



ANALYSIS OF PRESCRIPTION PATTERN OF FEVER CASES IN TERTIARY CARE HOSPITAL

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ABSTRACT

This prospective observational study was conducted at General Medicine Department in Saveetha Medical College with the objective of analysing prescription pattern of fever cases. Our study analysis showed average number of drugs prescribed is 4.65, percentage of drugs prescribed by generic name is 43.57, percentage antibiotic prescribed is 83.7, percentage of encounters with an injection prescribed is 37.9, percentage of drugs prescribed from essential drugs list or formulary is 91.06. Antibiotic stewardship must be adopted to ensure rational use of medicine in our institute.

KEY WORDS: PRESCRIPTION MONITROING, RATIONAL USE OF DRUGS , STANDARD TREATMENT GUIDELINES



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INTRODUCTION

Fever is one the most common presenting symptoms of infections and some of the non infective conditions like malignancy , autoimmune diseases , and drug induced fever . On accounting diurnal variation, morning temperature of $>37.2^{\circ}\text{C}$ ($>98.9^{\circ}\text{F}$) or evening rise of temperature of $>37.7^{\circ}\text{C}$ ($>99.9^{\circ}\text{F}$) defines a fever¹. Most of fever presentations are often due to self limiting viral illness and some are due to specific bacterial and parasitic infections especially in the tropics. Prompt recognition and judicious use of antipyretics and antibiotics is of paramount importance to treat. Rational use of antibiotics helps to treat the patients in appropriate and cost effective way; it also contributes various factors like containment of bacterial resistance to microbial agents in the era of 'superbug'. Irrational treatment of infective condition includes using more than one antibiotics where it is not required, over or under dosing, inadequate or prolonged therapy and selecting parental injections for trivial cases. Two important parameters shows improper use of antibiotics in India , in a report by Indian council of medical research shows that sale of antibiotics increased about 40 % in the recent years and parallel increase of antibiotic resistance , increased incidence of hospital acquired infections² . A surveillance report shows that 45 -80 % percent of patient's with acute respiratory tract infection and diarrhoeal illness are treated with at least one antibiotic where it is not indicated. Well made antibiotic treatment policy is the need of hour. In India Standard Treatment Guidelines by Ministry of health and family welfare

provides the need. Standard Treatment Guideline has been defined as a systematically developed statement designed to assist practitioners and patients in making decisions about appropriate health care for specific clinical circumstances. Standard treatment guidelines Provide standardized guidance to practitioners to manage infective and non infective conditions, guiding allocation of resources for health care; and estimating cost of health services³.In accordance with standard treatment guidelines every institution must develop an antibiotic policy based on their epidemiological disease pattern and antimicrobial resistance . Analysing the prescription pattern of fever cases will help us to understand the current prevalence of various infections and in framing the common antibiotic policy. Hence this observational study was carried out by the Department of Pharmacology in our tertiary care hospital .

METHODOLOGY

This is a prospective observational study conducted at General Medicine Department in Saveetha Medical College for a duration of 2 months. The study included fever patients of both sexes attending the outpatient department and all inpatient medical units. The fever cases due to non infectious origin , pediatric group and ICU admissions were excluded. The study was conducted with approval of Scientific Review Broad and Institutional Ethics Committee. There was no interactions with the patients. The diagnosis and prescriptions of fever cases were analysed. Data was collected by the Investigator and there was no follow up.

RESULTS

Table 1
Average number of drugs per encounter

Average number of drugs per encounter (fever)	4.65
Percentage of drugs prescribed by generic name	43.57 % 312
Percentage of encounters with an antibiotic prescribed	83.7 601
Percentage of encounters with an injection prescribed	37.9 % 270
Percentage of drugs prescribed from essential drugs list or formulary	91.06 % 652

Table 2
Number of prescriptions analysed for fever

Number of prescriptions analysed for fever	Number of cases.
Specified diagnosis	25
Non specific viral illness	67
Acute diarrheal diseases	20
Upper respiratory tract infection	35

Table 3
Number of oral antibiotics prescribed

Oral antibiotics prescribed	Number of cases
Amoxycillin	230
Ciprofloxacin	47
Metronidazole	39
Doxycycline	22
Chloroquine	23

Table 4
Number of commonly prescribed parenteral antibiotics

Commonly prescribed parenteral antibiotics	Number of cases
Ciprofloxacin	21
Ceftriaxzone	108
Gentamycin	23
Amikacin	26
Metronidazole	19

Table 5
Number of other drugs prescribed

Other drugs prescribed	Number of cases	Percentage
Antipyretics	654	92.3%
Analgesics and anti-inflammatory	84	11.8%
Antihistamine	175	24.7%
Antiulcer	452	63.5%
Multivitamines	422	59%

DISCUSSION

Realizing the need to curtail unnecessary use of antibiotics is well understood but less followed. In an institution based tertiary health care levels, the factor predominantly deciding antibiotic usage is availability of antibiotic supply available at store. Treating physicians most often demand on the antibiotics that are given freely by the institution to reduce economic burden of the patients. Every institution must generate antibiotic policy that satisfies both physicians and patients need. Analysing antibiotic prescriptions at every institutional level will help to find lacunae and promote rational use of antibiotics and hence reduces

emergence of resistance in microbes. In our study number of drugs prescribed for the study is 4.65 which is similar to similar studies conducted elsewhere. The significant finding in our study is the use of at least one antibiotic in all cases of non specific viral illness and less severe gastroenteritis. Amoxycillin, Ciprofloxacin and Metronidazole are prescribed antibiotics for these conditions but often not given for adequate duration. Acute non specific viral respiratory infections can be managed with symptomatic treatment like saline gargles, analgesics and antihistamines. Diarrheal diseases other than cholera can be managed by adequate oral rehydration and antibiotics can be prescribed when illness continues beyond two days¹⁵

.There are several studies proved that these conditions can be managed without antibiotics and incomplete therapy is prone to induce resistance. Another factor to be noted along with a positive note that our study showed significant number of drugs used are essential drugs but third generation cephalosporin predominates than macrolides and fluoroquinolones⁴. Higher use of ceftriaxone induces considerable resistance. In a study conducted among seven cities in India resistance to third generation cephalosporins is as high as 39 %⁵. Ceftriaxone is not cost effective when compared to fluoroquinolones, macrolides and also needs parental administration. Third generation cephalosporins are the leading cause for severe antibiotics associated pseudomembranous colitis and policy should be made on its recommendation. We found that ceftriaxone is often started as empirical treatment and possible solution would be increasing use of diagnostic tests and prompt microbiological report to reduce the duration of empirical treatment. Our study shows that aminoglycosides gentamycin and amikacin

were used in our institution to cover gram negative organisms and doses and duration of treatment used were optimum. Following steps must be strengthened towards antibiotic stewardship⁶. Keeping up the standard and functioning of microbiological laboratory for quick results. Infection control committee should be available to do internal surveillance on use of antibiotics for various conditions and recommendation should be given then and there to use antibiotics based on prevailing resistance Pattern⁷. Physicians, paramedical staffs and pharmacist must undergo training on rational use of antibiotics periodically⁸. Limitation of our study includes shorter duration and outcome of our out patients and antibiotics used at intensive units did not taken into account.

CONCLUSION

Rationalising the use of antibiotics is an essential element and it should be done from primary health care set up onwards. Every institution should make an antibiotic policy.

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