

ENT Medications Therapeutic Interchanges: A Narrative Review

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ABSTRACT

Objective: To analysis the ENT medications therapeutic interchanges therapy.

Methods: It is an extensive search, or fifty databases comprised the following through the Saudi Digital Library (SDL) searching engine. It included the various types of studies (meta-analysis, randomized controlled studies and observational studies) in the English language with human study only for the update May 2017. The search in terms of therapeutic interchange, medication, therapy and type of disease or medication base on therapeutics class of anti-psychiatric. The medication list and switch from one drug to another based on the literature found the search that has included comparative safety, efficacy and cost of the type of medication for each disease and national or international evidence-based guidelines. **Results:** The total number of studies after an extensive search with a specific term search was 487 studies. Of those, there were 107 duplicated studies, and 380 studies included for future assessment. After assessment, 375 Records were excluded due to non-ENT therapeutics interchange. Of the previous search, there were 5 review studies that had been found discussed the ENT medications therapeutic interchanges. **Conclusion:** There are no randomized controlled or observational studies about ear, nose, throat therapeutic interchange. The ENT therapeutic guidelines as evidence sources of therapeutic interchange in this subject.

Key words: Review, ENT, Ear, Nose, Throat, Therapeutic interchanges, Literature.

INTRODUCTION

Ear, nose, throat is one of the vital particularly in the medical field. It pacts with various diseases, including but not limited to the typical conditions that happened with adults and pediatrics patients; for instance, the otitis media, external ear infection, allergy rhinitis and acute or chronic sinusitis. Each had a list of medications for medications and each pharmacological class has various medications.¹⁻⁴ The different medications in each can be used for almost the same therapeutic indications. If one drug was not available for any reason, the other medications should be substituted in a system called therapeutic interchange. That is to prevent any drug-related problems and more observance to management guidelines. Few studies discussed ENT therapeutic interchange as prevalence usage of medications classes, while it discussed in the comparison efficiency and safety per each class based on the evidence-based guidelines.¹⁻¹⁰ The authors and his colleagues were not familiar with any review or studies about otic therapeutic interchange locally or Gulf and Middle East countries. The aim of the report is to declare the ENT therapeutic interchange based on updated literature and therapeutic management guidelines as a new initiatives program in the Kingdom of Saudi Arabia.

MATERIALS AND METHODS

It is widespread search or fifty databases included the following through Saudi Digital Library (SDL) searching engine; Willy online library, Web of Science, Springer link, Taylor and Francis, Social Science Journal via ProQuest, Science Journal via ProQuest, Scopus, Scifinder, Science Direct, Sage Journal, Royal Society of Medicine, Royal Society of Chemistry, Psychology Journals via ProQuest. Pharmaceutical news index via ProQuest, patient education via MD consult, Drug via MD Consult, Oxford Journals via Oxford University, Ovid Journals, Nursing and Allied Health Sources via ProQuest, Nature Publisher group, Medline index via ProQuest, Medline complete via EBSCO, Medical Evidence Matter via ProQuest, IGI InfoSci Journals, Health Management via ProQuest, Health and Medical complete via ProQuest. Global Health Database-CABI, Family Health via ProQuest, Eric via ProQuest and EBSCO, Emerald, Dynamed via EBSCO, Directory of Open Access Journal (DOAJ), Current Content via Web of Knowledge, Dentistry and Oral Science via EBSCO, Clinical Key -Nursing, Clinical Key- Physician, CINAHL via EBSCO, Central via ProQuest, CBCA via ProQuest, Canadian Science Publishing, Cambridge Journals via Cambridge University, Britannica Academic, BMJ Journals, BMJ Clinical Evidence via BMJ Best Practice, BMJ

Best Practice, Biology Journals via ProQuest, ACM Digital Library, Academic Search Ultimate via EBSCO, Cochrane Library Pubmed. In addition to Google, Scholar searched alone without SDL. It comprised the types of studies (meta-analysis, randomized controlled studies and observational studies) in the English language with human study only for an update in May 2017. The search in terms of therapeutic interchange, medication, therapy and type of disease or medication base on therapeutics class. The medication list and switch from one drug to another based on literature found the search, that has included comparative safety, efficacy and cost of type of medication for each disease and national or international evidence-based guidelines encompassed from switching short half-life to long half-life.^{1-4,10} The ENT medication interchange list included drug name, general dosing and frequency. All settings of patient care services inpatient or ambulatory care or community services oral medication involved. All dosage form medication will be included in the. All medications should include the Ministry of Health formulary. The location of studies included Saudi Arabia as top propriety if hasn't existed Gulf or Middle East counties included, if not found overall counties included. If not existed, the table recommended from the author's experiences.

RESULTS

The total number of studies after an extensive search with a specific term search was 487 studies. Of those, there were 107 duplicated studies, and 380 studies included for future assessment. After assessment, 375 Records were excluded due to Non ENT therapeutics interchnage. Of the previous search, there were 5 review studies that had been found discussed the ENT medications therapeutic interchnages. All of the studies were not included for assessment because there were not fitted with research criteria (figure 1).

DISCUSSION

Head and neck diseases with prominence on ear, nose and trachea are common in the practice that including acute and chronic sinusitis, otitis media, external ear infection and allergies rhinitis.¹⁻³ Each common had various pharmacological classes and each classes had multiple medications. The acquiescence of therapeutic management is essential to prevent any bug resistance and best clinical outcomes for disease management. The endurance of care is required with an emphasis on medications. As a result, if there are any missed medications or shortage or non-available drugs, it wants another

solution to overcome this problem. Therapeutic interchange services are one of the excellent systems to solve the shortage of medications or any missing of drugs. Rare studies created discussed ENT therapeutic interchange worldwide. As a result, the authors and his colleagues recommended the medications list of ENT therapeutic interchange (Table 1). If any medications missed, the other one could be replaced. The medications list drove from comparative studies safety and efficacy mentioned in the ENT disease management international guidelines. The medications therapeutic interchange consisted of antibiotics used for common ENT infectious diseases, anti-allergies medications, nasal steroid therapy and oral antihistamine therapy. The suggested list might be used inside hospitals and primary healthcare centers and within Saudi managed care services.¹¹ The pharmacist should review the list and update the medications according to the healthcare institution's policy and procedures. Besides, medications healthcare insurance policy

should review for ENT therapeutic interchange services. Therapeutic interchange medications guidelines for ENT is highly suggesting to prevent drug misadventures and avoid needless economic burden on the healthcare system in the Kingdom of Saudi Arabia.^{9,12-15}

CONCLUSION

ENT medications and therapeutic interchange are occasionally findings in the litterateur, although it used in the healthcare practice. Further studies obligatory to standardized ENT medications therapeutic interchange. Beside, therapeutic interchange in the ENT medications is suggested to start with genetic alternatives and based on ENT international guidelines.

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None.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

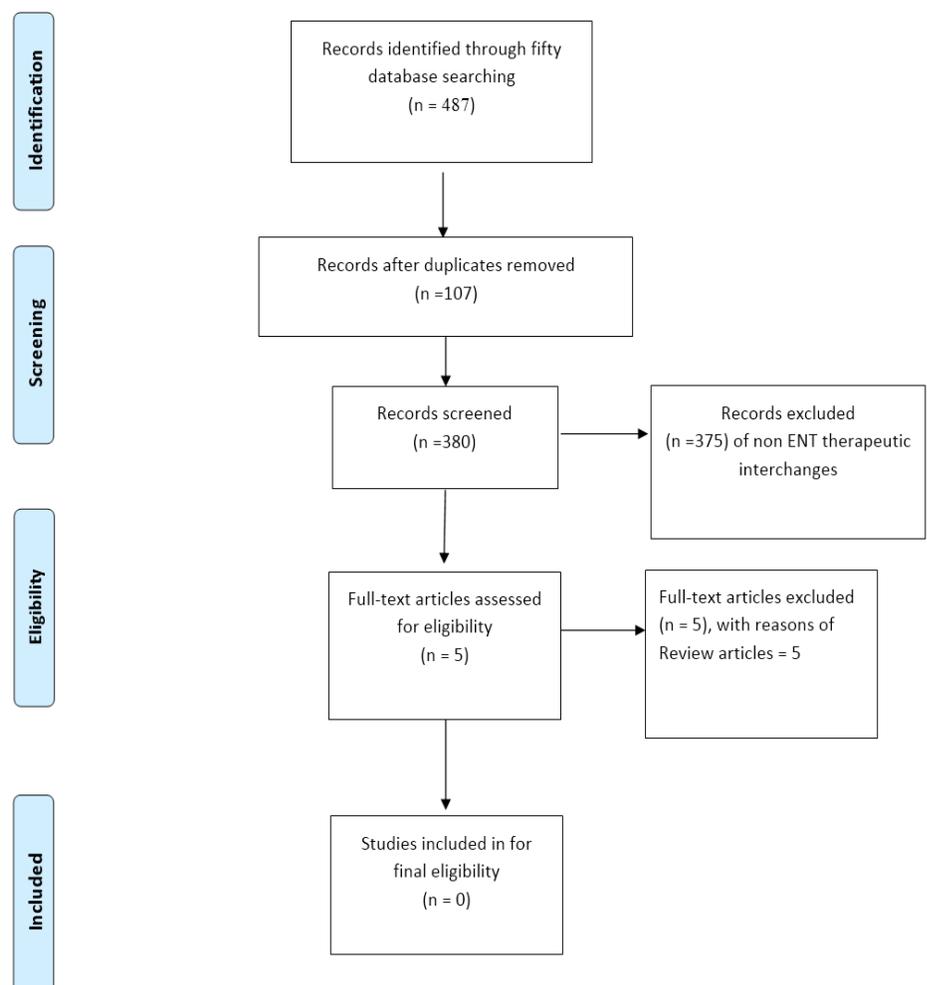


Figure 1: Results of searching the literature.

No.	Ordered Drug or Interchange Drug (1)(3)(4)				Ordered Drug or Interchange Drug				Registration(10)
	Regular Days	Doses/ Day	Frequency Per day	Regular Days	Doses/ Day	Frequency Per day	Frequency Per day		
1.	Beclomethasone (42 mcg spray per nostril) OR	2	Inhalations in each nostril twice daily	Beclomethasone (42 mcg spray per nostril) OR	2	Inhalations in each nostril twice daily	RSFDA, MOHDF		
	Budesonide (32 mcg spray per nostril) OR	2	Spray each nostril daily	Budesonide (32 mcg spray per nostril) OR	2	Spray each nostril daily	RSFDA, MOHDF		
	Fluticasone (50 mcg spray per nostril) propionate OR	1-2	Sprays in each nostril once daily	Fluticasone (50 mcg spray per nostril) propionate OR	1-2	Sprays in each nostril once daily	RSFDA, MOHDF		
	Mometasone (50 mcg spray per nostril) OR	2	Sprays in each nostril daily	Mometasone (50 mcg spray per nostril) OR	2	Sprays in each nostril daily	RSFDA, MOHDF		
2.	Triamcinolone (110 mcg spray per nostril)	2	Sprays in each nostril daily	Triamcinolone (110 mcg spray per nostril)	2	Sprays in each nostril daily	RSFDA, MOHDF		
	Cetirizine PO OR	5-10 mg	In one dose	Cetirizine PO OR	5-10 mg	In one dose	RSFDA, MOHDF		
	Desloratadine PO OR	5 mg	In one dose	Desloratadine PO OR	5 mg	In one dose	RSFDA, MOHDF		
	Loratadine PO	10 mg	In one dose	Loratadine PO	10 mg	In one dose	RSFDA, MOHDF		
3.	Ciprofloxacin 0.2% otic OR	12 mg	In one dose	ciprofloxacin 0.2% OR	12 mg	In one dose	RSFDA, MOHDF		
	Ofloxacin 0.3% otic	10 drops	Instill 10 drops twice daily	ofloxacin 0.3% OR	10 drops	Instill 10 drops twice daily	RSFDA, MOHDF		
4.	Azelastine 0.1% OR	1-2	1-2 spray in each nostril twice daily	Azelastine 0.1% OR	1-2	1-2 spray in each nostril twice daily	RSFDA, MOHDF		
	Olopatadine (665 mcg/inh)	2	2 spray in each nostril twice daily	Olopatadine (665 mcg/inh)	2	2 spray in each nostril twice daily	RSFDA, MOHDF		

Note: The prescriber should adjust the dose after interchange according to the patient condition

RSFDA: The Drug had been registered in Saudi Food and Drug Authority, MOHDF: The Drug is Ministry of Health Drug Formulary

ABBREVIATIONS

MOH: Ministry of Health; **KSA:** Kingdom of Saudi Arabia; **USA:** United States of America; **TI:** Therapeutic Interchange; **USD:** United States Dollar; **SDL:** Saudi Digital Library.

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