



ASSESSMENT OF RATIONAL USE OF ANTIBIOTICS AT VARIOUS AREAS

Jada Nagalakshmi^{*1}, Katta Roja², Yemineni Gopi³, Navuduri Swathi⁴ and Kanumuri Tejaswini⁵

Department of Pharmacology, Chalapathi Institute of Pharmaceutical Sciences, Lam, Guntur-522034, India.

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Corresponding author: Jada Nagalakshmi

Department of Pharmacology, Chalapathi Institute of Pharmaceutical Sciences, Lam, Guntur-522034, India.

ABSTRACT

Objectives: Antibiotics are needed for many serious diseased conditions such as bacterial pneumonia, throat infections, acne vulgaris infections, and prophylactic treatment, fever, stomach ache, skin infections, typhoid, eye and ear infections. These conditions be life threatening or can lead to serious complications. The work mainly aims to that comparative study on rationality of antibiotics in various areas. The main objective of this work is to study the patient knowledge through knowledge assessment questionnaire, to promote the rational use of antibiotics and to educate the patients using antibiotics. **Methods:** A questionnaires were prepared and data were collected from the patients based on which the study was carried out. **Results and discussion:** Categorization on the basis of patient's usage of antibiotics was carried out and the results are as that up to 14% uses penicillins, 6% uses tetracyclins, 24% uses cephalosporins, and 12% fluoroquinolones, 12% aminoglycosides, and upto 25% were not known because they used that in self medication. Peoples who were used the self medication antibiotics compelling the ADRs such as diarrhea, GI upset, dizziness, vertigo, mouth ulcers, etc. **Conclusion:** Most of the antibiotics used were cephalosporins, and the people use the medications at rational use based on the diseased condition and they go for the physician when there is a serious consequence and ADR risk. Most of the people take the antibiotics in self medication for cost saving, for their consequence and due to lack of time.

KEYWORDS: Rational use, Antibiotics, Infection, Prophylaxis, Adverse effects.

INTRODUCTION

Antibiotics are drugs that either kill (cidal) or inhibit (static) the growth of bacteria. The rationality of antibiotics is the most controversial and debated issue in today's clinical practices (Van der Meulen *et al.*, 2011). Irrational antibiotics/antibacterial (ABs) usage is a global problem especially in developing countries resulting in an increased emergence of resistance to most common bacteria, higher cost of treatment, prolonged hospitalization and adverse drug reactions (van Cleef *et al.*, 2010; Mulders *et al.*, 2010; Smit *et al.*, 2012). Promoting the rational use of medicines would definitely help mankind to fight the disease and the illnesses for a better tomorrow. Antimicrobials can obviously be important or even lifesaving in appropriate situations, but it is just as important to prevent unnecessary use of antimicrobials which can lead to resistance (De Schrijver *et al.*, 2008).

Rational use of drugs requires that patient receive medications appropriate to their clinical needs, in doses that meet their own individual requirements for an

adequate period of time, at the lowest cost to them and their community (Guh *et al.*, 2008).

Irrational use of antibiotics should be checked as injudicious use which can adversely affect the patient; cause emergence of antibiotic resistance and will increase the cost (Kozyrskyj *et al.*, 2008; Visser *et al.*, 2013). The reasons for irrational use are varied comprising of non availability of medicines, self medication, cost saving, for patient convenience, lack of time (Mangrio *et al.*, 2009; Kroneman *et al.*, 2010).

METHODS

Method for collection of data: A questionnaire was prepared and data were collected from the patients based on which the study was carried out (Kroneman *et al.*, 2010).

Study site: The study is carried out in Guntur urban area and Vijayawada (Mulder 2012).

The following set of questions was in the questionnaire used for survey:

1. Have you ever taken antibiotics?
2. For antibiotic usage did you consult physician (or) self medication, or both?
3. How many times did you (or) in your family members treated with antibiotics for the 6 months?
4. For what infections you are treated with antibiotics?
5. For what complaint(s) did you use antibiotics for the past 6 months?
6. What was (were) the reason(s) of self medication with antibiotics?
7. Where did obtain antibiotics for self medications?
8. Did you practice any home remedy (s) along with antibiotic usage?
9. Please name the antibiotic (s) you have been taken?
10. Have you ever had any adverse drug reaction (ADRs) when you took antibiotics for self medication?
11. What did you do for ADRs?
12. What did you think about self medication of antibiotics?
13. When did you normally stop taking antibiotics?
14. If you take any other medication for any infection / disease did you stop taking that during usage of antibiotics?
15. Do you think that can you treat common infections with antibiotics successfully?

Data about the individuals involved in the survey

Table 1: Gender.

Male	142
Female	158

Table 2: Occupation.

Occupational category	No. of individuals
Student	50
Housewife	60
Businessmen	30
Daily worker/ farmer/job holder	92

Table 3: Age limit.

Years	No. of individuals
<10	12
10-20	26
20-30	110
30-40	64
40-50	58
50-60	20

RESULTS AND DISCUSSION

About 300 peoples were gave the answered the questionnaire. The questionnaire data was collected at various areas i.e. at Guntur urban area and near Vijayawada. Out of 300 peoples only 88% known about antibiotics and took the antibiotics for various infections based on condition.

Out of 300 peoples, males are 47% and females are 53 %, and the peoples were categorized based on their occupational data that 16% were students , 20% were housewives, 10% were business men, and 30% were related to the job holders, farmers etc.

Table 4: Data about questions.

Question no.	Option A	Option B	Miscellaneous
1.	264	36	
2.	290	78	32
6.	150	86	54
7.	120	100	80
8.	96	204	
9.	102	198	
11.	112	102	86
12.	12	152	136
13.	138	82	80
14.	100	200	
15.	144	122	28

Option A - Yes

Option B - No

Most of peoples were used the antibiotics for self medicated purpose due to lack of time, cost saving, and their conveniences and for emergency purpose. 40% peoples normally got the self medicated antibiotics from community pharmacy and 33.3% from TCM practitioners, remaining from the left over prescriptions, etc. Peoples consider the antibiotics self medication based on the indication, ADRs.

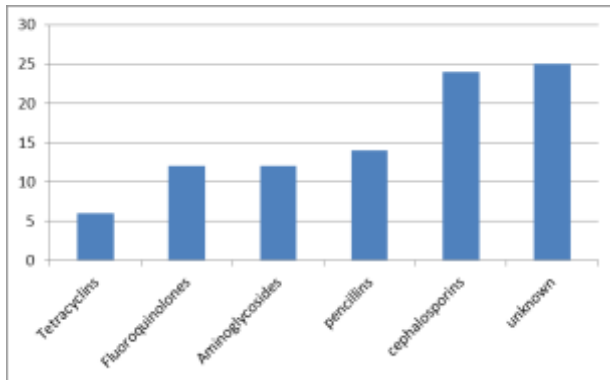
Out of 300 peoples only 34% complaining the ADRs such as GI disturbances, nausea, vomiting, mouth ulcers, dizziness etc. 37% people consulted the doctor, 34% stopped the antibiotics and 28% consulted the pharmacy when they experience the ADRs. 4% were considered the self medication as good practice, 50.1% as acceptable practice, and 46% as bad practice.

46% of peoples stop the self medicated antibiotic therapy after the completion of course, 27% after a few days of regardless of time, 26% after symptoms disappeared, which are given by the community pharmacist or by the TCM practitioner. 33.3% were not using the medications which are given for any other disease or infection. 48% of peoples has the hope that they can treat with the antibiotics in self medication.

Categorization on the basis of patient’s usage of antibiotics was carried out and the results are as that up to 14% uses pencillins, 6% uses tetracyclins, 24% uses cephalosporins, and 12% fluoroquinolones, 12% aminoglycosides, and upto 25% were not known because they used that in self medication (fig 1). Peoples who were used the self medication antibiotics compelling the ADRs such as diarrhea, GI upset, dizziness, vertigo, mouth ulcers, etc.

Table 5: Usage of Antibiotics.

Type of antibiotic	% of Individuals
Penicillins	14%
Tetracyclins	6%
Cephalosporins	24%
Fluoroquinolones	12%
Aminoglycosides	12.6%
Unknown	25%

**Figure 1: Antibiotics in self medication.**

CONCLUSION

By observing the comparative study on rational use of antibiotics in self medication, most of the antibiotics used were cephalosporins, and the people use the medications at rational use based on the diseased condition and they go for the physician when there is a serious consequence and ADR risk. Most of the people take the antibiotics in self medication for cost saving, for their consequence and due to lack of time.

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