Anti-psychiatric Therapeutic Interchanges: A Narrative Reviews

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ABSTRACT

Objective: To review the anti-psychiatric therapeutic interchanges drug 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 alternative 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 repeated studies, and 380 studies included for future assessment. After assessment, there were 20 studies discussed the therapeutic interchange of anti-Psychiatry. Of those 20 studies, three studies included for evaluation.

Conclusion: Anti-psychiatric therapeutic interchange is seldom finding in the kinds of literature. Few observational studies discussed this matter. Further studies claim to standardized Anti-psychiatric therapeutic interchange in practice.

Key words: Anti-psychiatric, Therapeutic Interchanges, Drug Therapy, Literature, Review.

INTRODUCTION

The management of psychiatric illness had various difficulties. For instance, the response rate to drug therapy, patient’s non-compliance and related factors. Besides, switching from one medication to another might have serious drug-related adviser events and drug-drug interactions if not considered the properties and advantages of the medication. As a result, if there is any lack of anti-psychotic medications, there will be critical problems during switching therapy. The appropriate solution is a therapeutic interchange that’s switching the medications from one to an equal drug with efficacy, indicators and safety. Various international studies had been done on the anti-psychotic therapeutic interchange. However, the local studies about antipsychotic therapeutic interchange not existed and there are some physician order drug therapy with mentioned alternative drug therapy. The aim of the current study is to reveal the review of the antipsychotic therapeutic interchange system in the Kingdom of Saudi Arabia.

MATERIALS AND METHODS

It is extensive 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 encompassed a variety 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 and medication, therapy and type of disease or medication base on therapeutics class. The medication list and switch from one drug to alternative 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.\textsuperscript{1-3,7,8} The anti-psychiatric 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 included. All dosage form medication will be included in the search. 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 authors experiences.

RESULTS

The total number of studies after an extensive search with a specific term search was 487 studies. Of those, there were 107 repeated studies, and 380 studies included for future assessment. After assessment, there were 20 studies discussed the therapeutic interchange of anti-psychiatry. Of those 20 studies, three studies included for evaluation (figure 1). Other studies did not fit with the criteria. One study for antidepressants interchange, one study for generic olanzapine interchange, one study about fluoxetine and sertraline interchange. All studies had been done in the USA within the period 1975-2015. The number of patients does not exceed more than 25 patients; That is mean the number of patients was few and the number of antibiotics interchange was few. The mainstream of studies were non-randomized controlled studies; most of the studies were observational studies. The cost-saving not documented within all discussed studies (Table 1).

DISCUSSION

The combination field of therapeutic interchange and anti-psychiatric medications had various difficulties. With extensive, comprehensive research with only 17 criteria had vital words. However, three studies fit with methodology regulation. After physically searched, very studies might be exploited in the discussion. There are no randomized clinical trials or meta-analysis studies to discuss the therapeutic interchange of anti-psychotic medications. Maybe single medications to alternative interchange study. One old study discussed therapeutic interchange of a class of antidepressant which need to be updated. Another method was used to interchange therapy based on therapeutic management guidelines. The first line therapy must be used and if it not existed the second-line drug therapy should be used as an alternative therapy. Besides, there was some suggestion to used therapeutic interchange by used of among medications salts. The drug used interchangeably to their salts and trance Versa. The authors and his team suggest the therapeutic interchange medications list recommended of therapeutic drove from update literature and one mental hospital (Table 2). Of the first medications not available, the doctor can use the second one interchangeably. Despite there are no studies to validate it. However, it best indication that’s we have to implement the international therapeutic interchange for antipsychotic medications.\textsuperscript{9-13} All medications demand further future studies to evaluate the evidence. Therapeutic interchange one of the best tools used in the hospital and community pharmacy that’s to keep the medications available over 24 hours and seven days per week.

CONCLUSION

Therapeutic interchange services are highly needed by all medical and surgical services, including psychiatric services. Few studies conducted for therapeutic interchange in psychiatric. However, comparative studies used all alternative methods for interchange therapy. The method was used in international and local therapeutic management guidelines. Further studies are highly demanded to validate psychiatric therapeutic interchange to prevent drug misadventures, drug-related problems and shortage stock of antipsychotic medications. The healthcare institutions appropriately use the suggested list to implement antipsychotic therapeutic interchange at healthcare organizations in the Kingdom of Saudi Arabia.

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None.

CONFLICT OF INTEREST

None.

ABBREVIATIONS

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

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Figure 1: Results of searching the literature.
Table 1: Anti-psychiatric therapeutic interchange studies.

| No. | Author                          | Year of publication | Country | No. of participants | Duration | Study design | Outcome                                                                 | Comments |
|-----|--------------------------------|---------------------|---------|---------------------|----------|--------------|--------------------------------------------------------------------------|----------|
| 1.  | Stock A, et al. (1)            | 1994                | USA     | NA                  | 3 years  | The interchange from Fluoxetin 20 mg to Sertlraline 50 mg                | The results should the impact of the experiences of the therapeutic interchange was cost-saving at one hospital. | The study was done in one year. The net cost saving not documented |
| 2.  | Extein I, et al. (2)           | 1975                | USA     | NA                  | NA       | Two-way inter-change observation study of antipsychotics and antidepressant drug | There were some differences ins MOC | NA |
| 3.  | Italiano D et al. (3)          | 2015                | Italy   | 25 patient          | NA       | Pre and post switching serum Olanzepine concentration in schizophrenic outpatient | There was a significant difference in the serum concentration between the brand and generic however it is not significantly different in the clinical outcomes | There are no significant differences in the positive and negative syndrome scale to assess modification in schizophrenia system |

Table 2: Suggested Antipsychiatry Therapeutic Interchange Medication list.

| No. | Ordered Drug or Interchange Drug(4)(5)(6)(7) | Regular Days | Doses/ Day | Frequency Per day | Ordered Drug or Interchange Drug(4)(5)(6)(7) | Regular Days | Doses/Day | Frequency Per day | Indication, Registration(8) |
|-----|----------------------------------------------|--------------|------------|-------------------|----------------------------------------------|--------------|-----------|-------------------|-----------------------------|
| 1.  | Citalopram OR Escitalopram                  | 10-20 mg     | In 1 dose  | Citalopram OR Escitalopram | 10-20 mg | In 1 dose | RSFDA , MOHDF |
| 2.  | Venlafaxine ER OR Venlafaxine               | 37.5-75 mg   | In 1 dose  | Venlafaxine ER OR Venlafaxine | 37.5-75 mg | In 1 dose | RSFDA , MOHDF |
| 3.  | Venlafaxine ER OR Desvenlafaxine            | 37.5-75 mg   | In 1 dose  | Venlafaxine ER OR Desvenlafaxine | 37.5-75 mg | In 1 dose | RSFDA , MOHDF |
| 4.  | Risperidone OR Paliperidone                 | 4-8 mg       | In 1 dose  | Risperidone OR Paliperidone | 4-8 mg | In 1 dose | RSFDA , MOHDF |
| 5.  | Na Valproate OR Divalproex                  | 750 mg       | Target trough plasma level was 50 to 125 mcg/mL (347) | Na Valproate OR Divalproex | 750 mg | Target trough plasma level was 50 to 125 mcg/mL (347) | RSFDA , MOHDF |
| 6.  | Amisulpride OR Olanzapine                  | 400-800 mg   | Divided in 2 divided doses | Amisulpride OR Olanzapine | 400-800 mg | Divided in 2 divided doses | General Schizophrenia RSFDA , MOHDF |
| 7.  | Risperidone OR Paliperidone OR Quetiapine   | 4-8 mg       | In 1 dose  | Risperidone OR Paliperidone OR Quetiapine | 4-8 mg | In 1 dose | General Schizophrenia RSFDA , MOHDF |
| 8.  | Aripiprazole OR Paliperidone                | 10-15 mg     | In 1 dose  | Aripiprazole OR Paliperidone | 10-15 mg | In 1 dose | Schizophrenia with QTC prolongation RSFDA, MOHDF |
Table 2: Cont’d.

| No. | Ordered Drug or Interchange Drug(4)(5)(6)(7) | Ordered Drug or Interchange Drug(4)(5)(6)(7) | Indication, Registration(8) |
|-----|---------------------------------------------|---------------------------------------------|-----------------------------|
|     | Regular Days | Doses/ Day | Frequency Per day | Regular Days | Doses/ Day | Frequency Per day |
| 9.  | Olanzapine OR Quetiapine | 5-20 mg 150-750 mg | In 1 dose In 2-3 divided doses | Olanzapine OR Quetiapine | 5-20 mg 150-750 mg | In 1 dose In 2-3 divided doses |
|     | Schizophrenia with Extrapyramidal symptoms (EPS) | RSDFA, MOHDF |
| 10. | Aripiprazole OR Quetiapine | 10-15 mg 150-750 mg | In 1 dose In 2-3 divided doses | Aripiprazole OR Quetiapine | 10-15 mg 150-750 mg | In 1 dose In 2-3 divided doses |
|     | Schizophrenia with Hyperprolactinaemia, Sexual dysfunction |
| 11. | Aripiprazole OR Amisulpride | 10-15 mg 400-800 mg | In 1 dose Divided in 2 divided doses | Aripiprazole OR Amisulpride | 10-15 mg 400-800 mg | In 1 dose Divided in 2 divided doses |
|     | Diabetes, sedation, weight gain, High cholesterol level, dyslipidemia and postural hypotension |
| 12. | Risperidone Consta IM OR Paliperidone palmitate IM OR Haloperidol decanoate IM | 25-50 mg 150mg 100 mg | IM every 2 weeks IM every month IM every month | Risperidone Consta IM OR Paliperidone palmitate IM OR Haloperidol decanoate IM | 25-50 mg 150mg 100 mg | IM every 2 weeks IM every month IM every month |
|     | Poor compliance Schizophrenia | RSDPA, MOHDF |
| 13. | Escitalopram OR Fluoxetine OR Venlafaxine OR Mirtazapine | 10-20 mg 20-60 mg 75 mg 15-30mg | In 1 dose In 1 dose Divided in 2-3 doses In 1 dose | Escitalopram Fluoxetine Ecitalopram Venlafaxine ER Venlafaxine Mirtazapine | 10-20 mg 20-60 mg 37.5-75 mg 75 mg 15-30mg | In 1 dose In 1 dose In 1 dose Divided in 2-3 doses In 1 dose |
|     | General Depression | RSDPA, MOHDF |
| 14. | Lithium OR Quetiapine OR Bupropion OR Aripiprazol OR Mirtazapine | 600 – 1200 mg 150-300 mg 10-30 mg 15-30mg | In divided dose In 1 dose In 1 dose In 1 dose | Lithium OR Quetiapine OR Bupropion OR Aripiprazol OR Mirtazapine | 600 – 1200 mg 150-300 mg 10-30 mg 15-30mg | In divided dose In 1 dose In 1 dose In 1 dose |
|     | Resistance Depression | RSDPA, MOHDF |
| 15. | Clomipramine OR Fluvoxamine | 25-100 mg 100-300 mg | In 1 dose In 1 dose | Clomipramine OR Fluvoxamine | 25-100 mg 100-300 mg | In 1 dose In 1 dose |
|     | Depression with OCD | RSDPA, MOHDF |
| 16. | Fluoxetine OR Duloxetine | 20-60 mg 60 mg | In 1 dose In 1 dose | Fluoxetine OR Duloxetine | 20-60 mg 60 mg | In 1 dose In 1 dose |
|     | Depression with Diabetes or High cholesterol level | RSDPA, MOHDF |

Continued...
### Table 2: Cont’d.

| No. | Ordered Drug or Interchange Drug(4)(5)(6)(7) | Ordered Drug or Interchange Drug(4)(5)(6)(7) | Indication, Registration(8) |
|-----|---------------------------------------------|---------------------------------------------|-----------------------------|
|     | Regular Days | Doses/ Day | Frequency Per day | Regular Days | Doses/ Day | Frequency Per day |                          |
| 17  | Fluoxetine OR Escitalopram                   | 20-60 mg 10-20 mg | In 1 dose In 1 dose | Fluoxetine OR Escitalopram | 20-60 mg 10-20 mg | In 1 dose In 1 dose | Depression with Cardiovascular disease or Hypertension or elderly Arrhythmia RFSDA, MOHDF |
| 18  | Escitalopram OR Mirtazapine                  | 10-20 mg 15-30mg | In 1 dose In 1 dose | Escitalopram OR Mirtazapine | 10-20 mg 15-30mg | In 1 dose In 1 dose | Depression with Stroke RFSDA, MOHDF |
| 19  | Lithium OR Na Valproate                      | 600 – 1200 mg 750 mg | In divided dose Target trough plasma level was 50 to 125 mcg/mL (347) | Lithium OR Na Valproate | 600 – 1200 mg 750 mg | In divided dose Target trough plasma level was 50 to 125 mcg/mL (347) | Acute mania or hypomania RFSDA, MOHDF |
| 20  | Aripiprazole OR Olanzapin                   | 10-15 mg 5-20 mg | In 1 dose In 1 dose | Aripiprazole OR Olanzapin | 10-15 mg 5-20 mg | In 1 dose In 1 dose | Acute mania or hypomania (Add to mood stabilizer) RFSDA, MOHDF |
| 21  | Risperidone OR Quetiapine                   | 2-8 mg 100-800 mg | In 1 dose In 2-3 divided doses | Risperidone OR Quetiapine | 2-8 mg 100-800 mg | In 1 dose In 2-3 divided doses | Acute mania or hypomania (Add to mood stabilizer) RFSDA, MOHDF |
| 22  | Olanzapin plus Fluoxetine OR Quetiapine     | 5-20 mg 20-60 mg 50-800 mg | In 1 dose In 2-3 divided doses | Olanzapin plus Fluoxetine OR Quetiapine | 5-20 mg 20-60 mg 50-800 mg | In 1 dose In 1 dose In 2-3 divided doses | Bipolar depression RFSDA, MOHDF |
| 23  | Aripiprazole OR Lamotrigine OR Na Valproate | 10-15 mg 100-200 mg 750 mg | In 1 dose In 1 dose Target trough plasma level was 50 to 125 mcg/mL (347) | Aripiprazole OR Lamotrigine OR Na Valproate | 10-15 mg 100-200 mg 750 mg | In 1 dose In 1 dose Target trough plasma level was 50 to 125 mcg/mL (347) | Bipolar disorder with chronic diseases Diabetes or High cholesterol level and Cardiovascular disease |

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

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