

Risperidone and Haloperidol Comparative Effects of Positive Symptoms Patient Schizophrenic

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Abstract

Several studies have made a sub category of the symptoms of schizophrenia into five parts: positive symptoms, negative symptoms, cognitive symptoms, symptoms of aggressive and depressive / anxious. Some studies also indicate that risperidone is a preparation that has high efficacy for positive symptoms of schizophrenia and negative symptoms of schizophrenia also improve better than conventional antipsychotics. This study was an experimental study in the form of two-group pretest-posttest design with consecutive sampling performed 40 schizophrenic patients who came for treatment to psychiatry inpatient and outpatient BLUD RSJ Prosu period March 1, 2010 - August 31, 2010. Patients with schizophrenia who met the inclusion criteria and underwent total PANSS positive symptoms before treatment therapy 20 samples will be treated with risperidone and 20 samples treated with haloperidol then were followed up every week until the fourth week of the inspection and the total PANSS positive symptoms. From a statistical test to *test for independent samples* in total PANSS score of zero to weeks and weeks to four PANSS total score differences were found on average to risperidone treatment group 50.2 (SD \pm 9.7) and the difference in the PANSS total score average for haloperidol treatment group of 47.4 (SD \pm 6.5), $P = 0.281$. No difference in total PANSS score based group intervention. From test to *test for independent samples* positive PANSS scores week to zero and week four PANSS positive score differences were found on average to risperidone therapy of 13.1 (SD \pm 3.4) and the difference in PANSS positive scores on average for group therapy haloperidol was 10.5 (SD \pm 1.9) $P = 0.005$. There are differences in symptom positive delta based group intervention. In this study risperidone group showed no significant differences in symptom score of the PANSS positive until the fourth week compared with the use of haloperidol group.

Keywords: schizophrenic patients, risperidone, haloperidol, PANSS, positive symptoms.

1. Introduction

Schizophrenia is a collection of clinical symptoms are characterized by damage psychopathology involving cognition, emotion, perception and behavioral aspects and manifests in patients and affect the course of the disease, usually severe and prolonged.¹ Schizophrenia is a severe mental disorder that trips include chronic illness,^{2,3} is generally characterized by a distorted thoughts and perceptions basic, and by affective unnatural (inappropriate) or blunt (blunted).³

Although not yet formally recognized as part of the diagnostic criteria for schizophrenia, several studies made subcategories of symptoms of this disease into 5 parts: positive symptoms, negative symptoms, cognitive symptoms, aggressive symptoms and depressive/anxious symptoms. The positive symptoms include delusions positive, hallucinations, irregularities and exaggeration in language and communication, irregular behavior/speech, behavior catatonic and agitation.⁴

Basic treatment of schizophrenia is antipsychotic medication to be divided into two major groups, namely the typical antipsychotics (dopamine receptor antagonists) and atypical antipsychotics (serotonin receptor antagonist dopamine).⁵ Some research suggests that risperidone is the preparation that has high efficacy for positive symptoms schizophrenia and improve negative symptoms schizophrenia better than conventional antipsychotics.⁶

John Davis recently analyzed data collected from 5-controlled study. The results of a meta-analysis showed that 53% of patients who received risperidone with dose above 6 mg daily meet criteria improvement than expected in 40% of patients who received conventional antipsychotic ($p < 0.001$). Treatment with risperidone also provide 25% better improvement on the positive symptom and 60% better on negative symptoms compared with conventional antipsychotics.⁷

2. Subject and Methods

This study was approved by the Research Ethics Committee of Medical Faculty University of Sumatera Utara. This study was performed in outpatient clinic and inpatient of Mental Hospital of Province of North Sumatera, on the regulation of Medical Faculty of University of North Sumatera, from 1 March 2010 to 31 August 2010. The criteria inclusion for subject were patient schizophrenic who meet the criteria PPDGJ III, ages 15-55 years and in acute phase. We excluded patients with schizophrenia and comorbid general medical illness or other psychiatric disorders, pregnant and nursing and hypersensitivity to risperidone and haloperidol. Written informed consent was obtained from all participants after giving a full explanation of the study protocol.

2.1 Assessment and Rating

First, schizophrenic patients who met the diagnostic criteria for schizophrenia (F20) based PPDGJ I – III will be assessed with PANSS to assess the positive symptoms consist of delusions, thought processes chaos, hallucinatory behavior, rowdy anxiety, delusions of grandeur, suspicion/chase, hostility.⁸ Improvement which is considered the progress in therapy is the reduction in total PANSS score reached $\geq 40\%$. Risperidone is an atypical antipsychotic with a dose range of 2-8 mg/day.⁹ Haloperidol is an antipsychotic typical butyrophenone, the dose range 5-20 mg/day.⁹ The acute phase is where common psychotic clear picture, for example, there are delusions, hallucinations, impaired thought processes and usually lasts 4-8 weeks.¹⁰

2.2 Statistical Analysis

The data collected were processed and analyzed using the software *Statistical Package for Social Sciences (SPSS)* version 15.0 with a significance level of $p < 0, 05$.

3. Result

Forty schizophrenic patients who came to the general psychiatry clinic, ward male / female and IGD BLUD Psychiatric Hospital of North Sumatra province have participated in this study. The selection of the sample in this study defined a *non-probability sampling* types *consecutive* in time period 1 March 2010 until August 31, 2010.

Table 4.1. The sample distribution based on demographic characteristics.

Demographic characteristics of the sample	Schizophrenic patients	
	N	%
Age groups		
15-24	11	27.5
25-34	17	42.5
35-44	10	25
45-55	2	5
Sex		
Male	26	65
Female	14	35

From table 4.1. above, it can be seen that the sample distribution by age group has the most samples are the age groups 25-34 of 17 samples (42.5%) and having at least a sample is the age group 45-55 for 2 samples (5%) , the basis of sex which has the most number of samples is the male sex of 26 samples (65%).

Table 4.2. Distribution of the sample group and risperidone therapy Haloperidol based on demographic characteristics.

Demographic Characteristics of Sample	Therapy					
	Risperidone		Haloperidol		Total	
	n	%	n	%	n	%
Age groups						
15 -						
25 -	8	40	3	15	11	27.5
35 -	8	40	9	45	17	42.5
45-55	3	15	7	35	10	25
	1	5	1	5	2	5
Sex						
Male						
Female	14	70	12	60	26	65
	6	30	8	40	14	35

From table 4.2. above, can be seen in the treatment group risperidone by age group that has the most samples are the age groups 15-24 years and 25-34 years for each of the 8 samples (40%). And at least a sample is the age group 45-55 years at 1 sample (5%). In the haloperidol treatment group who has the most samples are 25-34 years age group of 9 samples (45%) and the least amount of samples is the age group 45-55 years at 1 sample (5%).

In the risperidone treatment groups based on gender can be seen that with the most samples are male

sex of 14 samples (70%). In the treatment group who has the most risperidone sample was male gender of the 12 samples (60%).

Table 4.3. The relationship between treatment groups and risperidone and haloperidol on demographic characteristics

Demographic Characteristics of Sample		Therapy				P
		Risperidone		Haloperidol		
		n	%	n	%	
Age groups						
	15-24	8	40	3	15	
	25-34	8	40	9	45	0.2
	35-44	3	15	7	35	69
	45-55	1	5	1	5	
Sex						
	Male					
	Female	14	70	12	60	0.5
		6	30	8	40	07

From table 4.3. The above can be seen the relationship between treatment groups Risperidone and haloperidol on demographic characteristics. In the age group, from a statistical test by using *Chi-square Test* results $P = 0.269$ was found ($P > 0.05$). There is no difference between risperidone and haloperidol group proportions by age group.

Of tests on sex by using *chi-square Test* results $P = 0.507$ was found ($P > 0.05$). There is no difference in the proportion of risperidone and haloperidol treatment groups based on group sex.

Table 4.4. The relationship between risperidone and haloperidol treatment groups on the characteristics of Weight Loss

Demographic Characteristics of Sample	Therapy						P
	Risperidone			Haloperidol			
	n	Mean	Standard deviation	n	Mean	Standard deviation	
Weight	20	22.1	0.6	20	22.1	0.6	0.941

Of the test by using *Independent Samples Test* on body weight was found average values for risperidone treatment group was 22.1 (SD \pm 0.6) and the average weight for haloperidol treatment group was 22.1 (SD \pm 0.6) which means that the value of $P = 0.941$ ($P > 0.05$). There is no difference in the proportion of significant weight in the group will receive risperidone and haloperidol.

Table 4.5. Characteristics of the PANSS total score and PANSS positive score Sunday to zero on risperidone and haloperidol therapy group

PANSS	Therapy						P
	Risperidone			Haloperidol			
	n	Mean	Standard deviation	n	Mean	Standard deviation	
PANSS Total	20	107.25	10.1	20	112.8	11.5	0,113
PANSS positive	20	30.6	4.9	20	30.6	4.8	1,000

From the test with *Independent Samples Test* on the PANSS total score of the PANSS total scores were found on average to risperidone therapy group at 107.2 (SD \pm 10.1) and PANSS total average for haloperidol treatment groups at 112.8 (SD \pm 11, 5), $P = 0.113$ ($P > 0.05$). There is no difference in the total PANSS score weeks to zero based group intervention.

Of test *Independent Samples Test* against positive PANSS scores were found positive PANSS scores on

average for risperidone therapy 30.6 (SD ± 4.9) and PANSS positive score average for haloperidol treatment groups of 30.6 (SD ± 4.8), $P = 1,0$ ($P > 0,05$). This shows that no significant difference was found PANSS scores at the first time all schizophrenic patients with positive symptoms checked each group.

Table 4.6. The difference in total PANSS score and the PANSS positive score at week zero and week four in the group of risperidone and haloperidol therapy.

PANSS	Therapy						p
	Risperidone			Haloperidol			
	n	Mean	Standard deviation	n	Mean	Standard deviation	
The difference in total PANSS	20	50.2	9.7	20	47.4	6.5	0.281
The difference in PANSS positive	20	13.1	3.4	20	10.5	1.9	0,005

From the test with Independent Samples Test to differences in PANSS total score of zero and a week to four weeks in total PANSS score differences were found on average to risperidone treatment group 50.2 (SD ± 9.7) and the difference in the PANSS total score of the average for the group amounted to 47.4 haloperidol therapy (SD ± 6.5), $P = 0.281$ ($P > 0.05$). There is no difference in the total score of the PANSS delta based group intervention.

From the test with Independent Samples Test to differences in PANSS positive score week to zero and the fourth week of the PANSS positive score differences were found on average to risperidone treatment groups of 13.1 (SD ± 3.4) and the difference in PANSS positive scores on average for haloperidol treatment groups at 10.4 (SD ± 1.9), $P = 0.005$ ($P < 0.05$). A positive delta da difference symptom based group intervention.

Table 4.7. Side effects were found after drug administration

Side effects	Risperidone		Haloperidol	
	n	%	n	%
Present	8	50	15	75
Absent	12	50	5	25

From table 4.7. above can be seen that of the 20 people who received risperidone side effects whereas 8 of 20 people who received haloperidol side effects 15. The side effects seen in the provision of risperidone in the study were akathisia, tremor and headache. While the side effects seen in the purchase of haloperidol a dalah tremor, akathisia, dizziness, headache, and dystonia.

4. Discussion

This research is an experimental study, in the form of two group pretest-posttest design, which is the clinical trials *double-blind* in parallel with the two groups in randomization. The aim of this study to compare the effects of risperidone and haloperidol on positive symptoms in patients schizophrenic.

This research group selection schizophrenic patients aged between 15-55 years as the study sample because according to existing literature states that 90% of patients who received treatment schizophrenic aged between 15-55 years. Peak attacks in men between the ages of 10-25 years and 25-35 years in women. Attack under 10 years old or over 60 years reported rarely. In general, women with schizophrenia have results (*outcomes*) better than men. ⁴

Of the forty schizophrenic patients who come to the clinic for treatment of Psychiatry Outpatient and Inpatient Psychiatric Hospital BLUD North Sumatra during the period 1 March 2010 - August 31, 2010 the results of the study found that there was no difference in proportions between the two treatment groups in terms of age ($P = 0.269$) gender ($P = 0.507$), weight ($P = 0.941$).

Measurement of total PANSS score of zero to week results found no significant difference in the two treatment groups ($P = 0.113$), resulting from the value $P > 0.05$, the two groups have equal at the beginning of therapy prior to treatment with risperidone and haloperidol.

Measurement of the PANSS positive score weeks to zero results found no significant difference in the two treatment groups ($P = 1.00$) so that the value of $P > 0.05$, the two groups have equal at the beginning of therapy prior to treatment with risperidone and haloperidol.

From the test with *Independent Samples Test* of the total PANSS score of zero to weeks and weeks to

four PANSS total score differences were found on average to risperidone treatment group 50.2 (SD \pm 9.7) and the difference in the PANSS total score of the average for the group amounted to 47.4 haloperidol therapy (SD \pm 6.5), $P = 0.281$ ($P > 0.05$). There is no difference in the total score of the PANSS delta based group intervention. The results of this study provide the same results with the results of research conducted by KJ Vijay Sagar, Cr.Chandra Shekar during 6 weeks of treatment with risperidone and haloperidol, there was no statistically significant difference in PANSS scores in schizophrenic patients.⁹

From the test with *Independent Samples Test* of the PANSS positive score week to zero and week four PANSS positive score differences were found on average to risperidone therapy 13.1 (SD \pm 3.4) and the difference in mean PANSS positive for haloperidol treatment group was 10.5 (SD \pm 1.9), $P = 0.005$ ($P < 0.05$). A positive delta da difference symptom based group intervention. Based on these results it can be seen that a better use of risperidone therapy in schizophrenic patients compared with the use of haloperidol in reducing positive symptoms. The results of this study provide the same results with the results of research conducted by John Davis, where the results of a meta-analysis showed risperidone meet the criteria of positive symptom improvement is better than conventional antipsychotics ($p < 0.001$).⁸

5. Conclusion

From the results of a study of 40 patients with schizophrenia who came to the Clinic of Psychiatry Outpatient and Inpatient Psychiatric Hospital BLUD North Sumatra Province can be deduced as follows:

1. Characteristics of the sample demografi risperidone treatment groups by age group has the most sampled age group is the age group 25-34 of 17 samples (42.5%) and having at least a sample is the age group 45-55 for 2 samples (5 %).
2. Demographic characteristics of the sample on haloperidol treatment groups by age group that has the most samples are the age groups 15-24 years and 25-34 years for each of the 8 samples (40%). And at least a sample is the age group 45-55 years at 1 sample (5%).
3. Of test *Independent Samples Test* against PANSS can be seen the relationship between treatment groups Risperidon and haloperidol on demographic characteristics. In the age group, of the test by using *Chi-square test* $P = 0.269$ results found ($P > 0.05$). There is no difference in the proportion of risperidol and haloperidol groups by age group. Of tests on sex by using *chi-square test* $P = 0.507$ results found significant P values > 0.05 , there was no difference in the proportion of risperidol haloperidol groups based on gender.
4. Of the test by using *Independent Samples Test* against weight found the average weight for risperidone treatment group was 22.1 (SD \pm 0.6) and the average weight for haloperidol treatment group was 22.1 (SD \pm 0, 6) the value of $P = 0.941$, ($P > 0.05$). There is no difference in body weight in the intervention group.
5. Of *Independent Samples Test* to test positive PANSS positive PANSS found on average to risperidone therapy 30.6 (SD \pm 4.9) and the mean PANSS positive for haloperidol treatment groups of 30.6 (SD \pm 4.8), the value $P = 1.0$ ($P > 0.05$). There is no difference in the total score of the PANSS delta based group intervention.
6. From the test with *independent Samples Test* against the PANSS positive score difference weeks to zero and the fourth week found differences mean PANSS positive for risperidone treatment groups of 13.1 (SD \pm 3.4) and the difference in PANSS positive scores on average for the group haloperidol therapy at 10, 5 (SD \pm 1.9), the value of $P = 0.005$ ($P < 0.05$). A positive delta da difference symptom based group intervention.

From the results of the study we suggest that: (1) use of risperidone therapy have better efficacy in schizophrenic patients dibanding with haloperidol therapy in reducing positive symptoms; and (2) need to do more extensive research with larger samples to address issues with respect to effectivity of risperidone and haloperidol to schizophrenic patients.

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