

## Pattern of Drug Use in ENT Patients: A Prospective Study

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### ABSTRACT

**Background:** ENT diseases affect all the age groups ranging from children to adults with significant disability-adjusted life-year (DALY) of patient. With increasing world population, it is observed that infection remained an important cause of disease. The present study was conducted to assess pattern of drug use in ENT outpatient department.

**Materials & Methods:** 75 outpatients (OPD) of ENT department, Government hospital of both genders were enrolled. Drug details and information regarding the indication for prescribing agents both topical and oral was recorded.

**Results:** Out of 75 patients, males were 40 and females were 35. Average drugs/ prescription was 3.20, total antibiotics prescribed was 164, average antibiotics / prescription was 1.75, topical antibiotics prescribed was 80, antibiotic prescribed from essential drug list (WHO) was in 92%. Antibiotics used was penicillin in 46%, fluoroquinolones in 14%, Co-trimoxazole in 10%, Penicillin+ Metronidazole in 5%, Penicillin+ Ciprofloxacin in 3% and Penicillin+ Co-trimoxazole

in 2%, H1 antihistaminics in 8%, antiulcer drugs in 7% and NSAIDs in 5%. The difference was significant ( $P < 0.05$ ).

**Conclusion:** Most common drug used was penicillin, fluoroquinolones and Co- trimoxazole.

**Key words:** ENT, Fluoroquinolones, Penicillin.


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### INTRODUCTION

Diseases of ENT commonly affect the general population. These diseases may vary from a trivial common cold to more complicated chronic suppurative otitis media and its complications.<sup>1</sup> ENT diseases affect all the age groups ranging from children to adults with significant disability-adjusted life-year (DALY) of patient.<sup>2</sup> With increasing world population, it is observed that infection remained an important cause of disease. Upper respiratory tract diseases (most common being the upper respiratory tract infections—URTIs) cause not only significant hearing loss but are also responsible for learning disability and absenteeism from school and work.<sup>3</sup> The world health organization estimated that respiratory infections 94.6 disability adjusted life years lost worldwide. Study of prescription pattern is important to assess the pattern of drug used.<sup>4</sup> The World Health Organization (WHO) defined drug utilization as “the marketing, distribution, prescription and use of drug in a society with special emphasis on the resulting medical, social and economic consequence.” Drug utilization research help to estimate number of patients exposed to specified drugs within a given time period, determine the pattern of drug use. The study of drug utilization helps in identifying the problems associated with drug usage in healthcare system as well as remarks the current approaches to the rational use of drugs.<sup>5</sup>

The commonly used drugs for the URTI are antibiotics like amoxicillin, amoxicillin+clavulanic acid, cefixime, cefuroxime. The different surveys were showing that antibiotic prescriptions are made in approximately 40% of all consultations for rhino pharyngitis and in 80% of acute bronchitis.<sup>6</sup>

It is very important to analyse and monitor the prescribing patterns of drug used time to time, the basic drug modification in prescribing pattern to improve the therapeutic value and reduces the side effects.<sup>7</sup>

The present study was conducted to assess pattern of drug use in ENT outpatient department.

### MATERIALS & METHODS

The present study comprised of 75 outpatients (OPD) of ENT department, Government hospital of both genders. All were enrolled after obtaining their written consent.

Data such as name, age, gender etc. was recorded. A thorough clinical examination was performed. Diagnosis, investigations, drug details and information regarding the indication for prescribing agents both topical and oral was recorded. Results were analyzed statistically. P value less than 0.05 was considered significant.

**RESULTS**

Table I shows that out of 75 patients, males were 40 and females were 35.

Table II shows that average drugs/ prescription was 3.20, total antibiotics prescribed was 164, average antibiotics / prescription was 1.75, topical antibiotics prescribed was 80, antibiotic prescribed from essential drug list (WHO) was in 92%.

Table III, graph I shows that antibiotics used was penicillin in 46%, fluoroquinolones in 14%, Co- triomoxazole in 10%, Penicillin+ Metronidazole in 5%, Penicillin+ Ciprofloxacin in 3% and Penicillin+ Co-trimoxazole in 2%, H1 antihistaminics in 8%, antiulcer drugs in 7% and NSAIDs in 5%. The difference was significant (P< 0.05).

**Table I: Distribution of patients**

|                  |              |                |
|------------------|--------------|----------------|
| <b>Total- 75</b> |              |                |
| <b>Gender</b>    | <b>Males</b> | <b>Females</b> |
| <b>Number</b>    | 40           | 35             |

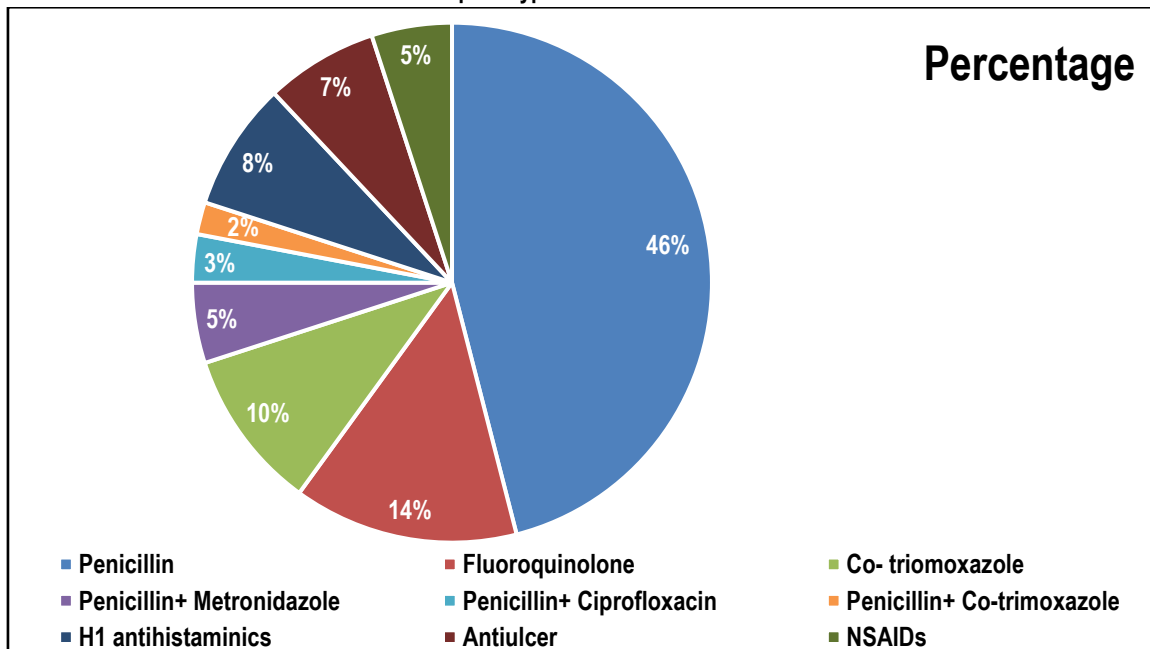
**Table II: Assessment of parameters**

| <b>Parameters</b>   | <b>Mean</b> |
|---|-------------|
| <b>Average drugs/ prescription</b>                          | 3.20        |
| <b>Total antibiotics prescribed</b>                         | 164         |
| <b>Average antibiotics / prescription</b>                   | 1.75        |
| <b>Topical antibiotics prescribed</b>                       | 80          |
| <b>Antibiotic prescribed from essential drug list (WHO)</b> | 92%         |

**Table III: Type of drugs used**

| <b>Antibiotics used</b>           | <b>Percentage</b> | <b>P value</b> |
|-----------------------------------|-------------------|----------------|
| <b>Penicillin</b>                 | 46%               | 0.01           |
| <b>Fluoroquinolone</b>            | 14%               |                |
| <b>Co- triomoxazole</b>           | 10%               |                |
| <b>Penicillin+ Metronidazole</b>  | 5%                |                |
| <b>Penicillin+ Ciprofloxacin</b>  | 3%                |                |
| <b>Penicillin+ Co-trimoxazole</b> | 2%                |                |
| <b>H1 antihistaminics</b>         | 8%                |                |
| <b>Antiulcer</b>                  | 7%                |                |
| <b>NSAIDs</b>                     | 5%                |                |

**Graph I: Type of antibiotics used**



**DISCUSSION**

According to World Health Organization (WHO) report of Global Burden of Disease 2004 Updates, respiratory tract infections (RTIs) remained the fourth important cause of mortality worldwide, that is, 4.2 million death every year after cardiovascular, other infectious and parasitic diseases, and cancer.<sup>8</sup> It is also responsible for 94.6 DALYs lost worldwide, contributing 6.2% of all DALYs.<sup>9</sup> WHO report respiratory tract infections were the fourth major cause of mortality constituting 7.4% in females and 7.1% in males.<sup>10</sup> Various drugs including antimicrobials are used for the treatment of ENT diseases though inappropriate use of the

antimicrobials is a major problem as it can lead to development of drug resistance. Thus, it becomes necessary to monitor and evaluate different drug use patterns in the course of time and make necessary modification in the pattern of prescription so as to increase its therapeutic benefit and decrease its adverse effects.<sup>11</sup> The present study was conducted to assess pattern of drug use in ENT outpatient department.

We found that out of 75 patients, males were 40 and females were 35. Joshi et al<sup>12</sup> assessed the prescription pattern of drugs in ENT outpatient department in a tertiary care teaching hospital. A total of 313 prescriptions were analysed. Most of the patients (40.89%)

belonged to 13 - 35 years age group. 185 patients (59.10%) were male and 128 patients were females (40.90%). A total of 1003 drugs were prescribed. The average number of drugs per prescription was 3.2. Most common class of drugs prescribed was antimicrobials (24.42%), followed by H1 antihistaminics (18.84%), antiulcer drugs (15.55%) and nonsteroidal anti-inflammatory (NSAIDs) drugs (14.35%). The average number of antimicrobials per prescription was 0.78. One or two antimicrobials were prescribed in 202 prescriptions (64.53%). The most common prescribed antimicrobial was of Penicillin group (64.89%) followed by Fluoroquinolone (25.71%). The most common prescribed route of drug administration was oral route (81.35%). The most common prescribed dosage form was tablets (74.87%). FDC constituted 24.62% of prescribed drugs.

We found that average drugs/ prescription was 3.20, total antibiotics prescribed was 164, average antibiotics / prescription was 1.75, topical antibiotics prescribed was 80, antibiotic prescribed from essential drug list (WHO) was in 92%. We observed that antibiotics used was penicillin in 56%, fluoroquinolones in 24%, Co- trimoxazole in 10%, Penicillin+ Metronidazole in 5%, Penicillin+ Ciprofloxacin in 3% and Penicillin+ Co-trimoxazole in 2%. Kishore et al<sup>13</sup> assessed the prescribing pattern of drug usage in ENT outpatient department in various diseases conditions. Medication utilization Form has been designed based on a WHO format. The patient's details including patient particulars, diagnosis, investigations, drug details and information regarding the indication for prescribing agents. Total 200 prescriptions were analysed, 70% were males and 30 % were females, respectively. The most common disease reported was CSOM in 31 (15.5 %) patients followed by otitis externa 25 (12.5%), pharyngitis 21 (10.5%), URTI patients 20 (10.0%). Antibiotics used were: amoxicillin-clavulanate 200 (57.3%), cefixime 37 (10.6%), levofloxacin 34 (9.74%), cefixime clavulanate 30 (8.59%), cefuroxime 13 (3.72%). The most commonly used NSAID are diclofenac and paracetamol.

We found that antibiotics used was penicillin in 46%, fluoroquinolones in 14%, Co- trimoxazole in 10%, Penicillin+ Metronidazole in 5%, Penicillin+ Ciprofloxacin in 3% and Penicillin+ Co-trimoxazole in 2%, H1 antihistaminics in 8%, antiulcer drugs in 7% and NSAIDs in 5%. Padwal et al<sup>14</sup> evaluated pattern of drug use in ENT (ear, nose, throat) outpatient department (OPD) of a rural tertiary care teaching hospital using WHO core drug prescribing indicators. A total of 3342 drugs were prescribed through 855 prescriptions with average number of drugs per prescription being 3.90 and average number of 2.5 drugs dispensed per prescription. Majority (59.64%) of the patients were male. Antibiotics were the most frequently prescribed drugs (24.86%) followed by nonsteroidal anti-inflammatory drugs (23.60%), gastroprotective agents (22.55%), and antihistaminics (19.92%). Antibiotics were prescribed in 831 prescriptions (97.19%). Most common route of drug administration was oral (97.75%) followed by topical. Drugs were mostly (80%) prescribed by brand names.

## CONCLUSION

Authors found that most common drug used was penicillin, fluoroquinolones and Co- trimoxazole.

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