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Evaluation of Prescription and Rational Use of Antibiotics in a Tertiary Care Hospital

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ABSTRACT

The study aims to determine the prescribing practice and intellectual use of antibiotics patient in a peripheral care hospital. Estimating deserves clinical attention to therapy outcomes contrasting study on use of generic drug prescription as well as essential drug prescription. The present representational of your written report undergoes screen the prescription medicine tendencies of antibiotics in clients. During this report, 200 cases have been self-possessed during which dictates the overall medical care was once administrated for antibiotics in patient's idea out an essential drug. The report used to be an easy potential observational report which was once carried out six months. The clients had been self-possessed according to inclusion and exclusion criteria. Demographic characteristics showed that out of 200 patients, administration of drugs, to male were 121 (60.5 %) and female were 79 (39.5 %) and the maximum distribution of use of drugs was administered in the patients between the age group of middle age between 41-60 n=131 (65.5 %) and followed by young age 18-40 n= 37 (18.5 %) and old age of 60 years n=32 (16%). There was a high prevalence in the middle age group due to lifestyle habits, obesity, physical inactivity, smoking; alcoholism (males) unmasks blood sugar to rise. However, the prescription pattern of antibiotics drug utilization was most common in the therapy were monotherapy n=125 (62.5 %) followed by combination therapy n=75 (37.5 %) respectively. In this study the classes of drugs prescribed were Cephalosporins (25.5%), Quinolone antibiotics (12.5%), Macrolides (9.5%), Aminoglycosides (6%), Carbapenems (3.5%), Other antibiotics (2.5%), Tetracyclines (2%), Penicillins (1%) and Fixed-dose combinations (37.5). The results revealed that Fixed-dose combinations (37.5) were the choice of drugs prescribed in patients followed by Cephalosporins (25.5%) patients.

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INTRODUCTION

Antibiotics are one of the most important discoveries in the field of medical science and are widely used against infectious agents. Most of the antibiotics now in use have been discovered more or less by chance, and their mechanisms of action have only been elucidated after their discovery [1]. Antibiotics are essential for treating bacterial infections, and antibiotic resistance stops an antibiotic from working effectively against bacterial infections may become very difficult to treat. A medicinal professional prescribes the medications demonstrate his

or her capacity to choose the quality of medication that is accessible in the market for that specific ailment and to decide the ones which will be most appropriate for their needs [2]. This requires a careful comprehension of different parts of both the infection and medications by the treating physicians lastly giving the patient protection [3]. At least 80 million antibiotic prescriptions each year are unnecessary, which makes improving antibiotic prescribing and use a national priority, according to the centers for disease control, explained the importance of the initiative in an era where antibiotic-resistant bacteria causes to increasing the number of hospitals [4].

Need for Study

Focus to do observation study in clients enumerating potential analysis of prescription pattern and rational use of antibiotics. Disconfirming factors and inferences beneficial to provide from the physician [5]. Advice on withdrawal of the precipitant drug would be beneficial in the clinical management of relevant drug-drug interactions.

MATERIALS & METHODS

Methodology

Study Site

The research at the department of paramedical as well as medicine [6], BBR Multi Speciality Hospital, Balanagar, Firozguda, Hyderabad.

Study Period

The prospective observation transmits out six months.

Study Design

It is a prospective observational study at the department of general medicine and department of General surgery [7], BBR Multi Speciality Hospital, Balanagar, Firozguda, Hyderabad.

Study Criteria

The patients were involved in the study according to inclusion and exclusion criteria. The sex, age of the patient, type of speech therapy, and type of comorbid concurrent illness with relevancy were studied. However, it collectively notifies the chance of actual and potential drug interactions of drugs essentially severe [8]. The results were analyzed. Patients from the department of paramedical as well as medicine were enrolled in the study by considering the following criteria.

Inclusion Criteria

The patient's undergone surgery.

Postoperative Patient's.

Age>18years.

Hospitalized for complications.

Patients who were willing to participate in the study.

Patients who are infected by microbial contamination.

Patients who are having diabetic wound infection [9].

Exclusion Criteria

Patient of age below 18 years.

Pregnant and lactating women.

ICU patients.

Surgeries where there is no need for prophylactic antibiotics [10].

Study Material

The patient's information related to age, sex, smoking history, chief complaints, history & family history were recorded. The diagnosis & operative procedure were noted. The details of antibiotics and other therapy given to patients were recorded in terms of dose, duration & route of administration [11]. The patients were followed till the time of discharge. Postoperative findings such as the general condition of patients were assessed for detection of any systemic infection. The status of the wound was assessed in terms of pus formation and healing. In case of development of any wound or systemic infection, the treatment given for the same was also is recorded. All the above data were collected from the patient's case record and microbiology reports [12].

Data Collecting Method

The research according to the patient world view and maybe a variety of prevalence-based study. The medical record including the patient medical history is summarized for a specific period. Data recorded as patient demographic characteristics, clinical status duration of disease, type of complication, length of stay [13].

RESULTS

The Survey for two hundred clients with the diagnosing of antibiotics at the Department of General Surgery BBR Multi Speciality Hospital, Balanagar, Firozguda, Hyderabad.

Categorization based on age

From the obtained data, 18.5% of patients were between 18-40 years age group; 65.5% patients were between 41-60 years age group, and 16%

Table 1: Patient Demographic Characteristic (gender and age Wise Distribution)

S.No	Patient Characteristics	Number of cases N=200		Percentage
	Age in Years	Male N= 121	Female N=79	Distribution
1	Young group (18-40years)	26	11	18.5 %
2	Middle age (41-60 years)	76	55	65.5 %
3	Old Age (Above 60)	19	13	16.00 %
	Total			100 %

Table 2: Classes of Drugs antibiotics prescribed

S.No	Classes of Drugs	No. of Prescriptions (N= 200)	Percentage (%)
1.	Cephalosporins	51	25.5
2.	Quinolone antibiotics	25	12.5
3.	Macrolides	19	9.5
4.	Aminoglycosides	12	6
5.	Carbapenams	7	3.5
6.	Other antibiotics	5	2.5
7.	Tetracyclines	4	2
8.	Penicillins	2	1
9.	Fixed dose combinations	75	37.5
	Total	200	100

Table 3: General Route of Administration

S.No	Route of Administration	No. of Patients (N= 200)	Percentage (%)
1	Oral	55	27.5 %
2	Injectable	145	72.5 %
	Total	200	100

Table 4: Approach to Treatment

Approach to treatment	No. of patients (n=200)	Percentage (%)
Monotherapy	125	62.5 %
Combination therapy	75	37.5 %
Total	200	100

patients were above 60 years. Data illustrated in Table 1.

Categorization based on gender

Out of 2 hundred patients, 121 patients were male and seventy-nine clients had been female. Track record adorned in Table 1.

Categorization based on social habits

Out of the total study population, 21% of patients were smokers. Data was illustrated in Figure 1.

Categorization based on exercise pattern

Based on exercise patterns patients were distributed according to their category and illustrated in Figure 2.

Distribution of antibiotic drugs based on prescribing patterns

Different classes of antibiotic drugs were prescribed

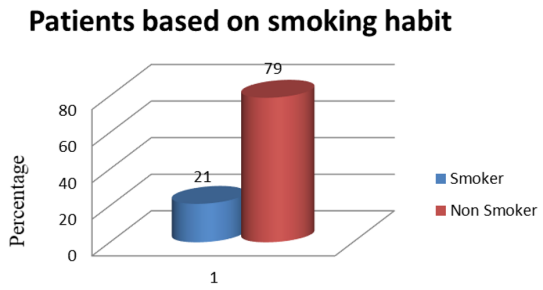

Figure 1: Distribution of the patients based on smoking habit

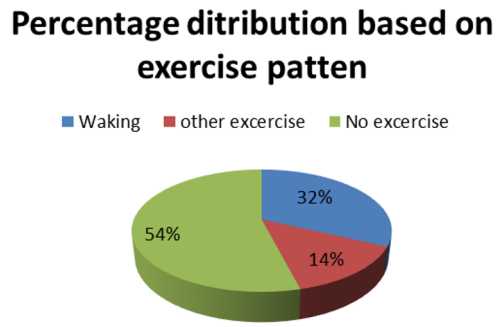

Figure 2: Distribution based on exercise pattern

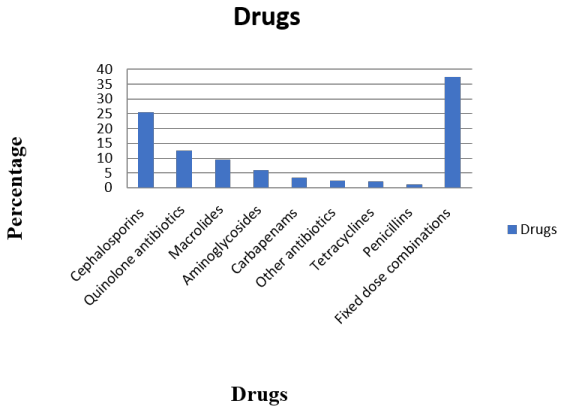

Figure 3: Details of a class of antibiotics drugs prescribed

to the subjects according to their conditions and underlying factors. The detailed information was represented in Table 2 and Figure 3. The information regarding the route of administration was tabulated in Table 3 and as well as approach to the treatment was tabulated in Table 4.

DISCUSSION

Many illnesses had been regimented within the 20 th century by making improvements to conditions, public health studies, and also the use of antimicrobial agents. Spectacular irrational utilize of antibiotics is resulting in the mischief-making of microflora, the surfacing of multi-drug resistant microorganisms plus clinical symptoms like toxic megacolon. To overcome the above problems and to assure safe and cost-effective therapy, antibiotic guidelines are required in a hospital setup. By definition, "Antibiotic guidelines are the standard set of guidelines for the treatment of infectious diseases based on local culture sensitivity data. The ultimate goal of this study is to achieve rational and cost-effective medical care, particularly in economically developing countries. Hence the present study was carried out to know the outpatient prescribing pattern.

In our study, the prescription pattern and rational use of antibiotics were high in males in a percentage of 60.5 % (n=121) where else of females 39.5% (n=79). Males have predominance in the study population with the results of various studies in India.

The present study indicates the general trend of administration of drugs and comorbid illness drugs treating in the general medicine ward of the hospital.

Demographic characteristics showed that out of 200 patients, administration of drugs to male were 121 (60.5 %) and female were 79 (39.5 %) and the maximum distribution of use of drugs was administered in the patients between the age group of middle age between 41-60 n=131 (65.5 %) and followed by young age 18-40 n= 37 (18.5 %) and old age of 60 years n=32 (16%). There was a high prevalence in the middle age group due to lifestyle habits, obesity, physical inactivity, smoking; alcoholism (males) unmasks blood sugar to rise. However, the prescription pattern of antibiotics drug utilization was most common in the therapy were monotherapy n=125 (62.5 %) followed by combination therapy n=75 (37.5 %) respectively.

The distribution of the patients based on smoking habit was found to be a smoker of 21% and the non-smoker was 79%. The main reason for the reduction in the smoker case is due to an increase in age factor number in the case subject. Based on the exercise pattern, subjects were reported as high in no exercises with a percentage of 54%, followed by waking 32% and other exercises 14%.

In this study the classes of drugs prescribed were Cephalosporins (25.5%), Quinolone antibiotics (12.5%), Macrolides (9.5%), Aminoglycosides (6%), Carbapenems (3.5%), Other antibiotics (2.5%), Tetracyclines (2%), Penicillins (1%) and Fixed-dose combinations (37.5). The results revealed that Fixed-dose combinations (37.5) were the choice of drugs prescribed in patients followed

by Cephalosporins (25.5%) patients. In the case of the route of administration, it's observed in the study that 55 (27.5 %) drugs were prescribed by the oral route, followed by 145 (72.5 %) drugs as injectables. Injectables were the choice of drugs prescribed in patients. The study shows that more patients were treated with Monotherapy n=125 (62.5) followed by combination therapy 75 (37.5 %). In single therapy Cephalosporins (25.5%) was found to be more prescribed than other classes of drugs. When cases were screened thoroughly, it was found that numbers of cases of Monotherapy n=125 (62.5 %) followed by combination therapy n=75 (37.5 %). This shows that prescription suggested for administration was more preferred Cephalosporins in mono-therapy. In patients with antibiotics, treatment may be initiated with monotherapy followed by early intervention with combination therapy. In our study Monotherapy secured the highest utilization percentage among all. Finally, the establishment of therapeutic guidelines, constant monitoring of antibiotics condition of a patient reduces the threat and improves the quality of life.

CONCLUSION

Our report exhibits, so the utilize of antibiotics is still recommended in medication and the like a vital proportion of the total medicines. At admittance out into ICU spectacular elderly and sicker clients are decreed a lot of antibiotics, especially antibiotics. Admittance out into ICU the of age and sicker clients are decreed more antibiotics in particular antibiotics that are a lot of expensive. The general way up utilization charges and process of antibiotics decreed at admittance in the ICU is a matter of concern and want to be urgently addressed by all levels of health care.

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Conflict of Interest

The authors declare that there is no conflict of interest for this study.

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