

## Drug Prescription Pattern Of Out Patients In A Tertiary Care Teaching Hospital In Gannavaram, Andhrapradesh.

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**Abstract :** Drug utilization research will increase our understanding of how drugs are being used by estimating to what extent drugs are properly used , over used, or under used, drug utilization research may also enable us assess whether interventions undertaken to improve drug use have had the desired impact by monitoring and evaluating the effect of measures taken to improve undesirable patterns of drug use. [1]our aim of study to assessing prescribing pattern of out patients in tertiary care hospital whether rational or irrational ,and awareness of essential drugs among physicians , and awareness of antimicrobial use guidelines and protocols. In our study total 512 prescriptions were analysed ,the most group of drug prescribed was analgesics (26%), followed by Multivitamin(15%) and Antibiotics (12%), proton pump inhibitors (10%), anti histaminics (5%), anti hypertensives (4%) anti diabetics (4%), skin & steroids (3%) and miscellaneous (11%).The prescribing pattern in this study are not satisfactory as result reflect poly pharmacy and over prescription of antibiotics. from this study we can conclude that we have increase awareness of rational prescription and essential drugs by conducting seminars and work shops.

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### I. Introduction

Medicines play an important role in health care delivery and disease prevention. The availability and affordability of good quality drugs along with their rational use is needed for effective health care. However irrational drug use is prevalent ,especially in the developing countries due to irrational prescribing, dispensing and administration of medications<sup>1</sup>. Also, the world health organization (WHO) reports that more than half of all medicines are prescribed ,dispensed or sold inappropriately and that half of a patients fail to take them correctly<sup>2</sup>.

Drug utilization studies seek to monitor, evaluate and suggest modifications in the prescribing practices with the aim of making the medical care rational and cost effective<sup>3</sup>. A study of prescription patterns is an important tool to determine rational drug therapy and maximize utilization of resources. To improve the overall drug use, especially in developing countries, international agencies like the World Health Organization (WHO) and the International Network for the rational use of drugs (INRUD) have applied themselves to evolve standard drug use indicators<sup>4</sup>. These indicators help us to improve our performance from time to time<sup>5</sup>.

Health is a personal responsibility. Taking care of one's body and health of one's family should be the priority of each human being.

However, the responsibility of personal health has been handed over to the health care system .The belief is that doctors ,pharmacists other health care professionals are responsible for our health since they have been trained in that area.

It is assumed that qualified doctors of modern medicine would be rational .According to WHO rational use of medicines require that the patient receive medication appropriate to their clinical needs in doses that meet their individual requirements for an adequate period of time and at lowest cost to them and to their community

The present study was undertaken with an aim to develop baseline data on drug prescribing pattern and evaluate the rationality of the prevalent prescribing practices using WHO prescribing indicators for adoption in drug utilization studies.

In our institute ,Dr.PSIMS&RF,a descriptive study was conducted in O.P. department. 500 prescriptions were collected over a period of 2 months and recorded over a prescribing indicator<sup>6</sup> form. The data was analyzed using WHO prescribing indicators.

## II. Materials And Methods

Institutional Ethics Committee approval was obtained.

**Study Design :** A cross sectional descriptive study

**Study Location :** Was conducted in Out Patient Department of a tertiary care teaching hospital Dr. Pinnamaneni Siddhartha Institute of Medical Sciences, Gannavaram, Andhra Pradesh.

**Selection Method :** Every 3 rd prescription from the outpatient departments coming to the pharmacy will be included in the study. 512 prescriptions (average daily OPD attendance) were collected

**Study Duration :** Over a period of 2 months from October 2018 to November 2018. The data was then analyzed to find out the prescribing pattern in the hospital using the WHO prescribing indicators<sup>6</sup>.

### WHO prescribing indicators.

1. Average number of drugs per encounter: Average, calculated by dividing the total number of different drug products prescribed, by the number of encounters surveyed. It is not relevant whether the patient actually received the drugs.
2. Percentage of drugs prescribed by generic name: Percentage, calculated by dividing the number of drugs prescribed by generic name: Percentage, calculated by dividing the number of drugs prescribed by generic name, by the total number of drugs prescribed, multiplied by 100.
3. Percentage of encounters with an antibiotic prescribed: Percentage, calculated by dividing the number of patient encounters during which an antibiotic is prescribed, by the total number of encounters surveyed, multiplied by 100.
4. Percentage of drugs prescribed from essential drugs list or formulary: Percentage, calculated by dividing the number of products prescribed which are listed on the essential drugs list or local formulary (or which are equivalent to drugs on the list) by the total number of products prescribed, multiplied by 100.

## III. Results

A total of 512 prescriptions were collected and analyzed. A total of 1424 drugs were prescribed [Table 1]. Average number of drugs per encounter was 3. Drugs prescribed from essential drugs list (India) was 3.65%. Drugs prescribed from essential drugs list (WHO) was 3.16%. Total number of prescriptions with an antibiotic was 12%. Total number of prescriptions with a FDC was 138(9.69%).

**Table No : 1 Shows overall prescribing pattern**

Prescribing Indicators	no. (%)
Total number of prescriptions analyzer	512
Total number of drugs prescribed	1424
Average number of drugs per encounter*	3
Drugs prescribed by generic name*	45(3.16%)
Drugs prescribed from essential drugs list (India)*	52(3.65%)
Drugs prescribed from essential drugs list (WHO)*	47(3.16%)
Total number of prescriptions with an antibiotic*	170(12%)
Total number of prescriptions with a FDC	138(9.69%)

The most common group of drug prescribed was Analgesics (26%), followed by multivitamins (15%) and Antibiotics (12%), PPI's (10%) Antihistaminic drugs (5%) anti hypertensives (4%) anti diabetics (4%), Skin & steroids (3%) and Misc (11%) [Graph 1].

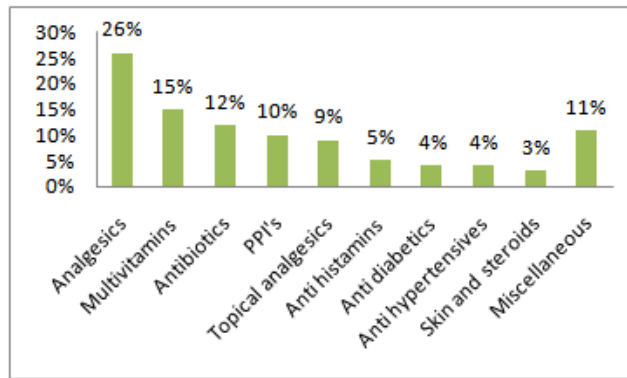
The most common drug prescribed was Paracetamol (33%), followed by Becosules (29.3%) and augmentin (33%) [Graph 2].

The most common analgesic prescribed was Paracetamol (33%), followed by Aceclofenac (16%) and Tramadol (9%), Nimesulide (6%), and Misc (36%) [Graph 3].

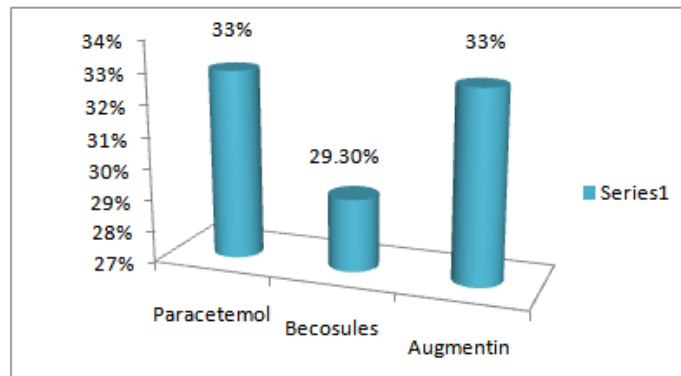
The most common multivitamin prescribed was Becosules (29.3%), followed by Pregaba NT (10%) and Cobal fit (8%), Zincovit (5.7%) and Misc (47%) [Graph 4].

The most common antibiotic prescribed was Augmentin (33%), followed by cefixime (22%) and azithromycin (16%), cefpodoxime (10%) and Misc (19%) [Graph 5].

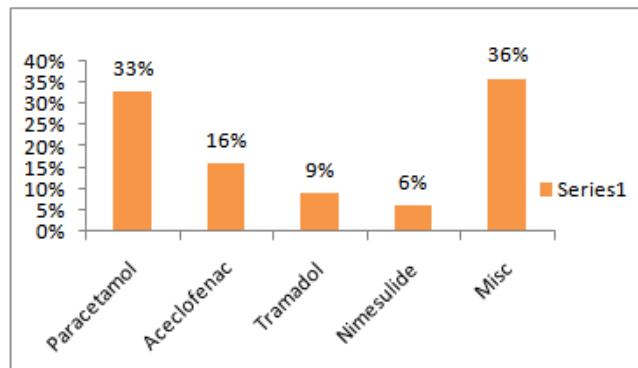
### Graph 1 : Most common group of drugs prescribed



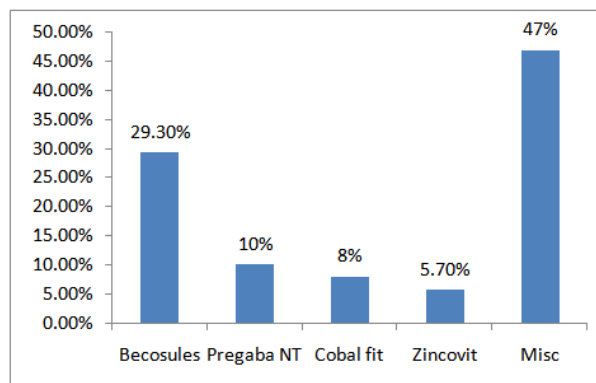
**Graph 2 : Most common drugs Prescribed**



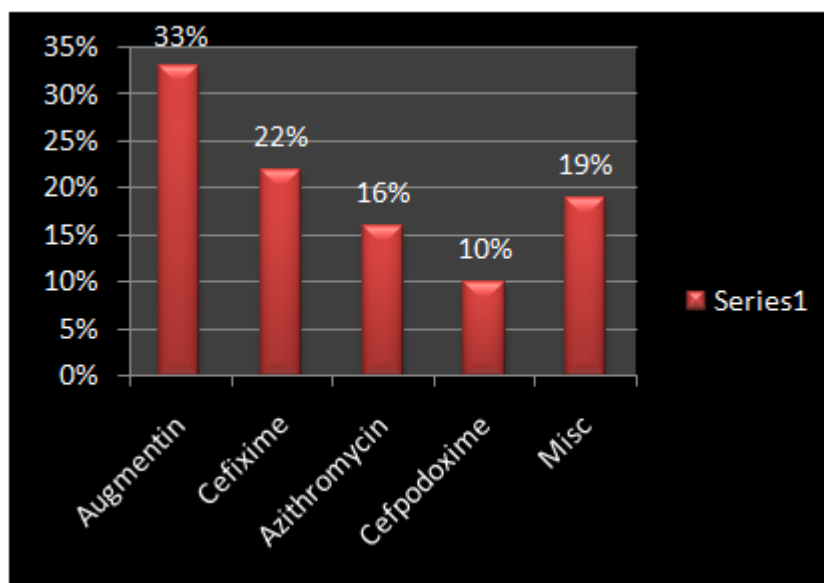
**Graph 3 : Most common Analgesic drug Prescribed**



**Graph 4 : Most common Multivitamin Prescribed**



**Graph-5 : Most common Antibiotics prescribed**



#### IV. Discussion

The average number of drugs prescribed per encounter was 3. It was more than that reported in most of the studies in government setups across Indian cities, the closest being Allahabad<sup>7</sup>, Nagpur<sup>8</sup> and Delhi<sup>4</sup> (3.52, 3.40, 3.03 respectively). International studies report values ranging from 1.3 in Zimbabwe<sup>9</sup> to 4.51 in Pakistan<sup>10</sup>.

A staggering 56.75% of prescriptions had 4 or more drugs suggesting a trend of polypharmacy. This may be due to treatment based on symptoms rather than the diagnosis. Such irrational polypharmacy leads to reduction in quality of drug therapy, wastage of resources, emergence of resistance, increased cost of therapy and increased adverse reactions.

The most common drug prescribed was amoxiclav (9.7%), followed by paracetamol(14.5%) and B complex (10.2%). This shows that there is a tendency to prescribe the antibiotics, vitamins & analgesics commonly.

The percentage of prescriptions with antibiotics was 64.2%. According to WHO15- 25% of prescriptions with antibiotics is expected in most of the developing countries where infectious diseases are more prevalent<sup>6</sup>.

This figure is very high in some of the developing countries like Pakistan (78%)<sup>10</sup>, eastern Nepal (79.9%)<sup>11</sup>. Various studies from India also report a high rate ranging from 40-80%<sup>12</sup>.

The most common antibiotic prescribed was amoxiclav(9.7%), followed by cefixime (6%), azithromycin(3.6%)and cefpodoxime(3.2%). This may be due to overestimation of severity of illness, pressure due to demand of rapid symptomatic relief by patients, and tendency towards empirical therapy rather than personalized therapy.

The prescribers need to be extra cautious before prescribing any antibiotic to avoid unnecessary burden on patient and development of resistance.

The percentage of drugs prescribed from the essential drugs list of India was15%. This was very low as compared to that reported by Sutharson L *et al*, where it was 94.48%<sup>13</sup>. The percentage of drugs prescribed from the essential drugs list of WHO was only 13%. This was due to lack of awareness of Essential Drug List.

#### V. Conclusion

The prescribing practices in this study are not satisfactory, as suggested by polypharmacy, over prescription of antibiotics and lack of awareness of essential drugs list. The efforts of the prescriber can be successful and patient satisfaction can be achieved only if the patient receives rational treatment for his disease or illness. This study will act as a feedback to the prescribers, so as to create awareness about the rational use of drugs.

The hospital formularies should be formed based on local requirement, mainly of essential drugs and prescribers should be encouraged to prescribe from the same. This will help to curtail unnecessary expenditure on costly drugs. Medical community should prescribe with social perspective in mind and should stay away from practices which will be detrimental to the society at large.

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