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Prescribing Pattern of Antibiotics in Patients Attending ENT opd in a Tertiary Care Hospital

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Abstract
Background :*The principal aim of drug utilization studies is to facilitate rational use of drugs in patients. .Irrational use of antibiotics has resulted in the development of drug resistant organisms in the community. Significant changes in the antibiotic prescription pattern are required to decrease the prevalence of antibiotic resistance. This in turn gives rise to the need for scrutinizing the prescribing pattern of antibiotics by the physicians so as to ensure judicious use of antibiotics*.
Aim : *To assess the prescribing pattern of antibiotics in patients attending ENT OPD in a tertiary care hospital*
Materials and Methods : *A prospective, observational study was carried out for a period of three months from May 2017 to July 2017 in the outpatient department of Government ENT hospital, koti, Hyderabad. Prescriptions were collected randomly from around 300 patients attending the ENT outpatient department after obtaining informed consent. The data were collected in the predesigned proforma for analysis*.
Results : *Out of 300 patients, the proportion of female patients were more (57%) compared to male patients (43%). Maximum number of patients belonged to the age group of 21-30 years. Among the 300 patients,164 patients were diagnosed with ear disease (55%), 81 patients (27%) with throat disease and 55 patients (18%) with disease of nose. Amoxycillin and clavulanic acid combination was the most commonly prescribed antibiotic (55%), followed by Ciprofloxacin (21%) and Amoxycillin (15%).Azithromycin was prescribed in 7% of cases followed by cefpodoxime in 3% of cases.The most commonly prescribed topical preparation was ciprofloxacin ear drops (45%). Along with antibiotics, the other drugs which were prescribed were NSAIDS (25%), Proton pump inhibitors (14%) and Antihistamines (25%).*
Conclusion: *Amoxicillin and clavulanic acid combination was the most commonly prescribed antibiotic in our study. Interventions to rectify the use of brand names is necessary to promote rational drug use. An antibiotic policy has to be developed for the doctors in treating infections so that rationality in using the antibiotics will be developed and the occurrence of antibiotic resistance can be reduced*
Keywords*: Antibiotic, ENT, OPD, Prescribing pattern.*

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I. Introduction

Infectious diseases are among the commonest causes of morbidity and mortality in most developing countries of the world[(1)] Diseases of the ear, nose and throat (ENT) affect adults and children, with significant impairment in daily life[(2)] Upper respiratory tract infections including rhino pharyngitis, pharyngitis, tonsillitis and otitis media are the most common reasons for which patients seek treatment in ENT OP. The most common cause of acute upper respiratory tract infections(URTIs) are due to viruses and do not need antimicrobial agent unless complicated by secondary infections as in conditions like acute otitis media (AOM) with effusion ,sinusitis, tonsillitis and lower respiratory tract infections[(3)]

The Problem of overuse of antibiotic is a global phenomenon. In India, the prevalence of use of antibiotics varies from 24% to 67%. According to recent study, acute respiratory infections are the reasons for the 75% of the antibiotic prescriptions each year and is the most frequent reason for seeking medical attention. This occurs despite the fact that in most cases of URTIs, antibiotic confers little or no benefit[(4)] The International Network for the Rational Use of Drugs (INRUD) was established in 1989 to promote the rational use of drugs in developing countries. Various indicators were developed by INRUD in collaboration with WHO that provided objective indices to allow for assessment of drug use practices[(5)]. Still, there is a need for data on both antibiotic use and determinants of its use from all the regions of the world . It is very essential to analyze and monitor the prescribing patterns of drugs from time to time. This would enable the basic modification in

prescribing practices to enhance the therapeutic benefit and decrease the side effects of drugs. Drug use evaluation is an ongoing, authorized and systemic quality improvement process, which will give right feed back to the clinician[6] The usage of antibiotic is increasing nowadays in all types of patients, and there are very few studies available to help the physician to prescribe suitable antibiotic. The antibiotic resistance is emerging as a big threat to the society. This type of study will help medical professionals to prescribe the antibiotics rationally and therefore are very much needed. Keeping this in mind, the present study was undertaken to assess the prescribing pattern of antibiotics in the outpatient department of Government ENT Hospital, koti, Hyderabad.

II. Materials And Methods

The present study was conducted in the Department of Pharmacology, Osmania Medical College, Hyderabad and in the outpatient department of Government ENT Hospital, koti, Hyderabad .Before starting the study, approval was obtained from the Institutional Ethics Committee, Osmania Medical College Hyderabad. It was a prospective, observational study carried out over a period of three months from May 2017 to July 2017. Patients of all age groups and of either sex ,presenting to the ENT outpatient department were included in the study . Patients coming for follow-up visits and the in-patients were excluded from the study. Around 300 prescriptions were collected randomly from the patients after taking informed consent. The data regarding the patient details, diagnosis, drug particulars and duration of treatment were recorded from the patients' prescriptions in the predesigned proforma . The data was analysed using Microsoft Excel sheet and values expressed as percentage.

III. Results

In this study, a total of 300 prescriptions were analysed. Maximum number of patients belonged to the age group of 21-30 years and 30 % of the patients were children. Table 1. shows the details of age distribution of patients The proportion of female patients (57%) was more compared to the male patients (43%) as shown in Fig.1. Out of the 300 patients,164 patients were diagnosed with ear disease, 81 patients with throat disease and 55 patients with nose diseases (Fig.2)

Table 1. Age Distribution of patients

Age (in years)	No. of Prescriptions	Percentage
1 - 10	60	20%
11 - 20	56	18%
21 - 30	80	27%
31 - 40	53	18%
41 - 50	21	7%
51 - 60	16	5%
> 60	14	5%

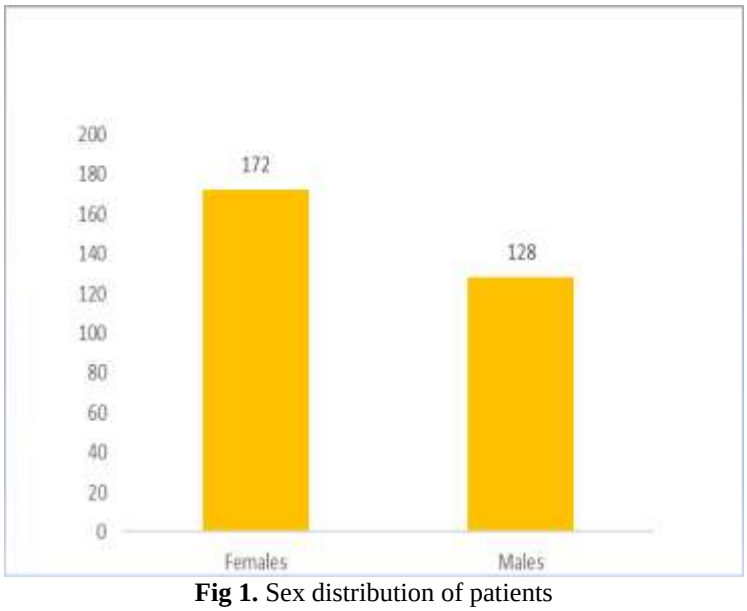

Fig 1. Sex distribution of patients

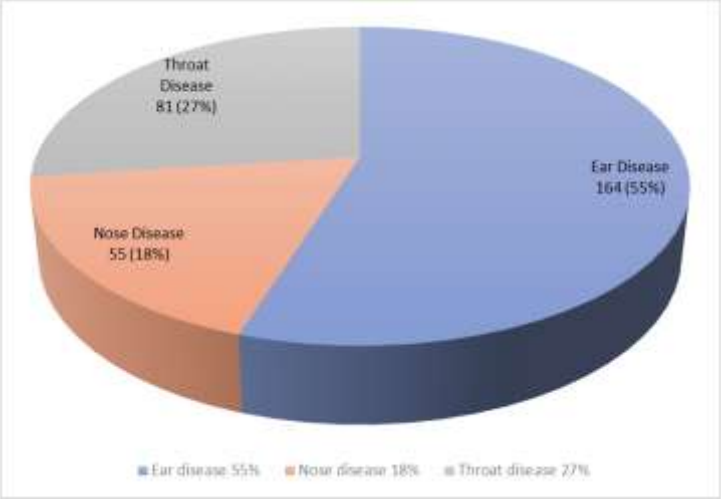

Fig 2 Distribution of ENT Diseases

Among the diseases of ear, CSOM was the commonest.(52%). Sinusitis was the commonest among the diseases of nose.(29%) and Pharyngitis was the most common disease of throat (47%). A total of 959 drugs were prescribed and the average number of drug per prescription was 3.2. A total number of 266 prescriptions contained antibiotics. Average antibiotic per prescription was 0.88 Among these the number of antibiotics prescribed by oral route was 221 and by topical route was 45. No injectable antibiotic was prescribed in the present study. 95% of antibiotics were prescribed from essential drug list Among the antibiotics prescribed by oral route, Amoxicillin and clavulanic acid combination was most commonly prescribed (55%), followed by Ciprofloxacin (21%) and Amoxycillin (15%).Azithromycin was prescribed in 7% of cases followed by cefpodoxime in 3% of cases (Fig.3)

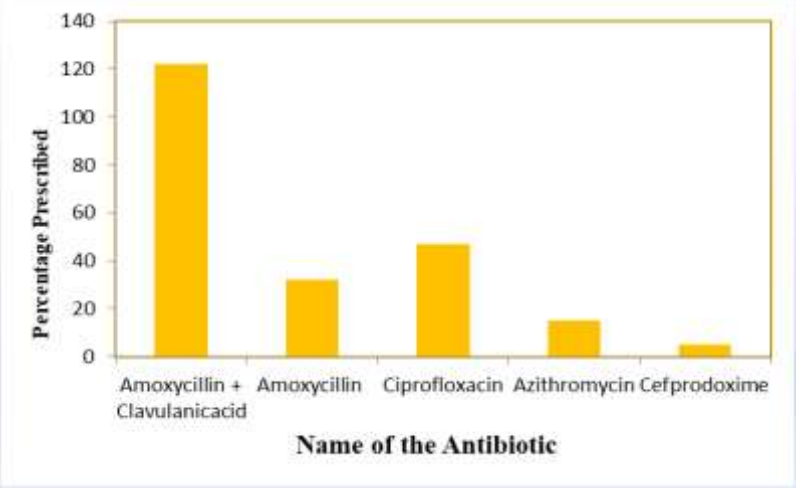

Fig. 3. Pattern of Antibiotic Prescribed

The most commonly prescribed topical preparation was ciprofloxacin ear drops (45%). The other topical preparations used were xylometazoline nasal drops (39%), followed by candibiotic ear drops (21%) and Dewax ear drops (3%). All the prescriptions contained only a single antibiotic. Other drugs which were prescribed were NSAIDS (25%), Proton pump inhibitors (14%) and Antihistamines (25%).

IV. Discussion

The Drug prescription by the physician reveals important data regarding rational drug usage. In general practice, the therapeutic approach for ENT infections is nearly empirical and the main aim of physicians is to treat as specifically as possible, while covering the most likely pathogens. The present study indicates general prescribing trends of antibiotics in the OPD of ENT department. A total of 300 prescriptions were analyzed and the demographic data showed that the number of female patients suffering from ENT disease was more than the number of male patients. Similar findings were reported in a study conducted by by Harish et al.[7] This higher incidence in females may be due to increased exposure of females to kitchen smoke.[8,9] Majority of the patients

were in age group less than 30 years, indicating that most of ENT diseases are common in young adults and children. Ear infections were the most common (55%), followed by throat infections (27%) and infections of nose (18%). This is similar to one such study conducted by Yadav et al showing higher incidence of ear infections (50.8%), followed by throat (31.37%) and least were nose infections.(26.47%)[10] In the present study, Amoxicillin and clavulanic acid combination was the most commonly prescribed antibiotic (55%), followed by Ciprofloxacin (21%), Amoxycillin (15%).Azithromycin (7%) and cefpodoxime in 3% of cases. This is similar to the study conducted by Rajesh et tal, in which Amoxycillin and clavulanic acid combination was the most commonly prescribed antibiotic.[11]

The most commonly used topical antibiotic was ciprofloxacin ear drops(45%).Both oral and topical antibiotics were prescribed in 19% of cases. Other drugs which were prescribed were NSAIDS (25%), Proton pump inhibitors (14%) and Antihistamines (25%). The average number of antibiotics prescribed per prescription was 0.88. This is less than that reported in previous studies, for example, Das et al[12] reported 1.4 and Ain et al[4] reported 1.58. In our study, it was observed that 44% of prescriptions contained an anti-ulcer agent along with other drugs. Prescribing anti-ulcer agents without an appropriate indication or history of acid peptic disease unnecessarily increases the cost of treatment. It was also observed that most of the antibiotics were prescribed by brand names in the present study. But generic prescribing should be encouraged as it is more cost effective and there is less potential for errors.

V. Conclusion

A study of prescribing pattern of antibiotics is an effective way of reflecting the appropriateness of antibiotic use. Our study mainly focussed on the prescribing pattern of antibiotics in the outpatient department of Government ENT Hospital, Koti, Hyderabad. All the patients presenting with ENT infections were prescribed antibiotics. Amoxicillin and clavulanic acid combination was the most commonly prescribed antibiotic in our study. All the prescriptions contained only a single antibiotic. It was observed that anti-ulcer agents were prescribed without appropriate indication. Prescription of drugs with brand names was also observed in the study. We would like to motivate the clinicians regarding cost effective way of drug prescription and also about prescribing generic drugs

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