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Review Article

Drug utilization studies among ENT patients in various clinical settings: A comprehensive review

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ABSTRACT

Drug utilization research is an important part of pharmacoepidemiology as it explains the extent, nature and determinants of drug exposure. A drug utilization study is a tool for determining the effectiveness of drug use. They have tendency to create sound economic bases for health care. It focuses on various factors related to prescribing, dispensing, and administration of medication and associated events. It is a study which is used for analyzing or describe-quantitatively and qualitatively- the population of users of a given drug (or class of drug) and/or the condition of use (for example, indication, duration of treatment, dosage, previous or associated treatment and compliance). ENT problems have been counted as prominent as well as commonly occurring medical problem for our society. It is a problem of most concern. Drug utilization studies can play a major role to identify the nature of therapy used in their treatment and also helps to promote the rationality and minimizing the errors in the drug therapy. Such kind of studies can be helpful for healthcare practitioners as well as to the society against such health issues. Drug utilization research developed quickly during the following 30 years and soon became a respectable subject for consideration at international congresses in pharmacology, pharmacy and epidemiology. Successful research in drug requires multidisciplinary collaboration between clinicians, clinical pharmacologists, pharmacists and epidemiologists. Without the support of the prescribers, this research effort will fail to reach its goal of facilitating the rational use of drugs. In this review, we will briefly list various Drug utilization studies in ENT Clinical settings.

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INTRODUCTION

Drug utilization research is an important part of pharmacoepidemiology as it explains the extent, nature and determinants of drug exposure. A drug utilization study is a tool for determining the effectiveness of drug use. They have tendency to create sound economic bases for health care. It focuses on various factors related to prescribing, dispensing, and administration of medication and associated events. It is a study which is used for analyzing or describe-quantitatively and qualitatively- the population of users of a given drug (or class of drug) and/or the condition of use (for example, indication, duration of treatment, dosage, previous or associated treatment and compliance) ^{1, 2, 3}.

WHY DRUG UTILIZATION STUDIES ARE NEEDED IN ENT?

ENT is a medical abbreviation for ears, nose, and throat. A rotation in ear, nose and throat is becoming increasingly

common in general practice. Some of the common disorders include, blocked nose or nasal discharge, ear pain, ear discharge, tender swelling behind the ear, sore throat, allergic rhinitis, otitis media and mastoiditis⁴. Rhinitis and sinusitis are among the most common medical condition. In Western societies an estimated 10% to 25% of the populations have allergic rhinitis, with 30 to 60 million persons being affected annually in the United States. Both Sinusitis and rhinitis can significantly decrease the quality of life and aggravate co-morbid conditions. Although mainstay of management of acute bacterial sinusitis is antibiotics, treatment of chronic sinusitis is less straight forward because only some chronic sinusitis has infectious basis⁵. Otitis media is the inflammation of the mucous membrane of the middle ear cleft which includes the middle ear cavity (tympanic cavity), mastoid antrum, mastoid air cells and the Eustachian tube. When the inflammation is associated with a discharge from the ear through a perforation in the tympanic membrane, suppurative (or discharging) otitis media occurs.

It may be acute (<6 weeks) or chronic (>6 weeks). It is one of the most common infectious diseases of childhood worldwide. Two out of three children will have at least one episode of otitis media before their third birthday. Varying prevalence rates of otitis media have been documented from various parts of the world. Infants and young children are at highest risk of developing otitis media, with peak prevalence between 6 and 36 months of age. It is particularly prevalent among children with cleft palate and other craniofacial defects, and those from lower socio-economic status. Bacteria have remained the most important etiological agents in suppurative or discharging otitis media. Resistance to multiple antibiotics is not uncommon, further predisposing to complications among affected children⁶. ENT related problems are common in the population and comprises up to 20% of adult and 40% of pediatric consults of a general practitioner. In adults, external ear problems, especially wax, are the most common reason for attendance. Otitis media is the commonest presentation in ages 0-4 years, falling in older children, and hay fever affects around 1 in 10. Diseases of ear, nose and throat can have serious consequences including hearing impairment, and emotional strain that lower the quality of life patients⁴. The vast majority of ENT problems that present in the pre hospital setting are minor in nature. However, occasionally innocuous symptoms can develop into life threatening conditions that require immediate assessment and treatment. ENT conditions can be immediately life threatening by causing an A, B, C problem.

- A. Airway obstruction which comprises inhaled foreign body, epiglottitis, anaphylaxis/angioedema, croup, facial fractures.
- B. Breathing difficulty due to croup, inhaled foreign body.
- C. Circulatory problems which includes hemorrhage due to epistaxis, from facial fractures, secondary hemorrhage after ENT surgery, e.g. after tonsillectomy⁷.

Guidelines for appropriate management are widely available but not always followed. In appropriate referrals to secondary care increase waiting times, can be harmful and inconvenient to patients. It has been envisaged that with increase in global population, infections remain the most important causes of diseases, with upper respiratory infections causing hearing loss and learning disability particularly in children. Ear infections, such as otitis media have serious consequences in developing countries, such as retarded language development and poor progress in school children. Otitis media, which is now known to be the most common childhood infection, leads annually to the death of over 50,000 children under 5 years of age. In most developing countries the number of otolaryngologist is negligible, while the problem is complicated by the fact that there is no training for public health otolaryngology and other ENT related otolaryngology personnel. Diseases of the ear, nose and throat can be caused by a variety of microorganisms. Rhinoviruses are the leading cause for common cold in all age groups. Acute pharyngitis/ tonsillitis are mainly associated with respiratory viruses, although bacteria, especially streptococcus are found in some patients. It has been shown that the nose is the main ecological niche where some of the drug resistant microorganisms like *Staphylococcus aureus* reside. Although acute otitis media is caused by bacteria the leading one being *Streptococcus pneumoniae*, viral infections are a predisposing factor for its development. Although antibiotics have contributed to the control of ENT infections, their overuse and misuse is now seen to cause an increase in antibiotic resistance. Some of the chronic sinus ENT diseases resistant to current antibiotics

include chronic middle ear infections, chronic sinus diseases, chronic coughs and recurrent pharyngo-tonsillitis. There is need to investigate means of developing new, efficacious drugs⁴.

DRUG UTILIZATION STUDIES IN ENT TREATMENTS

Various studies have been carried out with respect to drug utilization studies in ENT clinical settings. **Sathiya SB et al. (2016)** carried out prospective observational drug utilization at otorhinolaryngology department for a period of 4 months. Out of 155 patients, the average number of drugs per patient was 1.2. The percentage of drugs prescribed with the generic name was 26.32%. During this study, it was found that the most commonly prescribed groups of antimicrobials were penicillins (34.87%) followed by fluoroquinolones (26.32%) and nitroimidazole (25%). During the study, it was observed that 46.71% patients visited for treating ear infections, 12.5% for nasal infections and 40.79% for throat infections. The routes of administration were oral (74.23%) and topical (20.10%). The study showed some rational prescription patterns like less utilization of antimicrobials in ENT infections and was according to standard treatment guideline. The results of this study will be useful in future for making standard treatment guidelines. It also promotes the rational prescription and rational use of drugs⁸. **Nitasha GM et al. (2015)**, scrutinized the outpatient department (OPD) records of 608 patients with ENT infections, reporting to the ENT OPD of Justice K S Hegde Charitable Hospital, Deralakatte, Mangalore, over a period of 1-year. Descriptive analysis of the data was done. Of the total 608 prescriptions analyzed, 309 (50.8%) belonged to male patients and 299 (49.2%) belonged to female patients. Highest numbers of patients were in the age group of 16-25 years (29.44%). The most common diseases reported were chronic suppurative otitis media (19.24%), followed by otitis externa (13.49%) and furunculosis (9.87%). Average number of drugs per prescription was found to be 3.0. Oral antibiotics were prescribed to 540 patients (88.81%). Most common antibiotics prescribed were amoxicillin-clavulanate (53%), levofloxacin (17%), and cefixime (14%). Antihistamines were prescribed in 52.47% prescriptions, and non-steroidal anti-inflammatory drugs were prescribed to 298 patients (49.01%). By this study they concluded that the diseases were treated rationally in accordance with the standard guidelines of therapy⁹. **Ilechukwu GC et al. (2014)** studied otitis media in children and concluded that the treatment regimens for Acute Otitis Media (AOM) are controversial and continuously changing likely due to the increasing prevalence of resistant organisms. Accelerated patterns of bacterial resistance therefore, mandate an evidence-based approach to managing otitis media. There is wide variation in the use of antibiotics among doctors worldwide. The recommended treatment duration for uncomplicated AOM is 5 - 7 days. Amoxicillin has been the first line antibiotic for treating otitis media, even with a high prevalence of drug-resistant *Streptococcus pneumoniae*, because resistance to β -lactam antibiotics, such as amoxicillin, develops as a stepwise process. Amoxicillin-clavulanate combination is an appropriate choice as a second-line antibiotic if a child is not responding to treatment after 72 hours on amoxicillin. The addition of clavulanate to amoxicillin will broaden the coverage while retaining efficacy against *Streptococcus pneumoniae*. Other appropriate choices include erythromycin combined with a sulphonamide; trimethoprim-sulfamethoxazole, cefaclor, cefuroxime axetil or cefixime. If the patient is allergic to the penicillins, the combination of oral erythromycin and sulfonamides is an alternative. Combined trimethoprim-sulfamethoxazole can also be given to penicillin-sensitive

individuals. A child that remains symptomatic for more than three days while on a second-line agent requires tympanocentesis to identify the causative pathogen. If a highly resistant pneumococcus is found or if tympanocentesis is not feasible, clindamycin or intramuscular ceftriaxone appears to be the best third-line agents. Recent studies have shown that short courses (2 - 3 days of antibiotic) at conventional or high doses are equally effective in terms of resolution of symptoms and signs ⁶. **Kalpna S et al.** (2014), studied that ENT related diseases form a significant portion of ailments in pediatric age group in a hospital based study. Many of them present in emergency clinics with symptoms requiring urgent management. A prospective study was carried out in Gauhati Medical College, in patients below 16 years of age, to determine the hospital prevalence of ENT emergencies in pediatric age group and their management protocol as followed in a tertiary center. Emergencies relating to ear were most common followed by nasal and pharyngoesophageal conditions. Foreign bodies were most common among aural and nasal emergencies. A considerable number of patients presented with faciomaxillary and orodental injuries. Although mortality is low in such emergencies group, morbidity may be very high at times. In management of such emergencies, particularly where operative intervention is required, expertise of an ENT specialist is necessary ¹⁰. **Vishwanath M et al.** (2014), assessed drug utilization pattern among hospitalized children. He randomly selected total 150 inpatients aged 1-5 years admitted in the Paediatric ward for study. 80(53.33%) patients were males while 70 (46.67%) females. Age distribution showed, most of the patients were between 1-2 years old with the percentage of 34.67, followed by 4-5 years (31.33%) and 2-3 years (25.33%). Respiratory system disease (33.33%) was most commonly seen, followed by GIT (19.33%) & CNS (16.67%) disorders. Among them Pneumonia, Acute GE and Seizure disorder were most commonly seen. A total of 854 drugs were prescribed. Most commonly prescribed drug classes were antimicrobial agents (28.10%), drugs acting on respiratory system (12.18%) and NSAIDs (7.50%). Penicillins (28.75%) were the most commonly prescribed AMAs, followed by aminoglycosides (23.33%) & cephalosporins (17.5%). Salbutamol aerosol (48.08%) was the most commonly used bronchodilator followed by inhaled salbutamol + ipratropium (21.15%) ¹¹. **Piromchai P et al** (2014), studied the impact of treatment time on the survival of patients suffering from invasive fungal rhinosinusitis. It was observed that more than 70% of the mortalities occurred within the subgroup of patients who exhibited symptoms of the diseases within 14 days before admission. The study concluded that the time taken to treat the patients is an important determinant for the survival of patients who are afflicted with invasive fungal rhinosinusitis. The appropriate treatments should be administered within 14 days from the time the symptoms begin to manifest ¹². **Goud KS et al.** (2014), conducted an observational study to evaluate the drug utilization pattern in upper respiratory tract infections in out patient department at MGM hospital, Navi Mumbai, for a period of six months. Results showed that out of 200 URTI patients, 132 were males and 68 were females. The total numbers of drugs prescribed were 710. The average numbers of drugs per prescription were 3.55. total number of antibiotics prescribed were 194(27.32%), out of total drugs, most commonly prescribed drug was xylometazoline 16.33%, 69.85% drugs were prescribed as FDC. 100% drugs were prescribed by brand names. They concluded that most commonly drug combination used was that of paracetamol, anhydrous caffeine, phenylephrine, chlorpheniramine maleate, nasal decongestants and antihistamines. Frequent

used of FDC and prescribing by brand names are matter of concern ¹³. **Venkateshkaramurthy N et al.** (2013), conducted study of drug utilization pattern among pediatric patients. The mean age of patients whom the prescription were written was 95.3 months. Newborn infants (neonates) comprised only 2.1% of the total prescriptions. Majority, 54.5%, of the recipients were males. 29.7% and 68.2% of total prescriptions were made to Infants and Toddlers of age 28 days-23 months and 2-11years, respectively. The study showed that most of the drugs were used for conditions like fever (34.6%), Respiratory Diseases (21.7%), gastrointestinal disorder (16.8%), and infection diseases (12.6%). These conditions were most common reason for hospitalization of the pediatric patients. Respiratory diseases known as Asthma, Chronic Obstructive Pulmonary Disorder (COPD), Pneumonia fever and Bronchitis. Gastrointestinal disorder known as Acute Gastro enteritis (AGE), Diarrhoea, Dehydration and constipation. Anti-infective agents were the main class of drugs prescribed [339 (24.8%)]. Other classes of commonly prescribed drugs were anti-inflammatory agents (20.8%), intravenous fluids (19.0%), and gastrointestinal therapy (14.7%). The anti-infective agents were mainly used in the inpatient settings. Of the anti-infective agents, betalactam antibiotics were most commonly prescribed ¹⁴. **Sam TA et al.** (2012), studied the drug utilization patterns amongst asthmatic patients of all age ranges through retrospective analysis, and to collate the data obtained. The most commonly prescribed drug was Salbutamol 120 (20.97%), followed by Montelukast 89 (15.56%) number of medication and Prednisolone 87 (15.21%) among the other drugs upon 572 number of medication. Salbutamol or albuterol is chosen as the first line agent in the management of asthma where they are used as required by the patient for the symptomatic relief of breathlessness and wheezing. Asthma control and prior medical care of patients presenting with acute asthma at the emergency department where it showed that salbutamol was the most prescribed drugs where fifty-seven (81%) patients were using inhaled salbutamol but 21 (30%) were still using oral short acting salbutamol. Only 32 (46%) patients used inhaled corticosteroids. This is because salbutamol does not increase exacerbation rates. The least prescribed medications are Dexamethasone 1(0.18%) and Ipratropium bromide 1(0.18%) in the context of monotherapy. If dexamethasone is given orally or by injection (parenteral) over a period of more than a few days, side-effects common to systemic glucocorticoids may occur. These may include: Stomach upset, increased appetite leading to significant weight gain, latent diabetes mellitus often becomes manifest. Glucose intolerance is worsened in patients with preexisting diabetes. Osteoporosis and depression of the adrenal gland is usually seen ¹⁵. **Gupta AS et al.** (2012), studied on clinico-epidemiological profile of ear, nose and throat diseases among patients aged 6 to 14 years attending the E.N.T. OPD at M.G.M. Medical College, Kishanganj Bihar, India. Among the 639 patients who were examined, 281 (43.98%) of children were of the age group of 6-10yrs and 358 (56.02%) of children were of 11-14 yrs. 48.36% of children were male and 51.64% were females. Around 232 (36.31%) children belong to APL while 407 (63.69%) of them came from BPL families. About 51.17% (327) children were illiterate, 29.89% (191) were studying in primary standards and 18.94% (121) children were studying in secondary standard. Majority of the children were found to be suffering from various Ear, Nose and Throat infections. Out of 639 patients, 298 (46.64%) were suffering from only ear diseases, 117 (18.30%) were suffering from only nose diseases, 77 (12.05%) of them had only throat problems, whereas 95 (14.87%) had ear and nose problems, 32 (5.01%) had both throat and nose

problem and 11 (1.72) of them had ear & throat diseases. Rest 9 (1.41%) patients had other problems like foreign body (F.B.) in the airway or oesophagus and TB lymph nodes. This study indicated that ear, nose and throat diseases, especially ear diseases were a considerable burden in the Kishanganj district among the school going age group. The study revealed that CSOM-safe (37.62%) and CSOM-unsafe (8.42%) were relatively common ¹⁶. **Sivakumar P et al (2011)**, carried out a study to highlight the antimicrobials prescribing pattern of physicians in ear, nose, throat disorders and their relationship in inpatients and outpatients. The study was carried over a period of six months. The patients treated with antimicrobials were used for the study. By using the inclusion and exclusion criteria 591 were selected (558 patients from OPD and 33 patients were from IPD). It was found that 58.54% patients were males and majority of the patients (19.29%) were in the age group of 26-35 years. Maximum numbers of patients were diagnosed with ear infections (38.41%). The most common ear disorders were CSOM (37.88%), nasal disorders were ARS (56.10%) and the throat disorders were Tonsillitis(65.11%). Most commonly prescribed categories of antimicrobials were found to be Fluoroquinolones (61.88%). Abundant of patients (81.89%) received antimicrobial monotherapy. Most of the antimicrobials were administered through oral route (73.98%). The mean number of antimicrobial agents prescribed per prescription was found to be 1.20. Their study highlighted lesser utilization of antimicrobials. The majority of the patients were not treated in accordance with the current guidelines. The number of patients was low and the study was restricted to only one hospital, hence the results cannot be considered representative of whole country. However, in spite of all these limitations, the study highlighted some rational prescribing practices. Cost of antibiotics could be one of the major contributing factors for non-compliance in a developing country like India ¹⁷. **Ain MR et al. (2010)**, worked on the prospective studies of drug utilization pattern of antibacterials used in ENT outpatients and inpatients. Study showed that ENT infection are more prevalent among young adults, majority of patients were in the age group of 16-25 years. Patients suffering from various acute and chronic infections were treated with different antibacterials. Most commonly prescribed antibacterials include β -lactam antibiotics (45.52%), followed by quinolones (26.31%) and macrolides (12.12%). Among the individual antibiotics, maximum patients received a combination of amoxicillin with clavulanic acid (21.74%) followed by gemifloxacin (14.41%), chloramphenicol (9.84%), azithromycin (8.69%), cefpodoximeproxetil (5.49%) and doxycycline (3.66%) ¹⁸. **Yadav P et al. (2010)** conducted a study on drug utilization trends in OPD patients in teaching hospitals. The ENT patients constituted 102 (3.42%) of the total patients attending the hospital OPD. The analysis of demographic data showed that of 102 patients (45) were female and 55 were man. The topical preparation used were: gentamicin 20 (5.4%), ciprofloxacin 4 (1.18%), Clotrimazole 2 (0.59%), steroid combination drops 9 (2.67%), dexamethasone, betamethasone in combination with neomycin, clotrimazole. The ear softeners used were usually combination of praradichlorobenzene, Benzocaine, turpentine oil 19 (5.63%). Antiseptic mouth washes were prescribed to 26 (7.71%) cases. The antiallergics used were Cetrizine 6 (1.78%), Fexofenadine 7 (2.07%), Loratidine 5 (1.48%), Chlorpheniramine 2(0.59%), Pheniramine 1 (0.29%). Many preparations contained antihistaminics in combination with paracetamol, phenylephrine malelate or pseudoephedrine. 41(4.15%). The antibiotics commonly prescribed were Macrolides 26%, Amoxicillin 14%, Fluoroquinolones 12%, and Cephalosporin 06%. The Macrolides commonly

prescribed were Azithromycin and Roxithromycin. Sparfloxacin was the common fluoroquinolone used. Ciprofloxacin was used in 4 cases. Amoxicillin was used alone, and in combination with cloxacillin, and Clavulanic acid. The cephalosporin's used were cefuroxime, cefaclor. Tinidazole was prescribed in two subjects ¹⁹. **Panznera P et al. (2015)**, worked on the bronchial inflammation in seasonal allergic rhinitis with or without asthma in relation to natural exposure to pollen allergens. In 52 patients Sputum was induced with seasonal allergic rhinitis without asthma, 38 patients with seasonal allergic rhinitis and seasonal asthma and 23 healthy volunteers. Sampling was performed 6-8 weeks before the expected beginning of symptoms, during symptomatic period and 6-8 weeks after the end of symptoms. Sputum ECP was measured by means of chemi-luminiscent immunometric assay and sputum cell counts were assessed by classical staining and immune cytochemistry. Sputum eosinophils were on the whole higher in both asthma and rhinitis compared to controls ($p < 0.001$, $p = 0.003$). The rise of eosinophils during pollen season compared with values out of pollen season was significant in asthma (classical staining) ($p = 0.014$) and slightly apparent in rhinitis (immune cytochemistry) ($p = 0.073$). The seasonal rise of sputum ECP was observed only in rhinitis ($p = 0.006$). Inflammation of the lower airway in patients with allergic rhinitis with and without asthma has been confirmed by means of both sputum eosinophil count and sputum ECP level. Persistent inflammation of lower airway in periods without allergen exposure was proven in seasonal asthma. This may have implications for the therapy of seasonal allergic rhinitis with and without asthma in terms of promoting long-term anti-inflammatory treatment ²⁰. **Okubo K et al. (2014)**, worked on the Japanese guideline for Allergic Rhinitis 2014 like asthma and atopic dermatitis, allergic rhinitis is an allergic disease, but of the three, it is the only type I allergic disease. Allergic rhinitis includes pollinosis, which is intractable and reduces quality of life (QOL) when it becomes severe. To understand allergic rhinitis and to use this knowledge to develop a treatment plan is needed. In Japan, the Japanese Society of Allergology in 1993 was prepared the first guideline after a symposium. In 2013 the current 7th edition was published, and is widely used today. To incorporate evidence based medicine (EBM) introduced from abroad, the most recent collection of evidence literature was supplemented to the Practical Guideline for the Management of Allergic Rhinitis in Japan 2013. The revised guideline includes assessment of diagnosis treatment and prescriptions for children and pregnant women, for broad clinical applications. An evidence-based step-by-step strategy for treatment is also described. In addition, the QOL concept and cost benefit analyses are also addressed. Along with Allergic Rhinitis and its Impact on Asthma (ARIA), this guideline is widely used for various clinical purposes, such as measures for patients with sinusitis, childhood allergic rhinitis, oral allergy syndrome, and anaphylaxis and for pregnant women. A Q&A section regarding allergic rhinitis in Japan was added to the end of this guideline ²¹. **Lambert L (2014)** worked on the flu or allergy. Patients often present at the pharmacy with complaints of "flu". Although flu is a common illness, the word "flu" is often used loosely to describe general feelings of ill health. However, in many instances, symptoms may be confused with those of an allergy. It is important to know and understand the difference between influenza and allergies such as hay fever, in order to ensure correct diagnosis and offer appropriate therapeutic approaches. This article will review the clinical manifestations of influenza and allergic rhinitis, and highlights the difference between these two illnesses ²². **Joshi S et al. (2014)**, Technology and social media have dramatically altered the landscape in

which we practice medicine. Clinicians have increasingly turned to technology and the internet to enhance patient care. Allergists have used these modalities to improve utilization and adherence to immunotherapy. Electronic medical records (EMRs) are being widely adopted by allergy practices and some offer allergy/immunology specific modules that aid in daily workflow. The development of specialized devices that reduce pain associated with immunotherapy administration may improve compliance with immunotherapy. Social media and other forms of electronic communication such as e-mail, Facebook, Twitter, short message service (SMS), and YouTube give clinicians multiple avenues to disseminate information and reach their patients, possibly improving patient adherence to therapy. Finally, tablet computers, online networks, and electronic surveys provide additional ways to connect patients and physicians ²³. **Honda K et al.** (2013), studied on the relationship between pollen count levels and prevalence of Japanese cedar pollinosis in Northeast Japan. The study population consisted of 339 elementary school students (10-11 years of age) from the coastal and mountainous areas of Akita in 2005-2006. A questionnaire about symptoms of allergic rhinitis was filled out by the students' parents. A blood sample was taken to determine specific IgE antibodies against five common aeroallergens. The mean pollen count in the mountainous areas was two times higher than that in the coastal areas in 1996-2006. The prevalence rates of nasal allergy symptoms and sensitization for mites were almost the same in both areas. On the other hand, the rates of nasal allergy symptoms and sensitization for JC pollen were significantly higher in the mountainous areas than in the coastal areas. The rate of the development of symptoms among children sensitized for JC pollen was almost the same in both areas. These results suggest that pollen count levels may correlate with the rate of sensitization for JC pollinosis, but may not affect the rate of onset among sensitized children in northeast Japan ²⁴.

CONCLUSION

ENT problems have been counted as prominent as well as commonly occurring medical problem for our society. It is a problem of most concern. Drug utilization studies can play a major role to identify the nature of therapy used in their treatment and also helps to promote the rationality and minimizing the errors in the drug therapy. Such kind of studies can be helpful for healthcare practitioners as well as to the society against such health issues. The demographic profile of the population utilizing antibiotics, steroids, anti-allergic drugs and many more in their prescription for the treatment of any type of ENT disorder includes gender-wise distribution, age-wise distribution and socioeconomic class wise distribution of patients. Drug utilization research developed quickly during the last 30 years and soon became a respectable subject for consideration at international congresses in pharmacology, pharmacy and epidemiology. Successful research in drug requires multidisciplinary collaboration between clinicians, clinical pharmacologists, pharmacists and epidemiologists. Without the support of the prescribers, this research effort will fail to reach its goal of facilitating the rational use of drugs.

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