



Rationality Antipsychotics Use Among Schizophrenia Outpatient of Regional Mental Hospital of Abepura from the Period of January to March 2015

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Abstract

Irrational drug use has become a global problem. Rational use of drugs that do not necessarily have an impact on the quality of treatment, health care costs, and may lead to distrust the patient to the drug. Schizophrenia requires antipsychotic therapy administration in the time period long enough, so it is possible in the treatment process can be found the problems in the use of antipsychotics. This study aims to determine the rationality of the use of antipsychotics in schizophrenic patients in the Outpatient Unit RSJD Abepura period January - March 2015 in terms of the accuracy of diagnosis, drug selection, dosage, route of administration, interval timing, duration administration, and affordability of prices. This type of research is non-experimental design with a descriptive and retrospective data collection.

The population is all patients with schizophrenia with the sample is whole medical records that meet the criteria for a diagnosis of schizophrenia. Data collection instruments such as medical records and prescription sheets. Data analysis technique used statistical analysis to describe the characteristics of patients and to determine the rationality of drugs by determining the percentage of each drug rationality criteria that are met. From the study results have conducted that 202 medical records of patients with schizophrenia concluded that the use of antipsychotics in schizophrenic patients in the outpatient unit of Mental hospital Abepura period from January to March 2015 is yet to be said to be rational.

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Assessment results obtained by the proper diagnosis of 100%, the exact indication of 96.04%, 31.19% appropriate drug selection, dosage 97.03% right, right-to-administer 100%, the exact time interval is 91.09% drug administration, old right medication 93.07%, and 3.96% affordability of drugs.

Keywords: rationality; antipsychotics; schizophrenia.

1. Introduction

Irrational drug has become a global problem. WHO estimates that more than 50% of the drugs prescribed, delivered or sold with unnatural, and approximately 50% of patients do not take medication in the correct rules. This includes drug delivery problems that are not needed but are prescribed, medication improper, unsafe or ineffective but prescribed, effective drugs are available but not used, and the use of drugs as directed by the patient. Irrational use of drugs is certainly an impact on the quality of treatment, health care costs, and may lead to distrust the patient to the drug.

A drug can be used properly in accordance with its purpose if the drug has been known to the capabilities and weaknesses. To keep in mind is the possibility of iatrogenic disorder (iatrogenic disorders), which is a disorder that is due to or caused by drugs given to patients [1]. Many variables inherent in the practice of psychopharmacology, including the selection of drugs, prescribing, administration, psychodynamic meaning for the patient, and the influence of family and the environment.

The drug should be used in an effective dose for considerable period of time, as determined by previous clinical studies. Prescribing medication for mental disorders should be performed by a qualified physician and requires clinical experience constantly. Therapeutic response and adverse events should be monitored closely. Drug dosage should be adjusted, and the appropriate treatment for the side effects that arise should be given as soon as possible [2].

Schizophrenia is a description of the syndrome with a variety of causes (many not yet known) and course of the disease (not always chronic) wide, as well as a number of consequences that depend on considerations of genetic influence, physical, and social culture. Generally marked by irregularities are fundamental and characteristic of thought and perception, and by the affect unnatural (inappropriate) or blunt (blunted). Clear consciousness and intellectual capacity are usually maintained, although certain cognitive deterioration can develop later. According to WHO data, the prevalence of schizophrenic about 0.2% to 2% or amounted to 24 million sufferers worldwide. While the incidence or new cases appear every year around 0.01% of the approximately two billion of the world population. Comparison of the number of people men and women are the same, with an age range, in men from the age of 18-25 years and women starting at age 26-45 years. High chronicity in schizophrenia disorder is one of the factors considered in management, despite pharmacologic treatment is the main option in the management.

A total of more than 80% of patients with schizophrenia in Indonesia is not treated and untreated with optimal both by the family and medical team there. With these conditions enable an increasing number of people with schizophrenia from time to time [3].

The use of drugs schizophrenic patients requiring monitoring of various professions in the hospital. Monitoring of the patient's use of medications to avoid adverse effects and ensure patients get the rational treatment. Use of Psychotropic prolonged without supervision and restriction by a health care professional can cause more severe impact, not only lead to dependence and even cause various diseases as well as physical and psychological disorders of the wearer, it is not uncommon even cause death. In April 2005, the Food and Drug Administration (FDA) announced that elderly patients with dementia who are given second-generation antipsychotics (atypical) will increase the risk of death so that the use of antipsychotics should be monitored closely for elderly patients [4] in his research found that the use of antipsychotics clozapine and olanzapine turned out to cause problems associated with secondary metabolic syndrome, namely obesity and diabetes mellitus type 2. Therefore, the use of antipsychotics is indispensable for the treatment of schizophrenia but its use should pay attention of its rationality [4, 5].

Regional Mental Hospital (RSJD) Abepura is the only government hospital that specifically address mental illness in the provinces of Papua and West Papua to become a referral hospital to deal with patients who have psychiatric problems. Schizophrenia is a mental illness that is handled at the hospital, and every day dealing with patients with schizophrenia either first-time treatment and patients with schizophrenia who are already in the maintenance period. In addition, research on the rationality of the use of antipsychotics for schizophrenia patients has not been done in this Abepura RSJD so it needs to be done and the expected results of this study will be used as a basis for the consideration and evaluation of therapy in patients.

2. Materials and Methods

This type of research is non-experimental design with a descriptive and retrospective data collection. Data is collected in the Section of Medical Record and Pharmacy Regional Mental Hospital in Abepura, Papua province in June 2015. Data analysis technique used statistical analysis to determine the characteristics of the patient and to determine the rationality of drugs by determining the percentage of each drug rationality criteria that are met.

3. Results and Discussion

3.1 Overview Patients Characteristics

Table 1 shows the number of patients with schizophrenia male sex more than women. Opportunities schizophrenia incidence between men and women are equal. However, the two sexes show differences in onset and course of the disease. Peak age of onset for men is 15-25 years old, for women peak age is 25-35 years. Onset of schizophrenia before the age of 10 years or after 50 years is very rare. Some studies suggest that it is likely to be disturbed by negative symptoms was greater in men than women, and women generally have a social function better than men so that in the treatment of schizophrenia for women will show the end result is better when compared to men -Eighteen [6]. The number of patients who come mostly aged 26-45 years. Nearly all patients in this age is old patient who has been treated at least two years. So it can be expected that the patients who come for treatment have visible symptoms of schizophrenia under 25 years of age. Approximately 90% of patients in the treatment of schizophrenia is between the ages of 15 to 55 years (Kaplan, 2003). [6].

Table 1: Overview of Abepura RSJD Patients in the period January-March 2015.

No	Characteristics	Number	Percentage
1.	Sex:		
	Male	117	57,92
	Female	85	42,08
2.	Age :		
	Under 15 year	4	1,98
	15-25 year	65	32,18
	26-45 year	110	54,45
	46-59 year	17	8,42
	Up to 60 year	6	2,97
3.	Marital Status:		
	Not marriage yet	131	64,85
	Marriage	67	33,17
	Widow/widower	4	1,98
4.	Occupation :		
	Not working	165	81,68
	Work	35	17,33
	Students	2	0,99
5.	Education level :		
	No school	13	6,44
	Basic school	21	10,40
	Junior high school	46	22,77
	Senior high school	115	56,93
	Diploma/Strata 1	7	3,46

Most schizophrenia patients will experience a loss of social functions so that many of them are not able to work and socialize with people as normal. The number of patients with schizophrenia who do not work is as much as 81.68%. Social function is lost also to affect the lives of patients in relationship building bonds of marriage with a person and also the level of education of patients with schizophrenia.

Where patients eventually be withdrawn and does not attend school because it has experienced the symptoms of schizophrenia at school age. From the above table that the patient only through high level education amounted to 56.93%. High school age is around 14-17 years of age. Age over 16 years is the age at which the symptoms of schizophrenia are generally found that many of these patients become not continue school.

3.2. Rationality Use of Antipsychotics

1. Proper Diagnosis

Table 2: Accuracy of Diagnosis of Schizophrenia Patients in Abepura RSJD January to March 2015

Exact Diagnosis	Number	Percentage
Yes	202	100
No	0	0
Total	202	100

The accuracy of Doctors in diagnosing patients with schizophrenia is 100% right. Diagnosis is made referring to references about the diagnosis of schizophrenia. According to Bleuler, a diagnosis of schizophrenia already be made if there are disturbances of primary and disharmony (cracks, splits or imbalance) on the elements of personality (the thought processes, affective / emotional, willingness and psychomotor), reinforced by the secondary symptoms [1].

2. Proper Indication

Table 3: The Accuracy Indication Schizophrenia Patients in Abepura RSJD period from January to March 2015.

Accuracy Indication	Number	Percentage
Yes	194	96,04
No	8	3,96
Total	202	100

The accuracy of indication in patients with schizophrenia was 96.04% while that is not appropriate is 3.96%. Adjusted with accuracy indication or signs that symptoms experienced by the patient. If symptoms or signs already known then the treatment is done should aim to eliminate the symptoms. In the state of schizophrenic patients, an indication is said to be precise if using antipsychotics as one of the drugs should be administered to patients, and the study of patient prescriptions obtained 8 patients with a diagnosis of schizophrenia were not written prescription antipsychotic. The effectiveness of antipsychotics in the treatment of schizophrenia has been proven by numerous studies. And treatment outcome will be better if the antipsychotic had been given in the first two years of illness [1, 7].

3. Proper Selection of Drugs

Table 4: Distribution of Schizophrenia Patient Medication Selection Accuracy in Abepura RSJD period from January to March 2015.

Medication Selection Accuracy	Number	Percentage
Yes	63	31,19
Not	139	68,81
Total	202	100

Selection of antipsychotics is generally based on efficacy and side effect profile, so that the atypical antipsychotics are often used as first-line drugs in the treatment of schizophrenia. Of the 63 patients given antipsychotic therapy single, there are 55 patients given atypical antipsychotics in the treatment, which consisted of 47 patients were assigned to treatment with risperidone, 3 patients treated with clozapine, and 5 patients treated with olanzapine, while 8 patients using typical antipsychotic in treatment, which consisted of 6 patients treated with haloperidol and two patients with flupenazin injection.

Antipsychotic combination with other antipsychotics result in potentiation of drug side effects and no evidence of more effective so that there is no synergistic effect between the two antipsychotic drugs [8]. A combination may be able to add also the risk of side effects. In general, it's better to raise the dose of a psychotropic drug when the therapeutic effect has not been achieved rather than adding another psychotropic drugs from the same group [1]. But many found that combination such as chlorpromazine, haloperidol are commonly used by doctors to make people become more calm and relieve psychotic symptoms such as delusions and hallucinations, while the combination of chlorpromazine and trifluoperazine used to calm patients and release negative psychotic symptoms such as shut down and silence.

Problems of polypharmacy in patients is not only a problem in developing countries, but is also a serious problem in developed countries. Polypharmacy types found in this research that a combination of two or more kinds of drugs that have the same or similar effect to treat a symptom. The main purpose is actually a combination of drugs to achieve potentiation and lower the side effects of the drug. But on the contrary antipsychotic combination increases the risk of side effects of each drug.

4. Right Dose

Table 5. The Schizophrenia Patient Dosing Accuracy in Abepura RSJD period from January to March 2015.

Dosing Accuracy	Number of patient	Percentage
Yes	196	97,03
No	6	2,97
Total	202	100

The accuracy of physicians in prescribing dose for schizophrenia patients not fully accurate, they obtained 2.97% dose improper. For elderly patients to be aware of the dose given. Antipsychotic initial dose for elderly patients should be half of the adult dose and then monitored their side effects and the dosage can be increased slowly while constantly monitored side effects [9].

In this study there were six elderly patients who dose antipsikotiknya obtained together with the adult dose, this should not be done. Because elderly patients are more sensitive to the side effects of extrapyramidal symptoms, decreased liver function, reduced renal clearance and a decrease in cardiac output [10].

5. Right Granting

Table 6: Distribution Dispensing Accuracy way in Patients with Schizophrenia in Abepura RSJD period from January to March 2015.

Dispensing Accuracy	Number of patient	Percentage
Ye	202	100
No	0	0
Total	202	100

The accuracy of medication administration is seen from the rules of use written on prescriptions that are in accordance with the drug dosage forms. The accuracy of treatment regimens with regard to the efficiency of the treatment time required. Drug in oral dosage form will be influenced by the process of drug metabolism in the body, and this will depend on the physicochemical properties of the drug. Effects of the drug occurs because of the physicochemical interactions between drugs or active metabolites with receptor or a specific part of the body. The drug can not cause the new function in body tissues or organs, but can only add or affect the function and physiological processes [11].

6. Right Time Interval Giving

Table 7: Distribution Dispensing Accuracy Time Interval in Patients with Schizophrenia in Abepura RSJD period from January to March 2015.

Dispensing Accuracy Time Interval	Number of patient	Percentage
Yes	188	91,09
No	18	8,91
Total	202	100

Can deliver therapeutic levels of the drug if the drug levels in the body meet the required therapeutic range. It depends on the nature and type of each drug. There are drugs that quickly eliminated in the body because it has a short half life so that the interval required to take medication will be shorter and more frequent drug should be taken. If the drug should be taken twice a day and then drink in the morning and afternoon with a short time interval, ie six hours, it can cause drug levels in the body become larger and can cause unwanted effects. If the drug is taken with a subsequent time intervals longer the drug levels in the body has reached minimum levels and can negate the effects of the drug [12].Haloperidol has a half-life of 12 hours, which is sufficient given twice daily. Chlorpromazine on the maintenance dose is given as 100-200 mg per day divided into two doses.

Risperidone absorption is not affected by food and reached peak levels approximately 1-2 hours after administration and the half-life ($T_{1/2}$) elimination of the active antipsychotic fraction is 24 hours. Because of the long half-life of risperidone and its active metabolite, the risperidone can be administered in doses once or twice daily. Clozapine reaching peak plasma concentrations after two hours of oral administration. Whereas elimination half-life is approximately 12 hours (10-16 hours) thus giving enough clozapine twice a day so that the drug concentration in the blood plasma becomes permanent. In contrast to olanzapine which has reached peak levels in the blood after five hours of administration of olanzapine with a long half-life is 21-24 hours so given in a single dose per day.

Based on the half-life of each drug, the obtained 18 patients, or approximately 8.91% of the gift is not appropriate intervals, where 10 of them are prescribed risperidone 2 mg three times a day, and 8 patients were prescribed haloperidol 5 mg three times a day.

7. Period of Dispensing Accuracy

Table 8: Distribution Period of Dispensing Accuracy in Patients with Schizophrenia in Abepura RSJD period from January to March 2015.

Period of Dispensing Accuracy	Number of patient	Percentage
Yes	188	93,07
No	14	6,93
Total	202	100

According to Loebis [13], observation of schizophrenic patients who had been given antipsychotics should be done for at least four weeks. If after observation during this time did not show any significant change to the symptoms of psychosis, it can be replaced with another type of drug or class of drugs different from the drug that has been given previously. This is done because of the side effects of antipsychotic drugs will first be felt by the patient so that there is a sense of discomfort to the patient. The most common side effects experienced are the effects of such ekstrapramidal tremor, rigidity, hypersalivation, bradykinesia, akathisia, and acute dystonia.

8. Affordable Prices

Table 9: Distribution of Drug Price Affordability in Schizophrenia Patients in Abepura RSJD period from January to March 2015.

Drug Price Affordability	Number of patient	Percentage
Yes	8	3,96
No	194	96,04
Total	202	100

Affordability seen in this study assessed from drug use, where the use of generic drugs is considered rational, while the use of drugs with a certain brand name or classified as irrational. Minister of Health also supports the efforts of the use of generic drugs in health services by issuing regulations on the use of generic drugs are required to be written by a doctor who practices in government health services in the Minister of Health No. HK.02.02 / Menkes / 068 / I / 2010 and other findings [14-17].

In addition, affordability is also supporting the sustainability of treatment of schizophrenic patients who require treatment in a very long period of time, it could take years and even a lifetime. With an affordable price of drugs would make the patients or those who pay for treatment of patients can still buy the drug on an ongoing basis according to the needs of the patient.

4. Conclusion

From the research results conducted to the 202 medical records of patients with schizophrenia can be concluded that the use of antipsychotics in schizophrenic patients in the outpatient unit RSJD Abepura period from January to March 2015 is yet to be said to be rational, it is seen from the results criteria of rationality that is still considered not fulfill 100 % appraisal rationality. Assessment results are obtained as follows:

1. Assessment of the accuracy of diagnosis was 100% right
2. Assessment of the accuracy indications are precisely 96.04%
3. Assessment of the accuracy of the selection of the right drug is 31.19%
4. Assessment of the accuracy of the proper dosage of 97.03%
5. Assessment of the accuracy of the method of drug administration is 100% right
6. Assessment of the accuracy of drug delivery interval is 91.09% accurate.
7. Assessment of the accuracy of the time of drug administration was 93.07% accurate.
8. Assessment of the affordability of affordable drugs is 3.96%.

5. Suggestions

- a. Further research needs to be done on the effect of irrational use of antipsychotics in schizophrenic patients in RSJD Abepura to the success of therapy.
- b. Needs to be further research on the causes of the low percentage of rationality criteria in the selection of drugs accuracy and affordability.
- c. Made necessary treatment algorithm for patients with schizophrenia in Abepura RSJD so as to facilitate physicians in deciding a therapeutic treatment.
- d. The holding of training need to giver waiter about rationality Use of Antipsychotic treatment.
- e. Needs to be enforced again Regulation of the Minister of Health HK.02.02 / Menkes / 068 / I / 2010 on the obligation of prescribing and / or the use of generic drugs in public health facilities in this regard RSJD Abepura.
- f. Need formulation RSJD Abepura formulary as a guide physicians to select an appropriate therapy and treatment available in RSJD Abepura.

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