

## The Comparison Between Therapeutic Effects of Different Classes of Antidepressants in Treatment of Genetical and Reactional Depression

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**Abstract:** Depression as a common psychiatric disorder can occur in two types: Endogenous or genetic and exogenous or reactional. These two types of depression, from the point of view of response speed to treatment and type of appropriate drug for treatment are different. This study has been executed to compare therapeutic effects of different classes of anti-depressant drugs in treatment of genetic and reactional depression. Present survey is a clinical-trial study, a completely randomly block type, that has performed on 30 patients (male and female). Selection of study sample accomplished randomly among unipolar depressed patients that has referred to Ardebil's psychiatry clinic diagnosed on the basis of DSM-IV criteria. Researcher - edited questionnaire and Beck and Catelle depression test were used to collect data. To analyze data, for completely randomal blokal designs, two-factor variance analysis method and F test were used. This study showed that genetical depression don't response treatment Rapidly and its response type isn't good and persistent. From the point of view of time, reactional depression has a delaying response but it's response type is good and persistent. Also no difference was observed in efficacy of different classes Of drugs for treatment of these two types of depression. The results of this research showed that there is no difference between treatment response of two types of depression (genetical and reactional). Also there is no preference in efficacy of different classes of drugs in treatment of these two types of depression.

**Key words:** Depression, genetical depression, reactional depression, anti depressant drugs, persistent

### INTRODUCTION

Depression is one of the most common psychiatric disorders and its treatment imposes heavy expenses to the society, patients and their families annually. In the United States, 9 to 15 million people suffer from depression that in addition to mentality persecute and torture leads to obvious decrease in the personal, vocational and social functions.

Although this disease is prevalent, no special drug has been introduced to be the most effective drug in the treatment of genetic (endogenous) and reactional (exogenous) depression (Garland, 1990) this causes resistance to the treatment regimens and decrease in the therapeutic response as we can see in 30 % of the patients (Lin, 2003).

It seems that there are differences in the therapeutic response of two types of depression (genetic and reactional) in speed and rate of response; also, there are differences in the efficacy of different anti-depressant regimens in these two types of depression.

To our best knowledge, no research has been performed to compare different anti-depressants to determine the superiority of each type to others in the treatment of depression. Therefore, we designed a study to evaluate the efficacy of each anti-depressant regimen in two types of depression by selecting two groups of genetically and reactionally depressed patients and treating them with main classes of anti-depressants.

### MATERIALS AND METHODS

In this randomized-block clinical trial study, 30 patients were randomly selected from patients afflicted by genetical and reactional unipolar depression that had referred to the psychiatry clinic of Fatemi hospital in Ardabil and were enrolled in the study. All of them were in the age range of 20 - 40 years. Selection of the samples was performed on the base of the clinical interview, DSM-I criteria and first step of Beck test. Fifteen days, 1 month and 4 months after the initiation of the treatment, step I, II and IV beck test were done to assess rapid therapeutic response, delayed therapeutic response and reliability of response, respectively. Step II Cattle test

was also done to evaluate the changes in personality caused by the treatment. Two-factor variance analysis method and F test were used for statistical analysis.

**RESULTS**

Firstly, the demographic characteristics of the patients were studied. Our sample size included 30 patients in the age range of 20 to 40 years. Of them, 18 (60%) were married, 33.3% had the educational level of diploma(of high school), 23.3% had bachelor's degree, 3.30 % had master's degree and 40% were under diploma. Also, 50, 16.6 and 20% were unemployed, worked for themselves and were office workers and the others had not mentioned their jobs.

Table 1: Statistical analysis of therapeutic response of geneticallydepressionon the base of drug type and time

Source of changes	SS	Df	MS	F	Sig
Time of factor	48.133	1	48.133	4.797	0.160
	20.067	2	10.033		
Drug factor	46.867	2	23.433	2.336	0.300
	20.067	2	10.033		
Time and drug interaction	20.067	2	10.033	0.412	
	584.40	24	24.3250		0.667

Table 2: Statistical analysis of therapeutic response of geneticallydepressionon the base of drug type and time

Source of changes	SS	Df	MS	F	Sig
Time of factor	187.50	1	187.50	43.605	0.022
	8.60	2	4.30		
Drug factor	14.86	2	7.433	1.729	0.336
	8.60	2	4.30		
Time and drug interaction	8.60	2	4.30	0.144	0.866
	714.4	24	29.76		

Table 3: Statistical analysis for comparison of therapeutic response of genetical and reactional depression to SSRIs drugs

Source of changes	SS	Df	MS	F	Sig
Time of factor	37.11	1	56.12	5.73	0.32
	16.28	2	27.8		
Drug factor	32.24	2	10.29	2.62	0.28
	22.47	2	43.23		
Time and drug interaction	13.167	2	33.10	0.24	0.32

Table 4: Statistical analysis for comparison of therapeutic response of genetical and reactional depression to SSRIs drugs

Source of changes	SS	Df	MS	F	Sig
Time of factor	101.20	1	101.20	2.74	0.42
	4.12	2	2.10		
Drug factor	13.68	2	4.37	2.92	0.37
	6.80	2	3.40		
Time and drug interaction	6.80	2	3.40	0.14	0.68
	514.30	24	30.67		

Table 1 shows non-significant results for the therapeutic response beginning time in genetic depression because of the calculated F in the level of  $\alpha = 0.05$  and therefore, it can be concluded that genetically depressed patients do not show rapid response to the treatment. Table 2 shows significant results for the time factor of the therapeutic response beginning time in reactional depression but non-significant results for drug factor; therefore, it can be concluded that reactionally depressed patients have delayed therapeutic responses.

Table 3 shows non-significant results for the response of genetic depression in comparison with reactive depression to Selective Serotonin Reuptake Inhibitor (SSRI) drugs; therefore, it seems that there is no preference in the therapeutic response to SSRI drugs between genetically and reactionally depressed patients.

Table 4 shows non-significant results for the therapeutic response of reactive depression to Norepinephrine (NE) drugs in comparison with genetic depression; therefore, it may be said that there is no difference in the response to the NE drugs between two groups of genetically or reactionally depressed patients.

**DISCUSSION**

According to our results, genetically depressed patients don't show more rapid response to pharmacotherapy. Since the depression is endogenous and is promoted by basic problems in neurotransmitters of the central nervous system, disconfirmation of more rapid response hypothesis in genetic depression can be explained by this fact that, the correction of disordered condition of neural transmitters needs a longer period to become normal. Studies performed by Williamson at 2002 are in accordance with our findings, as he showed that the levels of serotonin in genetically depressed patients had no changes before and after the treatment (Kaplan *et al.*, 2003). In reactionally depressed patients, it was shown that they have delayed response to the drug regimens. This may be due to an acute disorder in neurotransmitters of synaptic gaps of CNS. Whereas this situation is temporary, therapeutic response is permanent and fair. Studies performed in other countries confirm this, as well.

As these studies suggest, in those patients with reactional depression which occur just after a stressful factor, the decreased level of serotonin in CNS increases during the treatment and remains at a high level even after treatment (Willimson, 2002). Results of this research confirm that genetically depressed patients have no better response to SSRIs. This finding is in accordance with the findings of other researchers. Additionally, our results showed that the therapeutic effects of NE drugs in genetically and reactionally depressed patients have no significant difference.

### **CONCLUSION**

It can be concluded that in spite of differences between the pharmacokinetic, pharmacodynamic and the mechanism of these drugs, finally they adjust neurotransmitter levels in synaptic gaps and this is the reason for the non-significant difference between them. Most of these studies maintain more efficacies for SSRIs in all types of depression but the textbooks point out that their preference is because of less complications rather than more Efficacy (Kaplan *et al.*, 2003; Williamson, 2002; Ni and Miledi, 1997; Ross, 2003).

### **REFERENCES**

Garland, Y. Denelsky, 1990. Psychotherapy Versus Medication for Depression: Challenging the conventional Wisdom Data: Professional Psychol., 26: 574-585.

Kaplan, L. Harold. Sadock J. Benjamin, 2003. Synopsis of psychiatry, vol I, (9th Edn). Lippincott, New York.  
Linden, 2003. B4um J. Nortriptylin for treatment-resistant depression J. Clin. Psychiat., 64: 35-39.  
Ni YG., R. Miledi, Blokage, 1997. Of 5 HT 2c serotonin receptors by fluoxetine (prozac), Department of Psychobiology, University of California, Irvine 92 697 4550, USA, Proc. Natl. Acad. Sci. USA, 4: 94: 2036-40.  
Ross, E., 2003. Fluoxetine and its side effects: Pharmacy prescription, pp: 20-37.  
Williamson David, 2002. Depression Reflects A Genetic trait serotonin study, psychiatry, pp: I-15.