

**DRUG UTILIZATION PATTERN IN TONSILLITIS AND PHARYNGITIS PATIENTS ADMITTED IN THE OTO-RHINOLARYNGOLOGY DEPARTMENT OF A TERTIARY CARE HOSPITAL IN MANDYA: A RECORD BASED DESCRIPTIVE STUDY.**

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Article Received on 05/04/2022

Article Revised on 26/04/2022

Article Accepted on 16/05/2022

**ABSTRACT**

**Background:** Inappropriate treatment of acute tonsillitis and pharyngitis with excessive use of antibiotics and symptomatic medicines remains a serious problem. Drug utilization evaluations involve a comprehensive review of patient's prescription and medication data before, during and after dispensing to ensure appropriate medication decision making and positive patient outcomes. **Objective:** To analyze the drug utilization pattern on tonsillitis and pharyngitis at otorhinolaryngology department MIMS, Mandya. **Methodology:** This was a record based retrospective study on tonsillitis and pharyngitis cases of patients admitted in the otorhinolaryngology department at MIMS, Mandya. The obtained information were documented and subjected to suitable statistical methods. **Result:** Among 178 patients under study, increased occurrence of tonsillitis and pharyngitis is among 5-14 years (32.02%) of age and is common among female (52.2%) patients. Tonsillitis (81.46%) was found to be in majority compared to pharyngitis (18.53). Rantac (18.71%) and diclofenac (17.48%) was the concomitant drugs prescribed in maximum. Antimicrobials being the common class of drugs for tonsillitis and pharyngitis. Ceftriaxone (38.88%), betadine (31.33%) followed by metronidazole (08.66%) and amoxicillin (08.44%) was prescribed and administered in maximum. **Conclusion:** Our study concludes that, the majority of subject who got affected from tonsillitis and pharyngitis were female as compared with males. The most affected age group were 5-14. Among tonsillitis and pharyngitis, majority of patients were suffering from tonsillitis than pharyngitis. Rantac and diclofenac were the most used drug for the co-morbid condition. Treatment of tonsillitis and pharyngitis were with antimicrobials in which most used were ceftriaxone.

**KEYWORDS:** Tonsillitis, Pharyngitis, Antimicrobial agent, Drug utilization.

**METHADODOLOGY**

**Study Population:** Medical Case record files of ENT Department at Medical Record Department of MIMS Teaching hospital, Mandya, were used in this study.

**Study Design:** This is a Medical-Record based retrospective study.

**Study Site**

This study was conducted in MIMS Teaching Hospital, Mandya, Karnataka. It is a 650 bedded Tertiary Care Hospital, providing specialized health care services to all state of people in and around Mandya and rural population.

**Study Approval**

Ethical clearance was obtained from the Institutional Ethical Committee at Mandya Institute of Medical Science, Mandya.

**Inclusion Criteria**

Patient of either gender admitted to the hospital and paediatrics patients admitted to the ENT Department.

**Exclusion Criteria**

Out patients record and patients above the age 55 years.

**Study Procedure**

The data regarding the details of tonsillitis and pharyngitis were analysed by the demographic profile, the cause that lead to the disease, the comorbid treatments with tonsillitis and pharyngitis and the drug

utilization pattern of tonsillitis and pharyngitis were recorded in a pretested preform (Annexure 1)

### Statistical Methods

The data were subjected to descriptive statistical analysis using Microsoft excel.

Microsoft Word and Excel have been used to generate bar graph, pie chart and tables.

### RESULT AND DISCUSSION

A retrospective study was conducted for a period of 6 months in the Department of Otorhinolaryngology, MIMS Teaching hospital, Mandya. A total number of

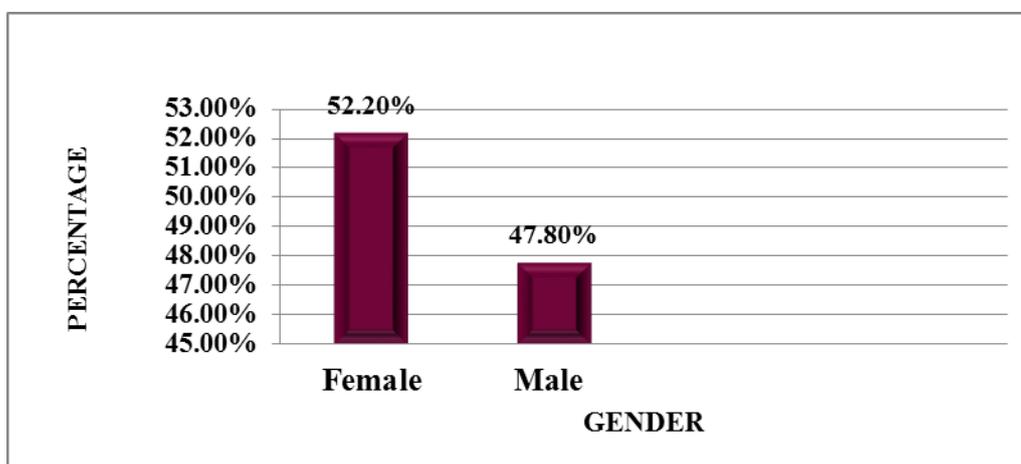
178 patient's case records were collected from the department of MRD at MIMS based on the study criteria. The required details from the patient's case records with tonsillitis and pharyngitis were recorded in a patient profile form.

### DISTRIBUTION OF PATIENTS BASED ON GENDER

Total 178 patients were included in the present study. Table 4 provides the details of Gender distribution of the patients. The numbers of females were 93 (52.2%) and the numbers of males were 85 (47.8%).

**Table 1: Distribution of patients based on gender.**

GENDER	NUMBER OF PATIENTS (n = 178)	PERCENTAGE
Female	93	52.2 %
Male	85	47.8%



**Figure 1: Distribution of patients based on gender.**

### Distribution of Patients Based On Age

A total number of 178 patients were enrolled in the study, the maximum number of patients were found in the age group between 5-14 years (57) and minimum number of patients were found in the age group of less

than 4 years (05). The result shows that age group 5-14 years (57) are more affected with tonsillitis and pharyngitis followed by 15-24 years (50), 25-34 years (27), 35-44 years (22), >45 years (17) and <4 years (05) respectively.

**Table 2: Distribution of patients based on age.**

AGE GROUP	NUMBER OF PATIENTS	PERCENTAGE
<4 years	05	02.80%
5-14 years	57	32.02%
15-24 years	50	28.08%
25-34 years	27	15.16%
35-44 years	22	12.35%
>45 years	17	09.55%

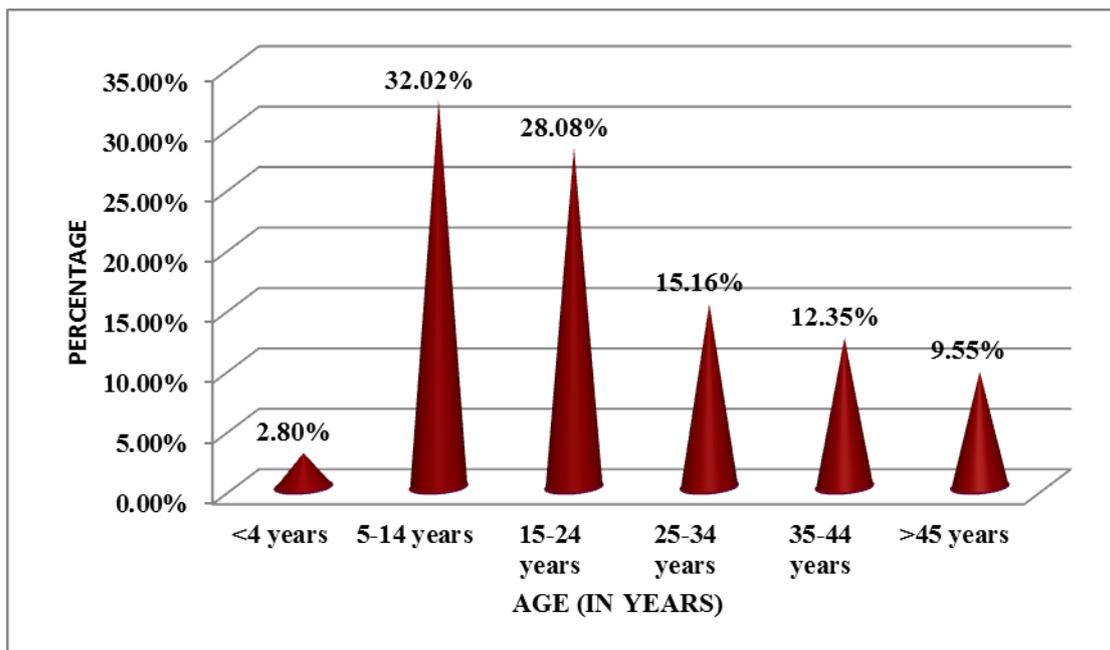


Figure 2: Distribution of patients based on age.

**DISTRIBUTION OF PATIENTS BASED ON TONSILLITIS AND PHARYNGITIS**

Among 178 cases under study, tonsillitis was found to be in maximum compared to pharyngitis. Tonsillitis was

prevalent in common among 145 patients (81.46%) and pharyngitis among 33 patients (18.53%).

Table 3: Distribution based on tonsillitis and pharyngitis.

DISEASE	NUMBER OF PATIENTS	PERCENTAGE
Tonsillitis	145	81.46%
Pharyngitis	33	18.53%

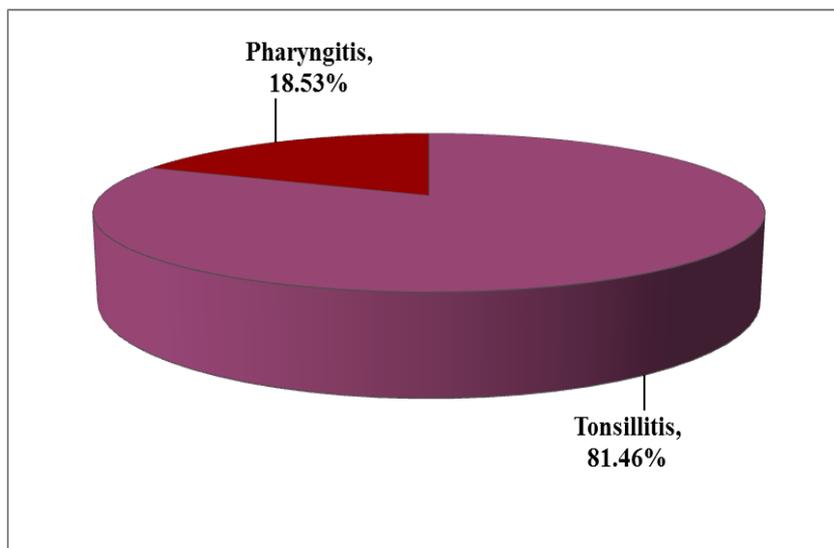


Figure 3: Distribution based on tonsillitis and pharyngitis.

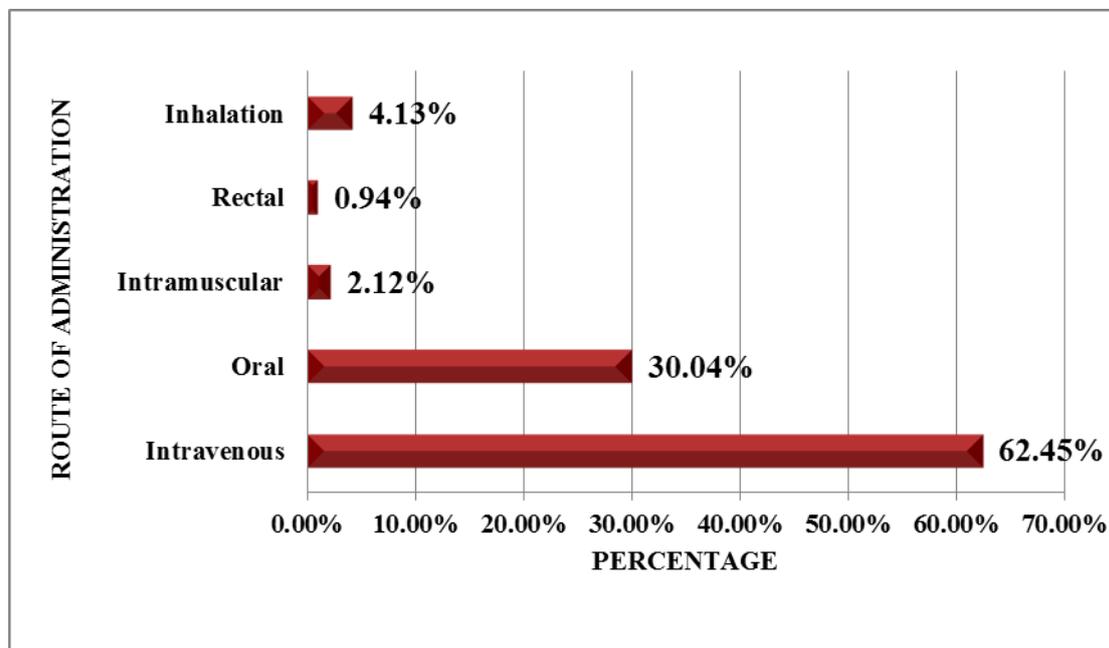
**DISTRIBUTION BASED ON ROUTE OF ADMINISTRATION**

In the study conducted among 178 patients with tonsillitis and pharyngitis, most of the drugs were administered intravenously (62.45%) and least number of drugs were given by rectal route (00.94%). Other route of drug administration among those patients included

oral (30.34%), inhalation (04.13%), intramuscular (02.12%) and rectal (00.94%) respectively.

**Table 4: Distribution based on route of administration.**

ROUTE OF ADMINISTRATION	NUMBER OF PATIENTS	PERCENTAGE
Intravenous	529	62.45%
Oral	257	30.34%
Intramuscular	18	02.12%
Rectal	08	00.94%
Inhalation	35	04.13%

**Figure 4: Distribution of patients based on therapy pattern of AEDs.**

#### DISTRIBUTION BASED ON PRESCRIBED CONCOMITANT DRUGS

Among the concomitant drugs prescribed for the patients under study, rantac (18.71%) and diclofenac (17.48%)

were prescribed in maximum. This was followed by paracetamol (13.19%), intravenous fluids (12.16%), xylometazoline hydrochloride (03.57%), cetirizine (3.57%) and other drugs.

**Table 5: Distribution based on prescribed concomitant drugs.**

DRUGS	NUMBER OF PRESCRIPTIONS	PERCENTAGE
IVF	119	12.16%
Rantac	183	18.71%
Diclofenac	171	17.48%
Paracetamol	129	13.19%
Ibuprofen	25	02.55%
Xylometazoline Hydrochloride	35	03.57%
Ondansetron	25	02.55%
Mannitol	7	00.71%
Dexamethasone	6	00.61%
Pantoprazole	22	02.24%
Thyroxine	4	00.41%
Cetirizine	35	03.57%
CPM	38	03.88%
Montelukast	7	00.71%
Lidocaine	9	00.92%
Serratiopeptidase	65	06.64%
Insulin	4	00.41%
Amlodipine	5	00.51%
Metformin	4	00.41%
Salbutamol	5	00.51%
B Complex	16	01.63%

Ferrous sulphate	14	01.43%
Zymogestic	5	00.51%
Chymotrypsin	5	00.51%
Phenylephrine	28	02.86%
Ambroxol	3	00.30%
Thiocolchicoside	3	00.30%
Multi vitamin	4	00.41%
Dexamethorphan	2	00.20%

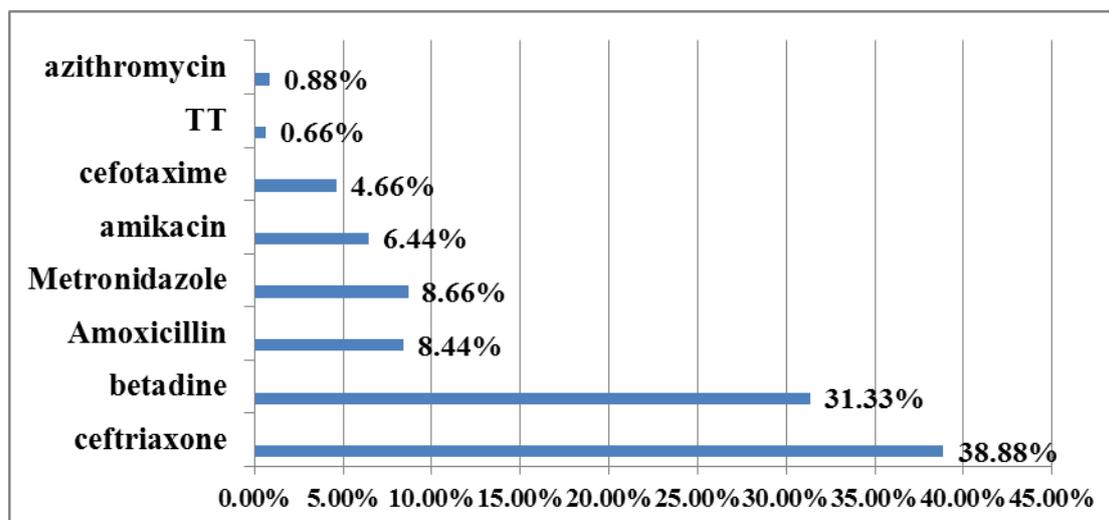
### DISTRIBUTION BASED ON ANTI-MICROBIALS PRESCRIBED

Among the drugs prescribed for 178 cases of patients with tonsillitis and pharyngitis, antibiotics was prescribed in maximum. The most commonly prescribed antibiotics was found to be Ceftriaxone (38.88%). The other

antibiotics prescribed includes betadine(31.33%), Metronidazole (8.66%), Amoxicillin (8.44%), Amikacin (6.44%), Cefotaxime (4.66%), Azithromycin (0.88%). The least prescribed antibiotic was tetanus toxoid (0.66%).

**Table 6: Distribution based on antimicrobials prescribed.**

NAME OF DRUGS	NUMBER OF PRESCRIPTION	PERCENTAGE
Ceftriaxone	175	38.88%
Betadine	141	31.33%
Amoxicillin	38	08.44%
Metronidazole	39	08.66%
Amikacin	29	06.44%
Cefotaxime	21	04.66%
T T	3	00.66%
Azithromycin	4	00.88%



**Figure 5: Distribution based on antimicrobials prescribed.**

### CONCLUSION

Our study concludes that, the majority of subject who got affected from tonsillitis and pharyngitis were female as compared with males. The most affected age group were 5-14 years and least were <4 years. Among tonsillitis and pharyngitis, majority of patients were suffering from tonsillitis than pharyngitis. The most preferred route of administration was intravenous and least was rectal route of administration. The patients who were presented with the disease condition were also suffered from other co-morbid conditions. Rantac and diclofenac were the most used drug for the co-morbid condition and least used were dexamethorphan. Treatment of tonsillitis and

pharyngitis were with antimicrobials in which most used were ceftriaxone and least was tetanus toxoid.

During the acute phase of tonsillitis and pharyngitis, patients with severe symptoms will benefit from rest, maintenance of an adequate fluid intake, antipyretic drugs and gargling with warm salt water.

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