

# Profile of Antibiotics Use in Healthcare Center

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**Abstract:** The indiscriminate use of antibiotics has become a global problem with implications for effective Therapy of infections and dose resistance. The objective of this study is to determine the profile of antibiotics Use at the health centre of Delta State University, Abraka. This study was a retrospective study of 592 patient Prescriptions from January – June 2015. The data used for this study was obtained by assessing patients' Medical record file from the Medical Record Department and the data obtained were analysed with the aid of Statistical Package for the Social Sciences and presented in a percentage table. In this study, 316 (53.38%) Were female and 276(46.62%) were male. The age group of the patient were in category, 110(18.58%) were Between 15-20 years, 20(33.95%) were between 21-25yrs, while 99(16.72%) were between 26-30years while 96(16.22%) were between 31-35 year and 86(14.53%) were greater than 36 years. Out of 592 patient Evaluated, a total of 12 different single antibiotic were used, amoxyl 108(12.89%), ampiclox 88(10.50%), Doxycycline 88(10.5%), flagyl 281(33.53%), azithromycin 99(11.81%) while erythromycin 38(4.53%) and Septrin 42(5.01%) were most prescribed. Out of 1035 antibiotic that was prescribed, 197 were combined Antibiotics, 38(19.29%) were amoxyl/flagyl, 33(16.75%) were doxycycline/flagyl, 46(23.35%) were Azithromycin/ flagyl, 9(4.57%) were ciprofloxacin/ doxycycline/ flagyl/ azithromycin while 8(3.55%) were Ciprofloxacin/flagyl. The major indication for antibiotic were plasmodiasis 63(10.39%), cough and fever 42(6.81%), stooling 41(8.33%), heat rashes 45(7.35%), anaemia 48(7.84%), gastroenteritis 39(6.37%) while Respiratory tract infection 31(5.06%) and helminthiasis 25(4.08) respectively. The factors that influence the Profile of antibiotic use were drug availability 23(25.27%), laboratory result 13(14.29%) cost of drug 18(19.78%) and hours of operation by pharmacy 12(13.18%). In conclusion, the study observed appropriate Use of antibiotic base on the standard for evaluation; however, rotational drug prescribing was a major Challenge due to poor adherence/compliance of prescribers toward standard treatment guideline. Poly-Pharmacy was common.

**Keywords:** antibiotics

## I. INTRODUCTION

Antibiotics account for the most commonly prescribed drugs in the hospital setting. Inappropriate antibiotic Prescribing and the increasing levels of resistance are now issues of global concern (Charani et al., 2010). According to Davy et al., (2005), a significant proportion of antibiotic prescriptions within hospitals have Been described as inappropriate. Up to 50% of antibiotic use is inappropriate (Ashiru- Oredope et al., 2012).

Information about antimicrobial prescribing patterns is necessary for a constructive approach to challenges That arise from the multiple antibiotics that are available (Srishyla, et al., 1994). Excessive and inappropriate Use of antibiotics in hospitals, health care facilities and the community contribute to the development of Bacterial resistance (Shankar et al., 2003).

Irrational prescribing habits for antibiotics lead to ineffective and unsafe treatment of medical conditions. Moreover, irrational prescribing may worsen or prolong the illness thereby leading to distress and harm to the Patient. As Sharma and Kapoor (2003) argued, not only does irrational prescribing lead to exorbitant costs of Medicines, but its occurrence is also common in clinical practice. The decision model of prescribing antibiotics is rather complex and multiple factors

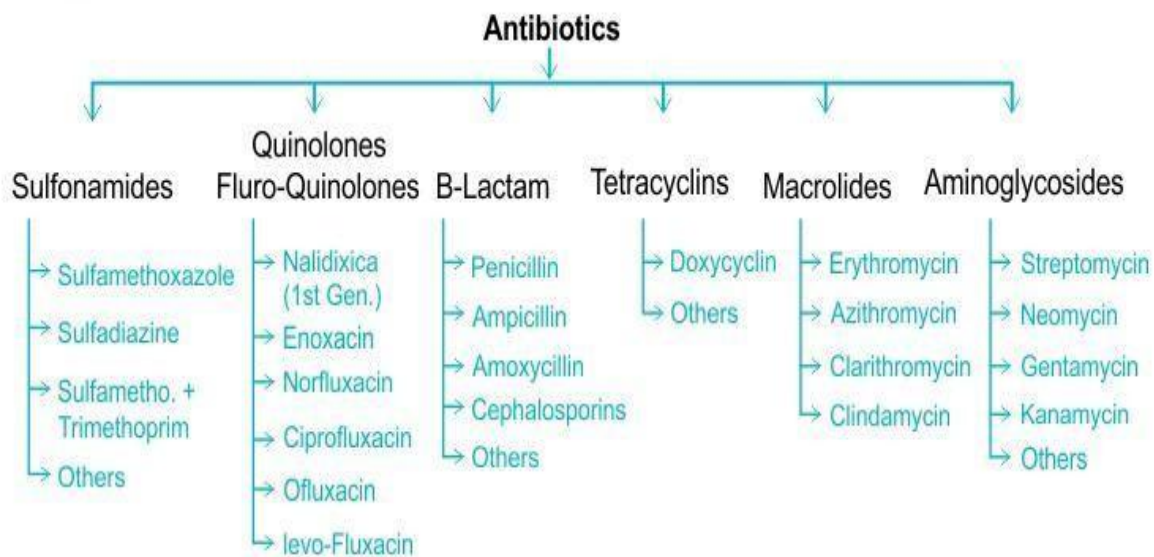


other than clinical Considerations can influence the decision to prescribe. These factors include patient characteristics, physician Characteristics, and medical environments such as competition for clients. Patient characteristics such as age, Lower socio-economic status, and higher comorbidity have significant effects on the antibiotic prescription Rate. Physician characteristics, including gender, age, time since graduation, and volume of practice, also Significantly influence antibiotic prescription (Choi et al., 2008). They also pointed out that an urban location Of a medical practice and patient income level also influence antibiotic prescription rates. Other significant Predictors are the physician expertise (that is specialist or generalist). Choi et al., (2008) further argued that Medical environment variables such as the number of primary care clinics and number of hospital beds affect The rate of antibiotic prescription.

Sharma and Kapoor, (2003) attributed irrational prescribing to lack of knowledge about drugs, unethical drug Promotions, high patient load, ineffective laboratory facilities, availability of drugs, and ineffective law Enforcement by governments with subsequent failure to ensure compliance to guidelines. The irrational Prescribing of antibiotics (particularly broad-spectrum antibiotics), in primary care is a major contributingFactor to reduced drug efficacy, increased prevalence of resistant pathogens in the community, and the Appearance of new co-infections (Sharma and Kapoor, 2003).

Antimicrobial resistance is currently the greatest challenge to the effective treatment of infections globally. Resistance adversely affects both financial and therapeutic outcomes with effects ranging from the failure of An individual patient to respond to therapy and the need for expensive or toxic alternative drugs to the social Costs of higher morbidity and mortality rates, required or longer durations of hospitalisation, increased health Care costs and the need for changes in empirical therapy (Essack, 2006).

#### Classification of Antibiotics:



#### Objective:

- To determine the proportion of students treated with antibiotics and other drugs.
- Evaluating the total number of antibiotics prescribed and their order of distribution.
- Determining the factors related to the antibiotics prescription pattern.
- To determined the single antibiotic drug that was prescribed during this study.
- To determined the combined antibiotic drug that was prescribed during this study



### **Rationale of the Study:**

The indiscriminate use of antibiotics has led to the antimicrobial resistance problem (World Health Organisation, 2009). According to Lukwesa, (2012- unpublished data), selected data showed that the Percentage of resistance for organisms isolated from blood specimens where n=2175, ampicillin was 97.1% Resistant, co-trimoxazole (86.2%), penicillin G (83.6%), erythromycin (53.5%), chloramphenicol (43.5%), Gentamycin (40.5%), ciprofloxacin (38%), tetracycline (35.5%) and cefotaxime (31.5%).

According to WHO, (2009) inappropriate antibiotic prescribing was as high as 67.6%. High patient load, prior Prescription by unqualified prescribers, high prices of antibiotics, misdiagnosis, availability of antibiotics, Ineffective law enforcement to ensure treatment guideline are followed and prescribers being influenced by a Particular company to prescribe its medical products are some of the major reasons for inappropriate Prescribing of antibiotics. Lack of systems, structures and processes or antibiotic control measures such as Antibiotic Policy Committee or their ineffectiveness could greatly contribute to inappropriate prescribing.

### **Aim of the Study:**

The aim of this study is to determine the profile of antibiotic use at the Health centre of delta state University, Abraka.

### **Scope of the Study:**

This research is limited to the profile of antibiotics use at the Health centre of Delta State University, Abraka.

### **Justification of the Study :**

Infectious diseases constitute a significant part of the disease burden in the tropics, especially Nigeria. The Irrational use of antibiotics has lead to antibiotics resistance, ineffective treatment and increased health Expenditure. Therefore, necessary initiatives should be taken by Government and health practitioners in other To promote the rational use of these antibiotics.

### **Significance of the Study :**

This research study is carried out to make an assessment of the use of antibiotics at the Health centre of Delta State University, Abraka.

### **Definition of the Terms :**

- Antibiotic: A group of drugs used to treat infections caused by bacteria and to prevent bacterial infection in Cases of immune system impairment (Medical Dictionary, 2008).
- Prescription: This is an instruction written by a medical practitioner that authorizes a patient to be issued with A medicine or treatment.
- Pattern: A combination of qualities, acts, tendencies etc. forming a consistent or characteristic arrangement.
- Polypharmacy: This is the use of three or more medications by a patient, generally adults.
- Antibacterial drugs: A group of drugs used to treat infections caused by bacteria.
- Antimicrobial: A drug used to treat a microbial infection. "Antimicrobial" is a general term that refers to a Group of drugs that includes antibiotics, antifungals, anti-protozoals, and antivirals (Medical Dictionary, 2008).
- Antibiotic resistance: The ability of bacteria and other microorganisms to withstand an antibiotic to which They were once sensitive (and were once stalled or killed outright). Also called drug resistance (Medical Dictionary, 2008).
- Irrational use of medicines: This is a major problem worldwide. It is estimated that half of all medicines are Inappropriately prescribed, dispensed or sold and that half of all patients fail to take their medicine properly.



The overuse, under use or misuse of medicines results in wastage of scarce resources and widespread health Hazards (WHO, 2004).

- Rational drug therapy: The use of the least number of drugs to obtain the best possible effect in the shortest Period and at a reasonable cost (Gross, 1981).

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