may leads to the patients are purchasing antibiotics over the counter. Pharmacist are not guiding the patients regarding dosage and schedule of antibiotics

administration. It may create several problems like patients not completing their antibiotics course, skipping the doses when they feel better and taking the same antibiotics next time without consulting their physicians.

DISCUSSION AND CONCLUSIONS

While evaluating prescriptions we observed that physicians are mostly prescribing SEPTRAN in children for COUGH, COLD, FEVER, RHINITIS, OTITIS, UTRI and SCABIES. SEPTRAN is followed by AMOX and DOXY. While SEPTRAN, CIPRO, CIPROX, CIBRAN, CIFRAN, AMOX, DOXY for COUGH, COLD, FEVER, RHINITIS, OTITIS, UTRI, SCABIES and ITCHING in adults. Physicians in rural hospital & primary health centers are following the same trend in adults and children. It is observed that none of the drugs were prescribed in generic name.

After evaluating the prescriptions, we interviewed some patients and pharmacists. We found that patients are not following complete antibiotic therapy. They stop the antibiotics at midcourse, not following the proper schedule of the dose. It may lead to bacterial resistance and reinfection. There is repetition of antibiotics with the same brand in the prescription. This may lead to patients taking antibiotics without consulting their physicians. Some patients are demanding and purchasing antibiotics over the counter.

Hence some useful tips need to be given by physicians/pharmacists to their patients:-

- Take an antibiotic exactly as the physician/pharmacist tells you.
- Do not skip the doses of antibiotics.
- Do not take antibiotics for a viral infection like a cold or flu.
- Complete the prescribed course of treatment even if you feel better.
- Do not take antibiotics prescribed for someone else. The antibiotic may not be appropriate for your illness. Taking the

wrong medicine may delay the effect of correct treatment and leads to bacterial resistance.

- Do not purchase an antibiotic over the counter.
- Do not ask your pharmacist for antibiotics without prescription.
- Talk to your healthcare professionals about antibiotic resistance.

There are some errors made by physicians while prescribing antibiotics like use of antibiotics for viral infections such as common cold and fever which does not affect the virus. Antibiotic being prescribed with improper dosage administration with meal or without meal which affects the absorption of the drug and in turn decreases the bioavailability of drug. One of the foremost concerns in modern medicine is antibiotic resistance. If antibiotics are stopped in midcourse, the bacteria may be partially treated and not completely killed, causing the bacteria to be resistant to the antibiotic. Those resistant bacteria grow enough to cause the re-infection. Because of this alarming prevalence of bacterial resistance some efforts should be made like

- Document the infection microbiologically before starting an antimicrobial therapy.
- Consider the weight and prior history of antibiotics used.
- Avoid use of certain antibiotics already known to be associated with emergence of bacterial resistance.
- Promotion of good prescribing practices.
- Streamline broad spectrum therapy.
- Adhere to the local guidelines.
- Prescribe the antibiotics with their generic name.
- Counseling with the patients

To improve the quantity of antibiotic use in hospitals, a multidisciplinary antimicrobial committee should be formed, which would be composed of physicians, microbiologists and the pharmacists etc. Teaching and training about

antimicrobial therapy for doctors, nurses, pharmacists and undergraduate medical and pharmacy students.

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