Prospective Study of Antibiotics Utilization in Multi Speciality Hospitals in Narasaraopet at Guntur District, Andhrapradesh.

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ABSTRACT
Drug use is a complex process uncertainties in diagnosis, treatment and medication adherence contribute to wide variations in the way drugs are used for any given conditions. In any country, a large number of sociocultural factors also contribute to the way drugs are used. In India, this include national drug policy, illiteracy, poverty, use of multiple health care systems, drug advertising and promotion, same of prescription drugs with out prescription, competition in the medical and pharmaceutical marketplace and limited availability of and unbiased drug information. The complexity of drug use means that optimal benefits of drug therapy in patient care may not be achieved because of under use, over use or misuse of drugs. . One method to evaluate and improved drug use is conducting drug use evaluation studies.**Method:** This study was prospective observational study in multi speciality hospitals in Narasaraopet at Guntur district Andhra Pradesh **Results:** The study was conducted from August 2018 to Dec 2019 in various multi speciality hospitals in Narasaraopet at Guntur district Andhra Pradesh. Total three departments we collected data Pediatrics , orthopaedic , gynaecology A total of 435 patients were participated in the current study out of 153 (35%)were males and 282 (65%)were females. In this study most common group antibiotics is cephalosporins 152 (34.9%) out of 435 of which mostly cefitriaxone are most commonly prescribed 70 (46%) **CONCLUSION**. Study provides the information about the prospective study of antibiotics utilization in multi speciality hospital. It has helped to identify irrational prescribing patterns of drugs in various departments like pediatrics, gynaecology orthopaedic.
Keywords: Antimicrobial resistance, Drug information , Diagnosis , treatment.

I. INTRODUCTION:
Antibiotic is a chemical compound that inhibits the growth of microorganism,such as Bacteria,fungi, or protozoans.it also includes any agent with biological activity against living organisms,however, the term is commonly used to refer to substances with anti bacterial,anti-

The antibiotic properties of penicillium spp. Were first described in France by Ernest duchense in 1897.However, his work went by without much notice from the scientific community until Alexander Fleming's discovery of pencillins.

Modern research on antibiotic therapy began in Germany with the development of the narrow- spectrum antibiotic salvarsan by Paul Ehrilich in 1909, for the first time allowing an efficient treatment of the then - widespread problem of syphilis. The drug which was also effective against other spirichaetal infections, is no longer in use modern medicine.

Drug use evaluation (DUE) is an ongoing, authorized and systematic quality improvement process, which is designed to ;Review drug use and/or prescribing factors.Provide feedback of results to clinicians and other relevant groups.Develop criteria and standards which describe optimal drug use.Promote appropriate drug use through education and other interventions

Drug use/usage/utilization evaluation (DUE) was originally known as drug utilization review (DUR) in the 1970s and early 80s the terms drug utilization review and use drug evaluation are inter changeable. Medication use evaluation is another term that is used in place of due by some authors since 1994. According to the world health organization (WHO),MUE is similar to DUE in all respects except that it is patient outcome oriented and places emphasis on assessing clinical outcomes. MUE mainly aims at assessing and improving patient outcomes and there by

improving the individual patients health related quality of life (HRQOL). Regardless of the terminology the main of DUE studies is to promote rational drug use.

II. MATERIAL AND METHODS

Study design:

The study was conducted at various multi speciality hospitals of the Guntur district, Andhra Pradesh, India from August 2018 to Dec 2019. We recorded all the patients who undergone the various departments Clinical data were collected.

OBJECTIVES OF THE STUDY

1. Prospectivestudy of antibiotics utilization in various multi-specialty hospitals
2. To obtain information on demographic characteristics of the prescription selected multispecialty hospitals.
3. To investigate and compare the antibiotics utilization in various selected multispecialty hospitals.
4. To study out the adverse effects of antibiotics.

5. To study out the cost comparison of antibiotics.
6. To study out the rationality in various selected multispecialty hospitals.

Inclusion criteria.

Patients with age group of 5-70 years.
All out-patient's in various departments.
All in patient's in various departments

Exclusion criteria:

Patients who are not willing to participate in study
Intensive care unit patients.
who are age above 71 years not included
Statistics: The analysis of data was done by using SPSS software

III. RESULTS AND DISCUSSION :

A total number of 435 peoples were involved in the study. Out of 153 were males and 282 were females. The gender distribution of patients enrolled for the study was presented in Table -1, Figure -1.

Table 1: Gender Distribution

	Number	Percentage
Males	153	35%
Females	282	65%
total	435	

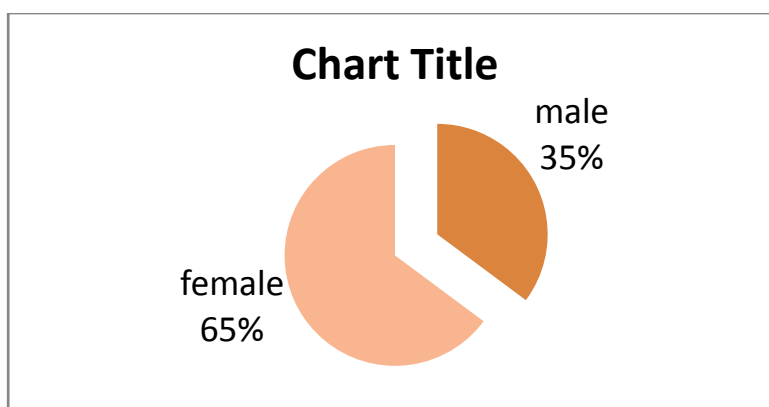**Figure 1: Gender Distribution**

Table -2 Based on age group total prescriptions - 435 Males were 153 Females were 282 shown in table -2 figure -2

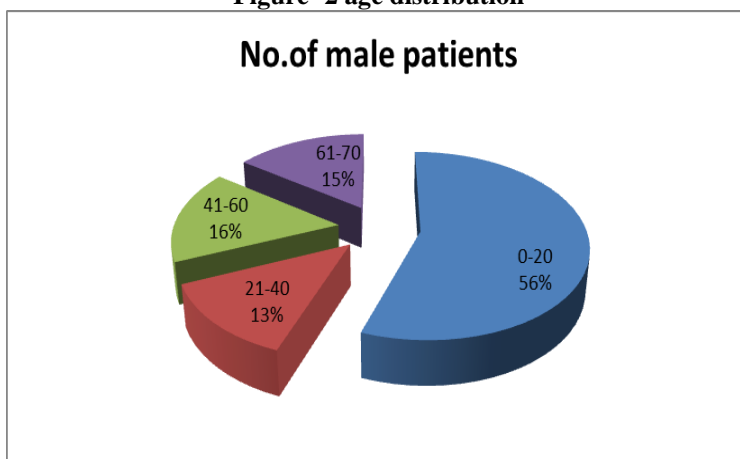| S.No	Age group	No.of male patients	No.of female patients
1	0-20	85	127
2	21-40	20	115
3	41-60	25	25
4	61-70	23	15

Figure -2 age distribution

Table 3: Total 435 Patients undergone the various kind of departments study was presented in table -3 and figure -3

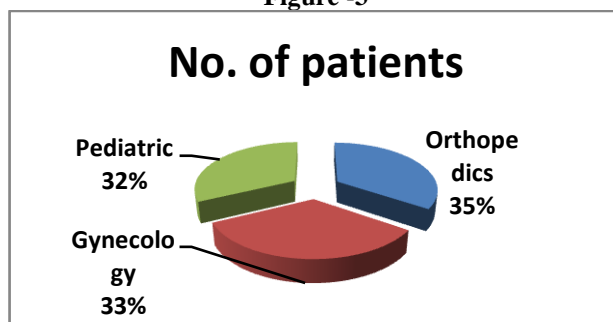| Type of Ward	No. of patients	%
Orthopedics	150	35%
Gynecology	145	33%
Pediatric	140	32%

Figure -3

TABLE -4: Total 2228 Number of dosages forms used in this three departments shown Table- 4and figure- 4

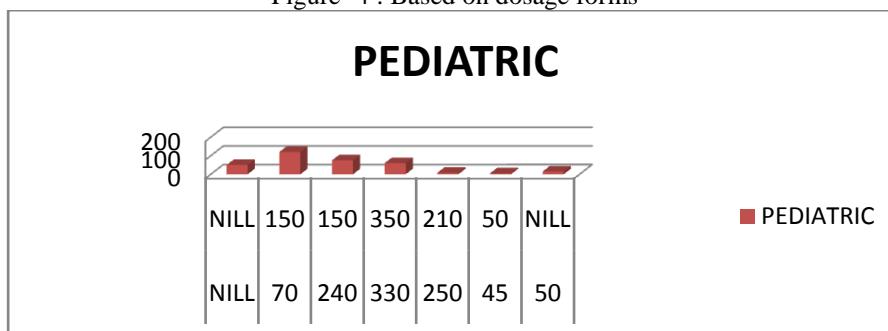| S.NO	NAME OF THE DEPARTMENT	DROPS	SYRUP	INJECTIONS	TABLETS	CAPSULES	POWDERS	CREAMS
1	ORTHOPETIC	NILL	70	240	330	250	45	50
2	GYNECOLOGY	NILL	150	150	350	210	50	NILL
3	PEDIATRIC	50	120	75	60	8	5	15
4	TOTAL	50	340	465	740	468	100	65

Figure -4 : Based on dosage forms

Table -5: Total NUMBER OF PRESCRIPTIONS 435 BASED ON CATEGORY OF DRUGS is 2228 are shown in table -5and figure -5

| S.NO	CATEGORY OF DRUG	Pediatric	ORTHOPEATIC	GYNOCOLOGY	TOTAL
1	ANTI-HISTAMIN	140	0	32	170
2	ANTI-BIOTIC	200	180	55	435
3	ANTIPYRETIC	80	70	43	193
4	MULTIVITAMINS	115	80	70	265
5	BRONCHODIALATOR	95	0	0	95
6	APLHA AGONIST	50	0	0	50
7	ANTIEMETIC	10	0	34	44
8	ANTISEPTIC	15	35	0	50
9	ANTIFUNGAL	10	0	0	10
10	ANTIACID	5	80	42	127
11	ANTI HELMINTICS	7	0	0	7
12	ANTI EPILEPTIC	2	45	0	47
13	NSAIDS	2	0	0	2
14	CALCIUM	0	0	80	80
15	IRON SUPPLEMENTS	10	25	47	82
16	HORMON	0	0	80	80
17	LAXATIVES	0	0	20	20
18	ANTI HYPERTENSIVE	0	40	0	40
19	ANTICOAGULANT	0	40	10	50
20	URINARY ALKANIZES	0	0	18	18
21	ANTI DIABETIS	0	40	20	60
22	CORTICOSTEROIDA	0	0	30	30
23	EXPECTORANT	0	12	12	24
24	H2 BLOCKERS	0	0	14	14
25	ANTITHYROID	0	0	10	10
26	VACCINS	0	0	16	16
27	ANTICHOLINERGIC	0	35	0	35
28	ANTIOXIDANT	0	33	0	33
29	DIURETIC	0	15	15	30
30	ANGIOTENSION	0	35	0	35
31	ANTI DEPRESANTS	0	30	0	30
32	ANTIARRHYTHMICS	0	40	0	40

Figure -5 : Based on category of drugs
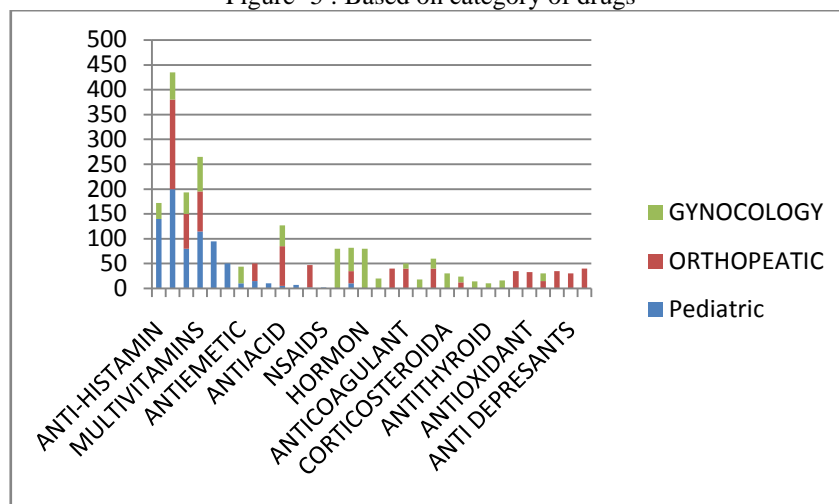
Table-6 : Total number Antibiotics used in three departments 435 shown in Table -6 figure -6

| S.NO	NAME OF THE ANTIBIOTICS	NUMBER
1	CEFTRIOXONE+SULBACCTUM	35
2	PIPERACILLIN+TAZOBACTAM	40
3	AMINOGLYCOSIDE ANTIBIOTIC	25
4	LINEZOLID	15
5	AMPICILLIN + SULBACCTUM	30
6	CEFUROXIME	43
7	CEFTRIOXONE	35
8	AMOXICILLIN	25
9	AZITHROMYCIN	15
10	AMOXICILLIN+ CLAVULANATE	30
11	PREDNISOLONE SODIUM PHOSPHATE	15
12	MOTELUKAST SODIUM	25
13	AMIKACIN SULATE	25
14	CEFIXIME	39
15	CIPROFLOXACIN	12
16	OFLOXACIN	6
17	GENTAMICIN	10
18	METRONIDAZOLE	10

Figure -6 : Total number of antibiotics
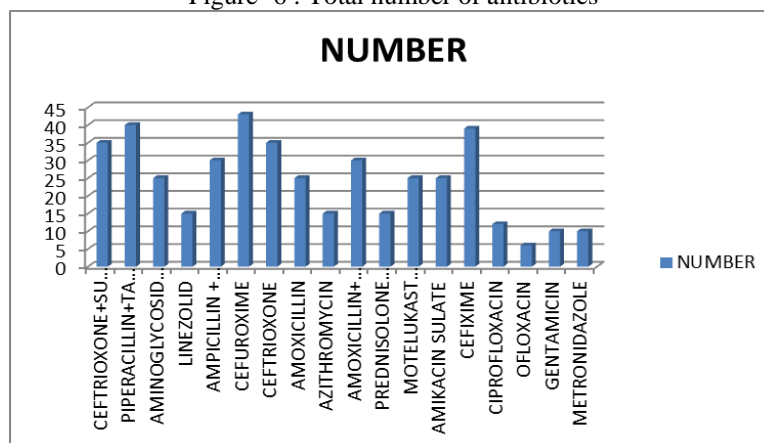
TABLE-7: ANALYSIS OF PRESCRIPTIONS IN THE LIGHT OF W. H. O PRESCRIBING INDICATORS

A total of 435 prescriptions were collected randomly and analyzed. A total of 2228 drugs were prescribed, Average number of drugs per encounter were 5.1. Drugs prescribed from essential drugs list (WHO) were 740(33.21%). Total number of antibiotics prescribed were 435(19.5%)mostly CEFTRIAXONE were prescribed 70(16%)

Parameters	Observed value
Total number of prescriptions analyzed	435
Total number of drugs prescribed	2228
Total number of drugs prescribed from essential drug list	740
Average number of drugs per encounter	5.1
Total number of antibiotics prescribed	435
Percentage of encounters with an antibiotic prescribed	82.42%
Percentage of encounters with injections prescribed	20.8%
Percentage of drugs prescribed from essential drug list	33.21%

IV. CONCLUSION.

Study provides the information about the prospective study of antibiotics utilization in multi speciality hospital. It has helped to identify irrational prescribing patterns of drugs in various departments like pediatrics, gynaecology orthopaedic . Hence, the clinical pharmacist must be considered to be an integral part. They should be involved in collection and presentation of prescribing data as a part of clinical audit and also counselling of patients/ care takers. Pharmaceutical care is needed in the correct management of drugs

which is even more important in various departments. The WHO core indicators helped to improvise the prescribing pattern, identify significant problems involved in the knowledge gap of patients or caretakers understanding of instructions provided by consultants and even to minimize the cost burden on patient.

V. ACKNOWLEDGMENT

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