A CROSS-SECTIONAL RESEARCH TO ASSESS THE ANTIBIOTIC DIRECTED FIGURES AND ANTIOBIOTIC USE AMONG HOSPITALIZED PATIENTS

[1]**Anam Jamil**, [2]**Ifrah Saeed**, [3]**Maryam Saeed**
[1]DHQ Hospital Jhelum, [2]Sir Syed College of Medical Sciences for Girls, Karachi.

Abstract:
Background: Inadequate vulnerability of patients to potentially harmful drugs is enhanced and the price of drugs increases due to illogical use of multiple antimicrobial agents. The use of such agents in the hospital may lead to the occurrence of resistant microorganisms.
Objective: The objective of this study was to analyze the directed figures of antibiotics and to assess the use of antibiotics among patients admitted in the hospital.
Materials and Methods: The research was carried out at Mayo Hospital, Lahore from June to September 2018. In this research, the assessment was made the drug charts of patients in medical and surgical wards.
Results: Total patients examined in this study were 800. The mean age of the patients was 38.17 years. Single and multiple antibiotics were given to 38.1% and 61.8% patients respectively. Active ingredients by patients were 14 with 21 different brands. For each patient, 1.8 was the average number of antibiotics directed. Ceftriaxone, Metronidazole and Quinolones were the commonly directed medicines to 65.3%, 49.3% and 31.6% patients respectively. Total patients who received antibiotics were 650. For examining, intravenous, oral and both ways were used in 84.4%, 2.3% and 13.2% patients respectively.
Conclusion: Illogical use of antibiotics may cause the occurrence of microbial resistance. In inpatients department of the hospital. The number of patients taking multiple antibiotics is high. The use of multiple medications greatly affects the health of the patient. The incidence of drug-drug association and severe drug responses in all age group also increases. So, for the correct use of antibiotics, there is a requirement of local guides.
Keywords: *Antibiotics, Microbial, Drug and Agents.*

Corresponding author:
Anam Jamil,
DHQ Hospital Jhelum.

QR code

INTRODUCTION:

Selling, administration, direction and consumption of drugs in a population has been known as drug utilization. The social and medical outcomes of these drugs are also given importance [1]. The important factor of health system research is the assessment of the health quality care [2]. In outpatient and inpatient care, then that is commonly used is antibiotics. However, establishment and dispersal of antimicrobial resistance are directly associated with the illogical use of new antibacterial drugs and dispersal of multi-resistant bacterial clones, resistance to antibiotics has become a main public health issue during the previous twenty years [4, 5]. Antimicrobial resistance is transforming to gram-positive and gram-negative bacteria all around the globe [6, 7].

Antimicrobial resistance occurs due to the illogical use of antibiotics [8]. 44.97% of the patients in hospital receiving antibiotics illogically in the developing countries [9 – 12]. For people working in a clinical pharmacy, there has always been space in the areas of research and study in the improvement of sensible use of medicines and reducing severe drug responses. There is a requirement of safer systems for the execution of safer practices [13]. The objective of this study was to analyze the directed figures of antibiotics and to assess the use of antibiotics among patients admitted in the hospital.

PATIENTS AND METHODS:

The research was carried out at Mayo Hospital, Lahore from June to September 2018. In this research, the assessment was made the drug charts of patients in medical and surgical wards. The information of 800 patients was assembled. These patients belong to both surgical and medical wards. The patients selected from surgical and medical wards were 300 and 800 respectively. Data were collected regarding the patient's age, sex, various groups of antibiotics and route of drug administration and route of drug administration. The measurement was made regarding the average age of patients, an average number of antibiotics per patient. The way of administration and commonly used an antibiotic in medical and surgical wards after collecting the desired information. For the organization of information, the computer-based assessment was used.

RESULTS:

Total patients examined in this research were 800. The mean age of the patients was 38.17 years. Single and multiple antibiotics were given to 248 (38.1%) and 4.2 (61.8%) patients respectively. Antibiotic therapy was given to 650 (81.25) patients. For each patient, 1.8 was the average number of antibiotics directed. Ceftriaxone, Metronidazole, Quinolones and Penicillin were the commonly directed medicines to 65.3%, 49.3%, 31.6% and 19.2% patients respectively. On the other hand, Cephradine, Aminoglycoside, Clindamycin, Tetracyclines and Vancomycin were less used antibiotics and used by 6.1%, 5%, 3%, 0.15% and 0.76% patients respectively. In surgical and medical wards, the consumption of antibiotics were 100% and 70% respectively.

Table: Antibiotics Utilization

Antibiotics	Utilization Percentage
Ceftriaxone	65.30
Metronidazole	49.30
Quinolones	31.60
Penicillin	19.20
Cephradine	6.10
Aminoglycosides	5.00
Clindamycin	3.00
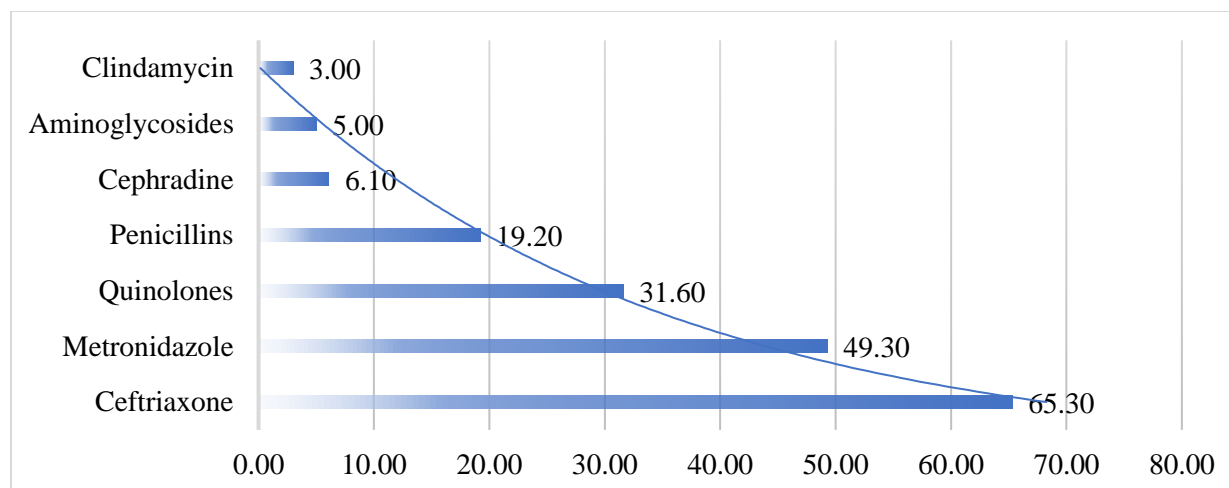
DISCUSSION:

The occurrence of bacterial resistance is associated with the limitless use of antibiotics. The inadequate and illogical consumption of antibiotics is on the increase. In the indoor setting where antibiotics are consumed on a large scale, the practice of illogical use of drugs is common [20]. In our study, nonetheless, of identification and clinical presentation, the percentage of indoor patients received antibiotics was 81.2%. The study illustrates antibiotic use as 78.7%, is comparable to our results. However, as compare to Asia, the USA or Europe, the results of our study are higher [15 – 18]. In Bangladesh, this percentage was 71.1% [19], in and Jordan, the percentage was 45.8% and 60.9% respectively [20], 63% in Sudan [21] and in Saudi Arabia, it was 56.2% [22]. 34% was the percentage in Malawi; whereas, 29% in Africa, Zimbabwe [21]. In Guatemala, America and Ecuador, the prescribing rate of antibiotic was 27% [21]. On the other hand, this rate was 27% in Europe, Andorra [24]. This indicated that antibiotics are being used illogically. In this way, antibiotics are being wasted and poor patients are depriving of medicines. The most frequently used drug in our study was Ceftriaxone (65.3%). The consumption of Ceftriaxone in a study conducted in Bangladesh was 30.2% [19]. This also proves abnormally high resistance of Ceftriaxone [25, 26]. In India, the percentage of Ceftriaxone was high (82%) [30]. In our study, the intake of Metronidazole was 49.3%. As compare to study in Thailand (9.7%). Our percentage is much higher [27]. As compared to another research (9.7%), the use of Quinolones in our study was 31.6% which is higher [28]. In our study, the mean number of antibiotics directed to each patient was 1.8. This result is similar to many studies organized in developing nations. As compared to other countries, this figure is highest in Bahrain which was 3.3 [29]. The mean number of drugs prescribed per patient was 1.6 in one study of 12 developing countries [21]. On the other hand, this figure was 1.44 in Saudi Arabia [22]. However, there observed a valuable reduction in the number of drugs prescribed due to the execution of sensible use of drug policies ten years ago in Lagos, Nigeria. The policy of firm sticking to the available antibiotics and insufficient availability of antibiotics in indoor pharmacy were the restrictions of our study. Comprehensive detail of issues regarding use of antibiotics should be available involving directed information. There is a requirement of more research studies that would provide knowledge about suitable adoption of local guidance or suggestions.

CONCLUSION:

Illogical use of antibiotics may cause the occurrence of microbial resistance. In inpatients department of the hospital. The number of patients taking multiple antibiotics is high. The use of multiple medications greatly affects the health of the patient. The incidence of drug-drug association and severe drug responses in all age group also increases. So, for the correct use of antibiotics, there is a requirement of local guides.

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