

Drug Utilization Trends in ENT Outpatients

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ABSTRACT

Background: Infection of Ear, nose and throat (ENT) are common clinical problems occurring in the general population and are a cause of serious morbidity and debility. Drug Utilization is defined by the WHO as the “marketing, distribution, prescription, and use of drugs in society. The characterization of drug utilization may be extended linking prescription data to the reasons for the drug prescribing by various types of health professionals.

Objectives: Assessment of disease pattern, prescription trends and mean cost per prescription in ENT outpatients which provides an insight about the drug utilization.

Methodology: A prospective observational study was carried out for a period of six months at ENT department of Basaveshwara Medical College & Hospital, Chitradurga.

Results: A total of 157 patients were enrolled for the study of which 62 were males and 95 were females. Majority of patients were in the age group of 21-30 years. Maximum number of patients diagnosed with acute tonsillopharyngitis (35%). Antibiotics were most frequently prescribed drugs followed by Anti-gastric drugs, NSAIDs, Anti-allergic, Nasal decongestant, Anti-secretory agent, Anti-amoebic agents. Average number of drug per prescription was 3.46 and mean cost of drugs per prescription in females (389) were more than male (339.82). All the drugs were prescribed with their brand names.

Conclusion: The study revealed that pattern of usage of antibiotics are more compared to other drugs, Azithromycin are most commonly prescribed antibiotics in various ENT diseases, usage of brand name are higher than the generic name.

Key words: Prescribing pattern, Antibiotics, ENT, Drug utilization.

INTRODUCTION

Drug use evaluation is an ongoing, authorized and systemic quality improvement process, which is designed to review the drugs which are prescribed to the patients, provide a right feedback to the clinician/other relevant groups, develop criteria and standards that describe optimal drug use, promote appropriate drug use through education and counsel the patients. [1]

Drug Utilization is defined as “the prescribing, dispensing, administering, and ingesting of drugs”. The World Health Organization (WHO) expands on this definition by including outcome variables in their definition. Drug Utilization is defined by the WHO as the “marketing, distribution, prescription, and use of drugs in society, with special emphasis on the resulting medical, social, and economic consequences. [2]

Ear, nose and throat (ENT) infections are common clinical problems occurring in the general population and are a cause of serious morbidity and debility. These infections affects the normal daily functioning of both adults and children and are the frequent cause of absenteeism from work and school among school aged children. [3] Ear disorders also have the disability to impair equilibrium. Nasal disorders can cause changes in facial features and interfere with breathing and tasting. Diseases arising in the throat may

threaten airway patency and interfere with speech. [4]

Pharyngitis, tonsillitis, nasopharyngitis, and otitis media constitute majority of URTIs. Thus, the diseases are usually self-limiting unless complicated by acute otitis media with effusion, sinusitis, and lower respiratory tract infections. [5]

Many infectious diseases have been controlled in 20th century by improving living conditions, public health measures and with the use of antimicrobial agents (AMAs). [6] Different group of drugs are employed in the management of ear infection; such drugs include analgesics, anti histamines, anti allergens and antibiotics. [3]

The characterization of drug utilization may be extended linking prescription data to the reasons for the drug prescribing. Drug prescribing for outpatients is done by various types of health professionals, and outpatient clinics deliver therapeutic service to large segments of the patients. It follows that assessment of prescribing pattern in these important medical care facilities is of obvious relevance to identify problems regarding rational use and to propose interventions. [7]

DUR thus makes it possible to identify, for example, high-cost prescribers or those using an extraordinary quantity or proportion of certain products. [2] WHO defines rational use of drugs when “patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirement, for an adequate period of time, and at the lowest cost to them and their community”. [8]

From the above facts it is necessary to assess the disease pattern in ENT outpatient department so we planned to conduct a study on drug utilization trends in ENT out patients.

MATERIALS AND METHODS

Study design : This was a prospective observational study.

Study site: The study was conducted in

- Basaveshwara Medical College Hospital & Research Centre, Chitradurga.

- Karnataka ENT Hospital and Research Centre Chitradurga.

Study period: The study was conducted over a period of six months from 2017 to 2018.

Study subjects: All in-patients who were presented to the ENT Department of the hospital during the study period were enrolled into study. Patient who met the following criteria were enrolled.

Inclusion criteria:

- Outpatients who are treated in ENT department.
- Patients who are diagnosed as acute and chronic disease.

Exclusion criteria:

- Inpatients.
- Below the age of 20 years.

Ethical approval:

The study was approved by the Institutional Ethical Committee of Basaveshwara Medical College Hospital & Research Centre, Chitradurga.

Karnataka ENT Hospital & Research center, Chitradurga.

Sources of data:

- Demographic details of the patient.
- Treatment chart.

Study procedure:

- The study was started after obtaining the approval from institutional ethical committee (IEC) of SJM college of Pharmacy.
- Patients who satisfied the above study criteria were included in the study after taking the informed consent.
- Patient’s demographic details, complaints, diagnosis, and prescribed drugs will be collected from the medical records of the patient and will be documented in a suitably designed data collection form.

Statistical analysis:

- The data were entered in Microsoft excel and data were analyzed by SPSS software version 19.

- The data will be analyzed by using descriptive method.

RESULTS

Gender wise distribution

On the basis of inclusion and exclusion criteria, 157 patients were selected from the ENT OPD over a period of six months for the present study. Among the 157 ENT patients, 95% were female and 62% were male. Results are shown in Figure 1.

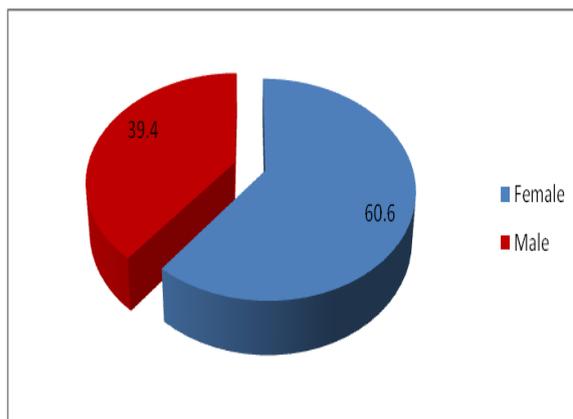


Fig 1: Gender wise distribution.

Age wise distribution

Out of 157 patients, the highest numbers of cases were in the age group of 21-30 years and the lowest percentage was geriatric patients, more than 70 years old. Results are shown in figure 2.

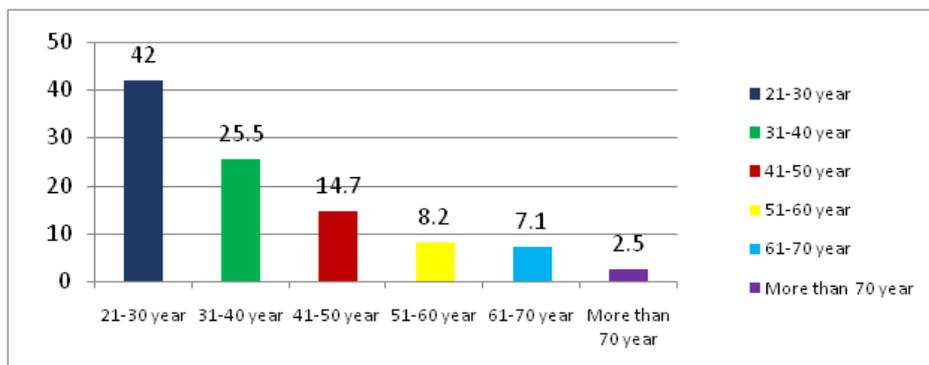


Figure 2: Age groups (n=157)

Distribution according to the diagnosis

Among 157 subjects, 55 patients were diagnosed as Acute tonsillopharyngitis (35%), followed by Chronic tonsillopharyngitis 31 cases (19.9%), Acute rhinitis 2 case (13.4%), Chronic rhinosinusitis 17 cases (10.9%), Acute pharyngitis 13 cases (8.2%), Acute follicular tonsillitis 10 cases (6.3%), and Chronic pharyngitis 10 cases (6.3%). This study revealed that Acute tonsillopharyngitis is most common disease. The results are shown in figure 3.

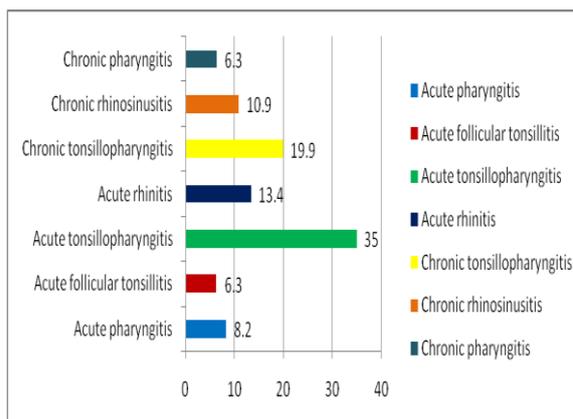


Figure 3: Major diagnosis

PRESCRIPTION PATTERN OF DRUGS IN ENT PATIENTS

Antimicrobial agents

A total of 177 Antibiotics were prescribed. Azithromycin (98) were the most prescribed, followed by Amoxicillin was

used in combination with Clavulanic acid (49), Cephalosporin (10), Amikacin (10) and Metronidazole (10).The results are shown in Figure 4.

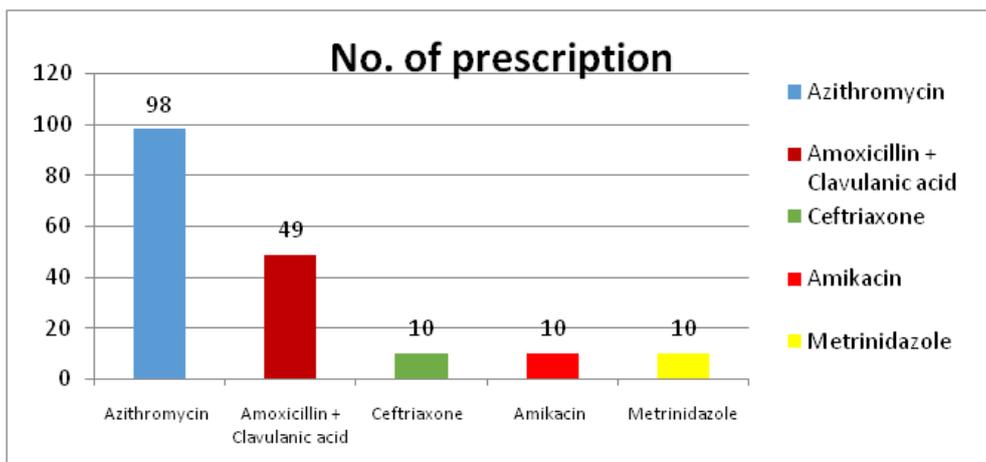


Figure 4: Antimicrobials (n=177)

Gastro-intestinal drugs

Total 108 gastrointestinal drugs were prescribed and most commonly prescribed drugs Pantoprazole + Domperidone (7), Rabeprazole + Domperidone (101).

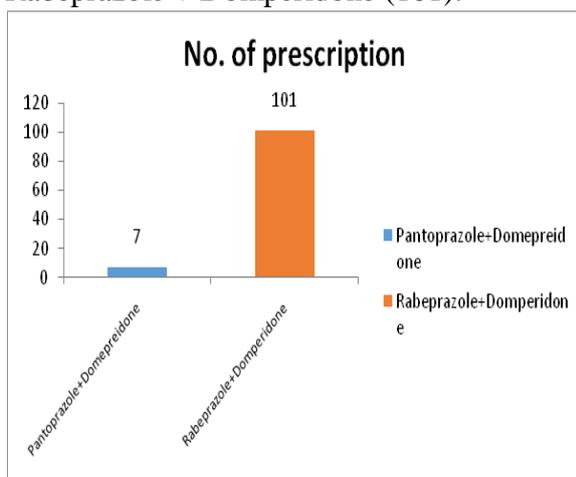


Figure 5: Gastro-intestinal drugs (n=108)

Non-Steroidal Anti inflammatory Drugs

Out of 157 prescriptions 155 NSAIDs were prescribed. The analgesics used were aceclofenac + serratiopeptidase was 108 and some NSAIDs used were in combination with antihistamines and nasal decongestants was 47.

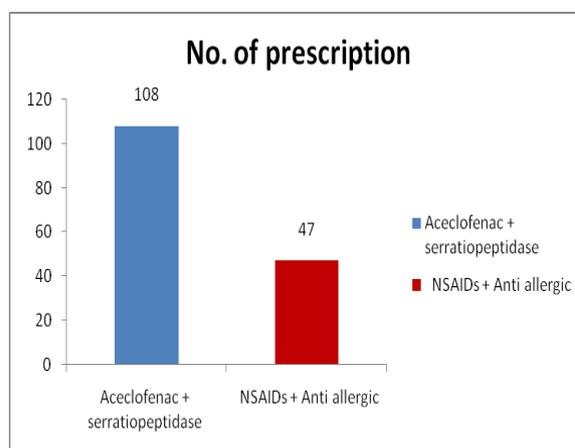


Figure 6: NSAIDs (n=95)

Other drugs

The different class of drugs used in prescriptions were: cetirizine 4, Ambroxol 49 Xylometazoline 51.

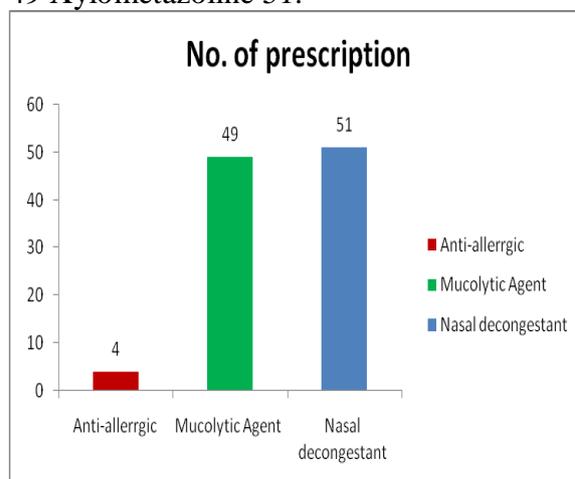


Figure 7: Other drugs (n=104)

COST ANALYSIS

Unit cost of drugs

Generic name	Brand name	Number of prescription (N)	Per Unit cost
Azithromycin	Ozitus	59	20INR
	Azitus	39	19.6 INR
Ceftriaxone	Xone	10	52 INR
Amikacin	Amikacin	10	72 INR
Rabeprazole+ domperidone	Restol DSR	32	7.9INR
	Helirab D	69	9.7 INR
Pantoprazole+domperidone	Pan.D	7	8.7 INR
Amoxicillin + clavulanic acid	Bactoclav	20	18.2 INR
	Bactobane	29	17.5 INR
Aceclofenac	Tarfen SP	56	8.5 INR
	Axylo-SR	8	69 INR
	Afnac forte	44	7.2 INR
Paracetamol + phenylephrine + chlorpheniramine	Sinarest	19	4.2 INR
	Meddler	30	3 INR
Ambroxol	Mucolite	49	6.3 INR
Xylometazoline	Xyleer	51	49 INR
Cetirizine	Cetirizine	2	6.7 INR
Inj. Metronidazole	Metronidazole	10	15 INR

Mean Cost Per Prescriptions

Total 157 prescriptions were analyzed. Out of 157, 95 were female patients and 62 were male patients, Average number of drug per prescription for female patients was 6 and for male patients were 3.46. Mean cost per prescription for female patients was more (389) when compared to male patients (339).

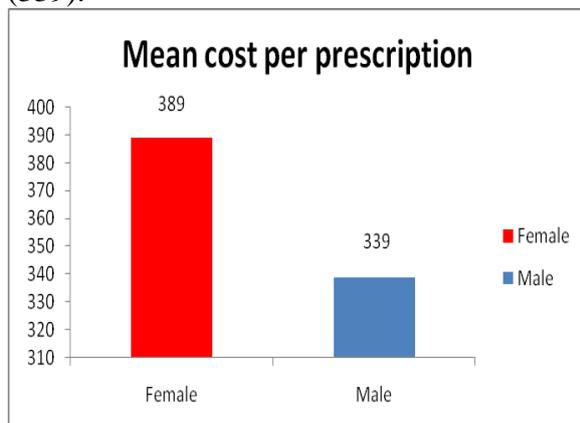


Figure 8: Mean Cost Per Prescriptions

DISCUSSION

Drug utilization is defined as “the prescribing, dispensing, administering, and ingesting of drugs”. It is designed to describe quantitatively and qualitatively- the population of users of a given class of drugs and/or the conditions of use (for example, indications, duration of treatment). [2]

Disease of ear, nose, and throat commonly affect functioning of adults as well as children, often with significant

impairment of the daily life of affected patients. [1]

In the present study a total 157 patients were included out of which 61 were males and 96 were females. Majority of patients were in age group less than 30 years, indicating that the young adults are most commonly affected by ENT diseases. The female patients were more sensitive to the ENT infections than males and most commonly found URTIs like Acute tonsillopharyngitis (35%), Chronic tonsillopharyngitis (19.9%), Acute rhinitis (13.4%), Chronic rhinosinusitis (10.9%), Acute pharyngitis (8.2%), Chronic pharyngitis (6.3%) and Acute follicular tonsillopharyngitis (6.3%).

A similar study conducted by Ghosh A *et al.*, An Observational Study of Drug use in Upper Respiratory Tract Infection in Patients Attending ENT Outpatient Department in a Tertiary Care Hospital in Kolkata, and results showed that out of 300 patients 129 patients were male, and 171 were female. The highest number of cases was in the age group of 26-35 years. [5]

Out of 157 prescriptions 98 patients were prescribed Macrolides Antibiotics, Azithromycin seems to be the common among them (98%), followed by penicillin and beta lactams inhibitors (69%), Cephalosporin (5.4%), Aminoglycosides (3.3%). Other drugs like Anti-gastric drugs, NSAIDs, Antihistamines, Nasal

decongestants were also prescribed. The average cost of drugs per prescription was 3.46 and the mean cost of drugs per prescription was 389 in females and 339 in males.

Pramila Y *et al.*, conducted a similar study on Drug utilization Trend in ENT Outpatient Department in a Teaching Hospital and concluded that the antibiotics commonly prescribed were Macrolides 26%. Amoxicillin 14%, Fluoroquinolones 12%, Cephalosporin 6%. The supplementary drugs like NSAIDs 40%, antihistamines 6%, and nasal decongestants 14% were given along with antibiotics to produce symptomatic relief. None of the drugs were prescribed by generic name. The average cost per prescription was 105. [7]

CONCLUSION

With the results obtained, the following conclusions are made:

- Female patients are more.
- Patients of age below 30 are more.
- More patients in ENT OPD having acute tonsillopharyngitis.
- Antibiotics, Gastro intestinal drugs, NSAIDs, Nasal decongestant, Anti-secretory agents, Anti-allergic, Anti-amoebic are the group of drugs which were commonly prescribed.
- Azithromycin is commonly prescribed antibiotic in acute and chronic ENT infections.
- Antibiotic sensitivity was not done in majority cases before prescribing the antibiotic.
- Average number of drugs per prescription is 3.46
- The average number of drugs was low, usage of brand name are more than generic name.
- Mean cost per prescription is more in female.

ACKNOWLEDGEMENT

It is a pleasure and privilege to express my deep sense of thanks and indebtedness to the

management of SJM College of Pharmacy Karnataka ,Mr. Nataraj G.R, Assistant professor, Department of Pharmacology and Dr. Bharathi D.R, Principal SJM College of Pharmacy for giving the consent and facilities to carry out this work.

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How to cite this article: Daniel M, Bharathi DR, Nataraj GR et.al. Drug utilization trends in ENT outpatients. International Journal of Science & Healthcare Research. 2018; 3(4): 166-171.
