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Assessment of Knowledge of People Regarding Antibiotic and its Usage

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Abstract: ***Antimicrobial resistance is a worrisome thing as regards public health is concerned. It has been put forward as the next impending pandemic. The awareness among people about antibiotics need to be assessed in order to allay antibiotic resistance. We here made an effort to address this.***

Keywords: Antibiotics, Awareness, Questionnaire.

1. INTRODUCTION

Antibiotics are very important to control infections. However, sadly they are also being overused. Many people in our country lack proper knowledge of antibiotics and consume them unnecessarily. In fact, a major driving force behind the rise in antibiotic resistance in LMICs (Low and middle income countries) is the 'inappropriate' use of antibiotics(1). Many people take antibiotics even for common cold and simple, self-limiting diarrhea. This, compounded with other factors like easy over-the counter availability of antibiotics and lesser development of new antibiotics, has caused rampaging antibiotic resistance worldwide(2). In fact, the next pandemic is believed to be due to AMR (antimicrobial resistance). This was foretold by Alexander Fleming when he told:- "The time may come when penicillin can be bought by anyone in the shops. Then there is the danger that the ignorant man may easily underdose himself and by exposing his microbes to non-lethal quantities of the drug, making them resistant", addressing the audience in his Nobel Prize acceptance speech in 1945(3). That is why antibiotic stewardship with judicious use of antibiotics, in proper dosage, is important to control AMR. However, researchers now feel that more economical use of antibiotics alone may not win us the fight against antibiotic resistance. They stress that global improvement in water quality, sanitation and hygiene are also now equally, if not more

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important (4). The situation of AMR in India is not great. Our country, in fact, reports one of the highest rates of resistance to antimicrobial agents, which are used both in humans and food animals (5). The environment, particularly the water bodies, also abound in resistant microorganisms or their genes. MDR and XDR TB are common in India, and the burden of ESBL (Extended spectrum beta lactamases) in hospitals, particularly ICUs and HDUs (High dependency units) is very high. So knowledge of antibiotics is low in the community and it needs improvement in order to mitigate the burden of AMR.

Keeping in mind the above things, we planned a short study to assess the existing knowledge of antibiotics and their usage among people. The subjects comprised patients, medical postgraduates and also other doctors.

2. MATERIALS AND METHODS

The study was conducted over a period of 4 days which coincided with antibiotic awareness week. It was conducted in Urban OPD and other campuses of the institute, and also telephonically from other places and other subjects. Via a prepared questionnaire, the knowledge of the people about antibiotics and their usage was assessed. The questions that were asked were:

1. Do you take any antibiotics for common cold and simple self-limiting diarrhea?
2. Do you buy antibiotics over the counter without Doctor's prescription?
3. If yes for no. 2, then does the shopkeeper explain to you the dosage of the antibiotics?
4. Can you name any 2 antibiotics you consume frequently, and mention their adverse effects?

A total of 46 people were contacted and their data surveyed. Some were asked questions physically, others by message or social networking. Out of these 46 people, 10 were Doctors and the rest (36) were either patients or their kin, or paramedical professionals.

3. RESULTS

Among doctors, all knew correct answers to the above set of questions. However, among other subjects, the knowledge about antibiotics and their usage was not so good. Most people could not tell the name of any common antibiotics they took. In urban OPD, however, most people told that they take antibiotics from shops, that too with valid prescription from doctor. Some people were of the opinion that Cetirizine and Paracetamol were antibiotics. They were later educated about this and their misconceptions corrected. Most people other than Doctors said that loss of appetite, nausea and constipation were the commonest adverse effects of these antibiotics. Two people (5.55% of non-medical people) said that they consume antibiotics in common cold but not in diarrhea. Among 11 people who were surveyed physically, 2 were males (18.18%). The respondents mostly took the names of Azithromycin, Cefuroxime and Metronidazole as common antibiotics. However, even 9 out of 11 (81.81%) physically interviewed respondents told that they did not take antibiotics without any reason or for mild common cold or self-limiting diarrhea. Overall, it can be said that the level of

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knowledge among respondents from non-medical background was not good. Results have also been highlighted in figures 1 and 2 below.

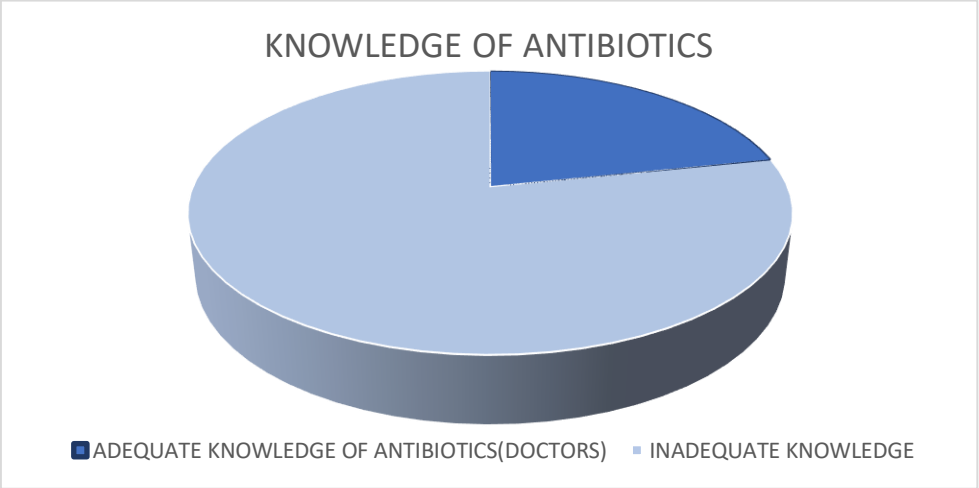

Figure 1: Knowledge of antibiotics shown in diagram

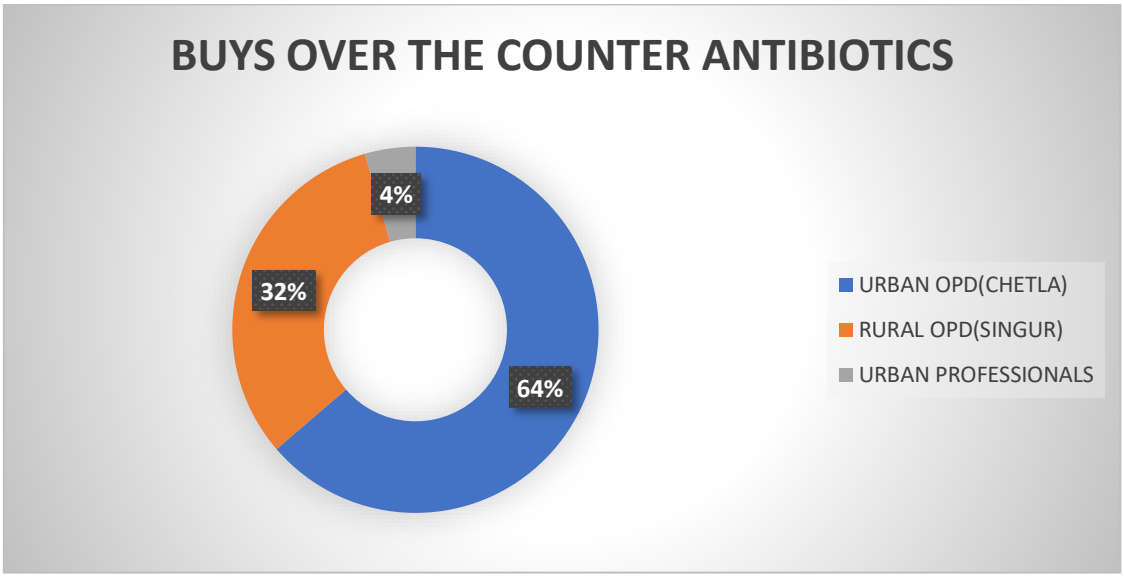

Figure 2: Data showing over the counter antibiotic purchase

4. DISCUSSION

AMR is an emerging problem in public health and needs to be addressed. The problem is more acute in developing countries. Public awareness initiatives need to be there for achieving the aim of good antibiotic usage. Antimicrobial resistance has got the potential to affect people at every stage of their lives. It also affects the healthcare, veterinary, and agriculture sectors (6). Public awareness measures need to be channelized to make people aware of antibiotics, their proper usage and adverse effects. Findings similar to ours were

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observed in a study from Fiji, where it was found that most of the respondents thought that antibiotics could cure viral infections(7). One limitation of our study is the overall smaller number of respondents and lesser number of physically interviewed personnel. However, this can be taken as a pilot study and as far as we know, this type of study has not been carried out in Eastern India till date. Educating patients and common people about antibiotics undoubtedly goes a long way in controlling or eliminating AMR. More such studies are needed to address the menace of AMR in a proper and concerted manner.

5. CONCLUSION

The level of knowledge about antibiotics is poor in the community. More effort needs to be channelized in making general people aware of antibiotics, their usage and adverse effects. This can effectively mitigate the burden of antibiotic resistance in India.

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