



Knowledge, Attitude And Practice Of Antibiotic Usage (Self Medication) Among Intern Doctors In A Tertiary Care Hospital Of Assam.

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ABSTRACT: Self medication is defined as the intake of any type of drugs for treating oneself without medical supervision to relieve an illness or a condition. Such usage can lead to significant adverse effects such as resistant microorganisms, treatment failure, wrong choice of antibiotics, insufficient dosages or unnecessary therapy etc which can in turn lead to antibiotic resistance. Antibiotics represent the most prescribed drugs worldwide and their resistance is a major public health threat. Hence our present study was undertaken to determine the Knowledge, attitude and practice of self medication with antibiotics among the intern doctors in a tertiary care hospital of Assam. A prospective cross sectional questionnaire based study was carried out among the intern doctors of Assam Medical College, Dibrugarh. . The questionnaire consisted of 24 questions, out of which 10 were on knowledge, 6 on attitude and 8 on practice. After obtaining the filled up questionnaire , data was analyzed and the results were expressed as percentages. Our study showed that the intern doctors had an average KAP towards antibiotic usage and hence it is of utmost importance to create or increase awareness among them through educational intervention.

KEYWORDS- Antibiotic, Attitude, Knowledge, Practice, Self- medication

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I. INTRODUCTION

Medicines that are taken by patients on their own initiative or on advice of a pharmacist without professional supervision is known as self medication ^[1]. Self medication usually involves common drugs which is freely available as OTC (over the counter) drugs. It is the process of treatment of common health problems with medicines especially designed and labeled for use without medical supervision and approved as safe and effective for such use ^[2]. Self medication is a common health problem worldwide. It is indeed questionable whether the benefits outweigh the potential hazards and further, account for poisonings, allergy, habituation, addiction and other adverse drug reactions.

Self medication carries a number of potential risks like incorrect diagnosis, incorrect choice of therapy, failure to recognize special pharmacological risks, serious adverse effects, failure to recognize or self diagnose contraindication and interactions, incorrect route and excessive dosage etc ^[3]. All these may in turn lead to an increase in the global burden of disease. According to many studies, self medication with antibiotics is a common practice amongst the medical students and the intern doctors. Antibiotics comes under the Schedule H of the drug and cosmetics act of India, which can be used when given by a registered medical practitioner ^[4]. Irrational use of antibiotics has been widely reported leading the World Health Organization to call attention to antibiotic resistance as the dangers of self medication. The easy availability of antibiotics in the open market has led to such widespread self medication ^[5]. Apart from the resistant microbial strains due to the antibiotic resistance, other causes of serious alarm include drug side effects, allergic reactions, toxicity, treatment failure, enhanced costs, increase hospital stay and morbidity etc ^[6].

Irrational use of antibiotics is a global public health problem leading to wastage of medical resources and the emergence of multidrug resistant pathogens ^[7]. Irrational Antibiotic usage has led the World Health Organization to introduce a six-point policy package to fight against the spread of antibiotic resistance which

itself reflects the seriousness of the problem ^[8]. Self medication with unprescribed antibiotics not only includes taking antibiotics without a prescription but also by sharing it with friends and relatives or using the left over antibiotics used for previous illnesses. Producing a new antibiotic is not only expensive and challenging but also involves zeal and expertise. Hence proper knowledge of antibiotics, the dose and the route of administration and their side effects are necessary for its appropriate use ^[9]. Intern doctors are also susceptible to self medication with antibiotics on account of their handling and having access to different types of antibiotics in their practices. Studies on the knowledge and self medication behaviour of antibiotics by the intern doctors are necessary to help with the interventions in the planning of the the use of the antibiotics. Since the intern doctors are the future practicing doctors and their knowledge and behaviour will largely influence the health care of the society, this study was undertaken.

II. METHODOLOGY

This study was a prospective questionnaire based cross sectional study conducted among the intern doctors of Assam Medical College and hospital, Dibrugarh. This study was conducted between August to November, 2016. The intern doctors who participated in the study were explained about the aim of the study. They were ensured about the confidentiality and the anonymity of the information collected from them. Prior written informed consent was taken from the intern doctors. The questionnaire that was distributed among them was chosen from the previous studies and was modified according to the local needs. The questionnaire had questions related to the demographic information of the participants, the name of the antibiotics used by them, their indications, source of information about the antibiotic, their dose, frequency of administration, the reasons of self medication, their knowledge on antibiotic resistance etc. The questionnaire consisted of 24 questions in total, out of which 10 were on knowledge,6 on attitude and 8 on practice. The filled up questionnaires were evaluated for completeness and only the data obtained from the completely filled up questionnaires were analyzed. The results were analyzed using the Microsoft excel Statistical Packages for Social Sciences (SPSS) Version 16 and the results obtained were expressed as percentages.

III. RESULTS

A total 160 intern doctors participated in the study and of them 135 intern doctors responded with completely filled in questionnaire. Thus the data of 135 intern doctors were eligible for analysis. The percentage of response was 84.4% as shown in Figure 1. Among the respondents 63(46.67%) were males and 72(53.33%) were females who had indulged themselves in self medication as shown in Figure 2. The mean age of the interns were 24.

Table 1: Demographic characteristics

Variable	No. (%)
Number of students	135(84.4%)
Gender	Male=63(46.67%)
	Female=72(53.33%)
Age	Mean Age =24 years
	Range=22-25years

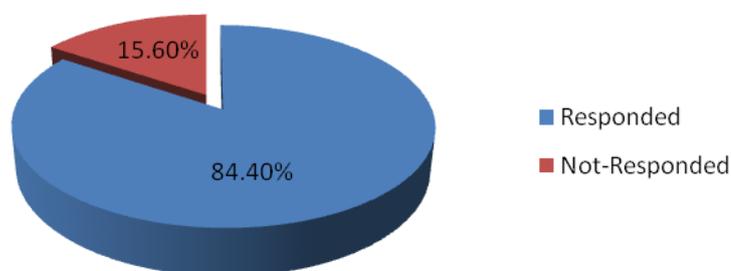


Figure 1. Percentage of response for the study

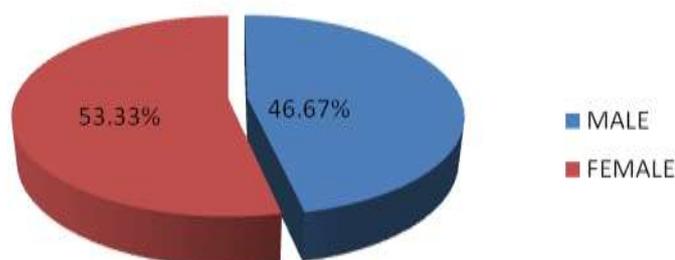


Figure 2. Gender distribution of the intern doctors

The purpose for which the intern doctors mostly used antibiotics were for cough and cold(63%), fever(56%), diarrhoea (43%) , sore throat(35%), urinary tract infection (33%),vomiting(27%), skin wounds(14%) as shown in Figure 3. The most commonly self prescribed antibiotics were amoxicillin-clavulinic acid(68%), azithromycin (61%), ofloxacin (56%), norfloxacin(42%), metronidazole (37%), cotrimoxazole (26%), neomycin(16%) as depicted in Figure 4.

Table 2: Indications for Self Medication:

INDICATIONS	FREQUENCY
Cough & cold	63%
Fever	56%
Diarrhoea	43%
Sore throat	35%
Urinary tract infection	33%
Vomiting	27%
Skin wounds	14%

Table 3: Types of antibiotics commonly self prescribed

ANTIBIOTICS	FREQUENCY (%) N=135
Amoxicillin clavulinic acid	68%
Azithromycin	61%
Ofloxacin	56%
Norfloxacin	42%
Metronidazole	37%
Co-trimoxazole	26%
Neomycin	16%

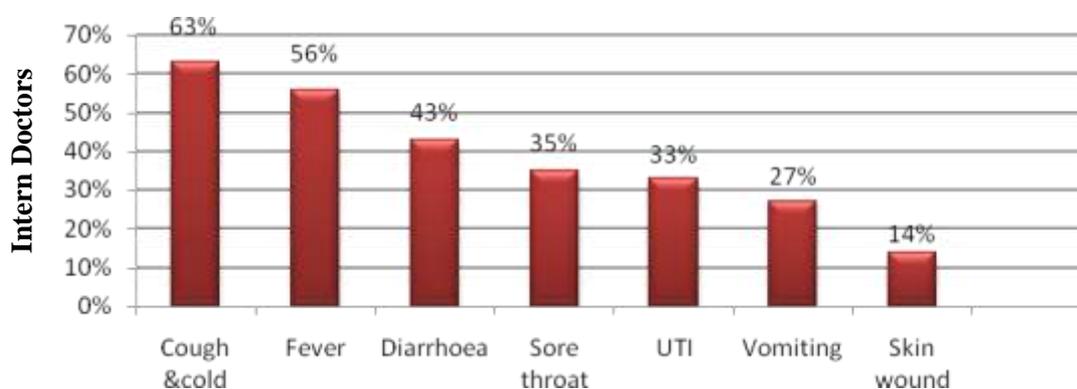


Figure 3: Indications for Self Medication

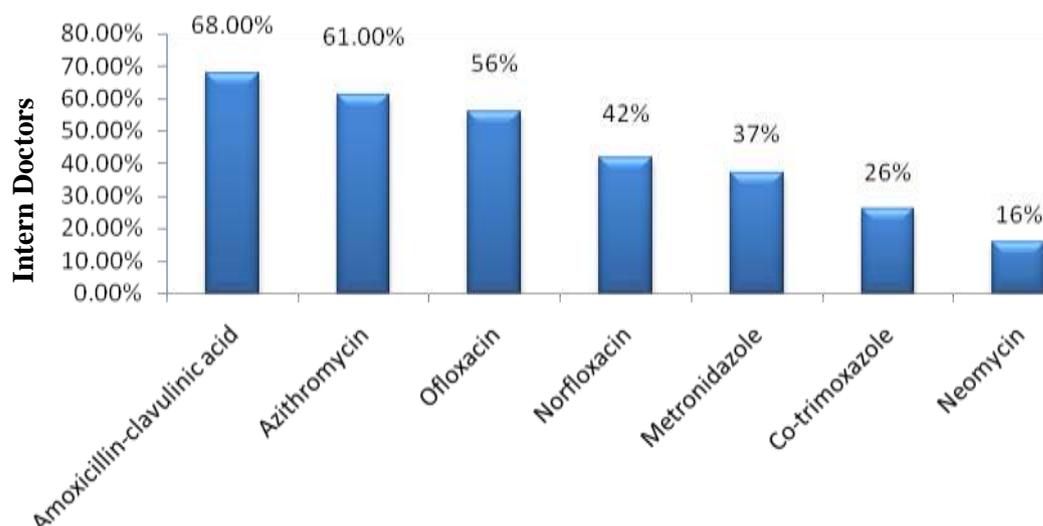


Figure 4: Antibiotics commonly self prescribed

The commonest sources of drug information were their own academic knowledge (54%), previous prescriptions (21%), and left over medicines from family and friends (16%), & pharmacies (9%) as shown in the Table 4 & Figure 5.

Table 4: Information on the source of antibiotics

INFORMATION SOURCE	FREQUENCY (%) N=135
Academic knowledge	54%
Previous prescriptions	21%
Left over medicines	16%
Pharmacies	9%

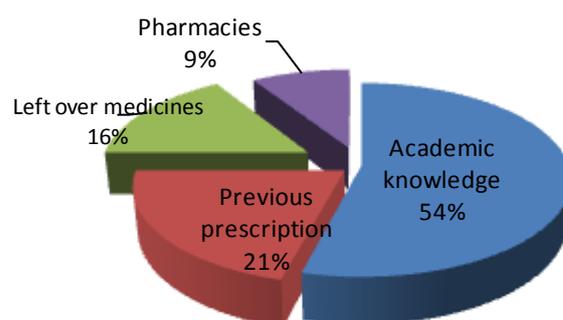


Figure 5: Drug Information sources

62% of the participants were aware of the adverse consequences of the use of self medication with antibiotics. The most common adverse reactions encountered by the intern doctors were diarrhoea, nausea & vomiting.

Table 5: Awareness of Adverse drug reaction (ADR):

ADR	FREQUENCY (%) N=135
Aware	62%
Unaware	38%

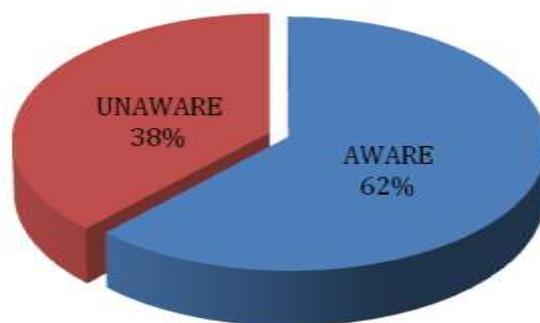


Figure 6: Awareness of Adverse Drug Reaction

The majority of the intern doctors practiced self medication because they thought that they had an adequate pharmacological knowledge on antibiotics. About 44.6% of the intern doctors considered self medication as an acceptable practice, 34.6% as good practice and 20.8% of the intern doctors did not consider it as an acceptable practice as shown in the Table 6 & Figure 7.

Table 6: Attitude of the intern doctors towards self medication

ATTITUDE	FREQUENCY (%) N=135
Good Practice	34.6%
Acceptable Practice	44.6%
Not Acceptable Practice	20.8%



Figure 7: Attitude of the intern doctors towards self medication

IV. DISCUSSION:

There are very few studies carried out in India to assess the knowledge, attitude and practice of self medication with antibiotics. Our study has showed a high prevalence of self medication with antibiotics amongst the intern doctors. The most commonly used antibiotics were amoxicillin- clavulanic acid and azithromycin. According to most of the intern doctors, their own academic knowledge and previous prescriptions which was advised for past illnesses were the main sources of information regarding antibiotic self medication. Such usage may in turn lead to inappropriate diagnosis and treatment, lack of specific standard treatment protocols, over prescribing and intake of unnecessary medicines, increased cost and duration of illnesses, and may also invite serious adverse drug reactions. However the most important health hazard is the development of antibiotic resistance which has become a major public health problem. Antibiotics are irrationally used throughout the globe due to their widespread availability causing inappropriate use and ultimately contributing in steady increase in antibiotic resistance^[10]. Study of self medication practices among the medical graduates is very important as this segment of the population represent the highly educated group of people and also as they are the future generation of drug prescribers and health educationalist^{11,12}.

The most common causes as to why the intern doctors indulged themselves into self medication were their pharmacological knowledge on antibiotics, lack of time to visit doctors, less expensive and prior experience of treating similar illnesses. The easy availability of antibiotics without prescription from the pharmacies is a major factor contributing to self medication practices. Several studies have shown that self medication is widely practiced by the students specially the medical students due to their knowledge. Hence the drug authorities and the health care professionals need to educate students about the pros and cons of self medication through educational interventions^{13,14}.

V. LIMITATION OF THE STUDY:

The study was conducted on a small sample of intern doctors of Assam Medical College of Dibrugarh, Assam and hence it is challenging to generalize the results. Secondly since it was a questionnaire based study where the intern doctors were directed to fill up the questionnaire by themselves but mutual influence was difficult to be ruled out.

VI. CONCLUSION

The results of our study showed that the use of antibiotics for self diagnosed disorders was alarmingly high among the intern doctors. Since the intern doctors are the future health care professionals of our country and that their behaviour will largely influence the behaviour of the society, hence their proper knowledge on antibiotic usage is of utmost importance. There is a need to increase such awareness through educational intervention. Teaching of clinical pharmacology and to include modules on self medication and the rational use of medicines and also interventions to improve students understanding on antibiotic resistance should be given foremost importance.

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