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The relation between demographic factors and Bipolar disorder

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Abstract

The objective of this project is examining the relation between demographic factors such as age, gender, profession, education and marital state and so on with bipolar disorder. For this purpose the medical record of all patients of Taleqani hospital psychiatric ward in 2011 and diagnosed as bipolar disorder are examined. Among them the number of 105 persons is selected randomly. The study type was descriptive. The statistical society consists of all patients' medical record of psychiatric ward of Taleqani hospital in 2011. The number of 105 persons was studies. The Chi square non-parametric method has been used. The results showed that among demographic factor such as age, gender, education level, profession. Socioeconomic status and marital status only two factors (profession and socioeconomic status) had significant relationship with bipolar disease.

Key words: bipolar disorder type I & II, demographic factors.

Regarding the importance of type I and II bipolar disorder in human health, numerous factor can contribute in this disease and its relapse too. For example genetics, stress in everyday life such as divorce, loss and so on can dramatically effect on the people that are prone to this disease. Also demographic factors such as age, gender, profession, education level, marital status and socioeconomic status are factors that can be studied for finding their relation to bipolar disorder[6].

It seems that stress has pivotal role in bipolar disorder and delay in its treatment so that in a research it has been found that the patient that have experienced drastic negative happenings suffer more from bipolar disorder compared with who didn't experience such happenings[1]. There are other evidence regarding other socio-environmental variables that affect the bipolar disorder. For example in a reseach it has been found that individuals suffering from bipolar disorder that have low social support demonstrated more depression relapses

within one year and it was independent from stressful life events effect that predicts higher relapse[3].

Another probable factor on bipolar disorder can be psychodynamic factors including manic reactions, severe defense against depression or drastic reaction to it. Neale (1988) announced that people with instable self-confidence with unreasonable criteria for success are more prone to bipolar disorder. Neale theorizes that the thoughts of being destined for greatness that usually occur during manic phases for distracting the upsetting thoughts defends against these depressing thoughts.

From viewpoint of neurochemistry one can say that if the depression is due to lack of norepinephrine or serotonin in this case mania is developed by excess of these neurotransmitter[3].

Regarding this disorder effects and consequences on overall performance of the patients' life and treatment costs sustained by society and individuals it seems that identifying the role of the disorder booster and regulator factors is highly important. Considering the research findings one can offer useful and practical recommendation to healthcare section planners. From other side one can supply appropriate treatment aids for patients and their family[2].

Regarding to the role of genetics in this disorder and view to the fact that the type I of this disorder is associated with psychotic signs and decrease of social performance and interpersonal and professional functionality, therefore the treatment and major points for preventing of relapse and prolonging relapse intervals is highly important. Also the research about demographic conditions is very important because effective factors on disorder emergence and its relapse can be identified[3].

By view to the role of demographic factor on psychiatric disorders such as bipolar disorder the question of this research is whether there is a relation between demographic factors and bipolar disorder in Iran?

History of mood disorders :

There is some recommendation about what today is called mood disorders in many old texts. The story of "Saul king" in Old Testament and the history of suicide of "Ajax" in Iliad of Homer are some descriptions about signs of depression. Hippocrates near four hundred BC used term mania and melancholia for describing psychotic disorders. About 30 A.D Aulus Cornelius Celsus in his book called "de medicinia" introduced the melancholia as a type of depression arising from dominace of bile. Thereafter other authors of medical book such as Aretaeus (80-120), Galen (129-199) and Alexander of Tralles in sixth century used this term. The Jewish physician of twelfth century "Moses Maimonides" considered the melancholia as a separate disorder. "Bune" in 1868 mentioned a psychotic disease that he dubbed it as maniacomomelancolius". In 1854 Jean-Pierre Falret described a disorder called circular insanity or folie circulaire that another French called Jules Gabriel François Baillarger described the two shaped insanity or "folie a double form" in which the individual sustained deeply depression and turns into consternation state and finally come out from that state. In 1882 the German psychologist

Karl Kahlbaum used the term cyclothymia and reckoned the mania and depression as stages of a single disease[7].

The already known clinical distinction of patient is reaffirmed by clinical and biological studies about mood disorders and is recognized in DSM-5. DSM-5 depression disorders (mood disturbing disorders, major depression disorder, permanent depression disorder (distimia), bipolar disorder (type I, type II, cyclothymic).

Research method :

Current research is correlative type. The files of patients of psychology ward of Taleghani hospital with diagnosis of bipolar I and II disorder in 2011 was the statistical society of this sturdy.

The sampling method was selected in accessible and purposeful method. In 2011 total patients hospitalized in psychological ward was 420 persons that each one have had different diagnosis of psychology that after releasing from hospital their medical records were registered in hospital archives that among them 105 files was hospitalized by diagnosis of bipolar disease type I and II.

Tools :

Diagnosis tool was based on DSM-5 and its criteria and hospital psychiatrics diagnosis. Diagnosis that carried out by psychiatrists on the basis of guideline criteria of America psychiatric association statistical diagnosis edition fifth. Especially about the criteria B during mood upsetting and increase of energy or activity there are at least three symptoms of mentioned items by considerable degree and represented significant change in ordinary behavior of the individual (if the case of the individual is merely irritability, it should exist at least four signs of the mentioned symptoms). If there is just three symptoms the mania is termed as mild (and if there was all seven symptoms) it is called severe mania.

1- The self-esteem is excessively increased and have grandiose thoughts.
2- The need to sleep reduces.
3- It is more talkative from usual or try to continue to talk.
4- It has thought escape or feels that its thoughts are passing from its mind rapidly so that it has not time to utter them.
5- It can be easily distracted (its attention easily get attracted to insignificant and irrelevant external stimuli). It reports that by itself or others observe it.
6- It engages more than ever in purposeful activities (projects). (Or have mental and physical irritabilities (in other word have purposeless, useless and meaningless activities).
7- It engages excessively in activities that may lead in upsetting results (for example unrestrainedly go to shop, emerge hazardous sexual behavior or engage in silly investments).

Method of Data analysis :

Tables and diagrams are used in descriptive part and the Chi square correlation method is used in inferential part.

Research hypothesis :

1- There is relation between gender and bipolar disorder.
2- There relation between profession and

bipolar disorder.

3- There is relation between marital status and bipolar disorder.
4- There is relation between education degree and bipolar disorder.
5- There is relation between socioeconomic status and bipolar disorder.
6- There is relation between age and bipolar disorder.

Data analysis :

Result analysis

Table-1. examining the relation between gender and bipolar disorder

Gender \ Bipolar disorder		1	2	3	4	Total
Male	Observed	11	11	10	20	52
	Expected	13.4	9.9	6.4	22.3	52
Female	Observed	16	9	3	25	53
	Expected	13.6	10.1	6.6	22.7	53
Total	Observed	27	20	13	45	105
	Expected	27	20	13	45	105

Table-2. Summary of test results of Chi square (first hypothesis)

variables	N	Chi square	Degree of freedom	Cramer V coefficient	Sig
Gender x bipolar disorder	105	5.44	3	0.228	0.142

Hypothesis: there is a relation between gender and bipolar disorder.

The Chi square amount is 5.44 with three degrees of freedom and significance level of 0.142 is less than critical value of table in level of 0.05 (7.83). The null hypothesis is accepted and research hypothesis on the basis of relation between gender and bipolar disorder is rejected. It is noteworthy that relation intensity coefficient 0.228 with significance level of 0.142 is established between gender and bipolar disorder that suggest that there is very week and insignificant relation between gender and bipolar disorder.

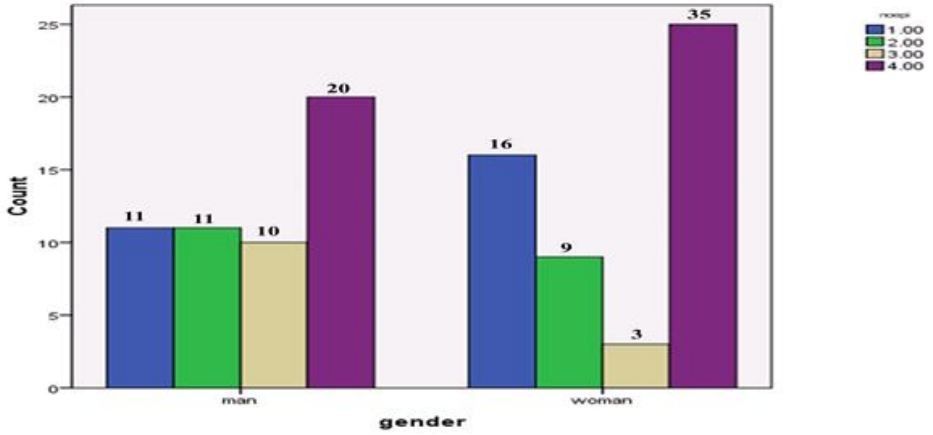

Figure 1. Relation of gender and bipolar disorder.

Table-3. Examining the relation of age group and bipolar disorder

age \ Bipolar disorder		1	2	3	4	Total
Less than 30 years old	Observed	5	8	4	19	36
	Expected	9.3	6.9	4.5	15.4	36
Between 30 to 40 years old	Observed	6	6	5	13	30
	Expected	7.7	5.7	3.7	12.9	30
More than 40 years old	Observed	16	6	4	13	39
	Expected	10	7.4	4.8	16.7	39
Total	Observed	27	20	13	45	105
	Expected	27	20	13	45	105

Table-4 the summary of results of Chi square test (second hypothesis)

variables	N	Chi square	Degree of freedom	Cramer's V coefficient	Sig
Age x bipolar disorder	105	8.662	6	0.287	0.194

The Chi square value (8.662) in degree of freedom of 6 and significance level of 0.194 is less than critical value of table in level of 0.05 (12.59). The null hypothesis is affirmed and the research hypothesis based on the relation between bipolar disorder and age group is rejected, it is necessary to mention that there is correlation coefficient of 0.287 with significant level of 0.194 between age and bipolar disorder suggesting that very weak and meaningless relation exists between the age and the bipolar disease.

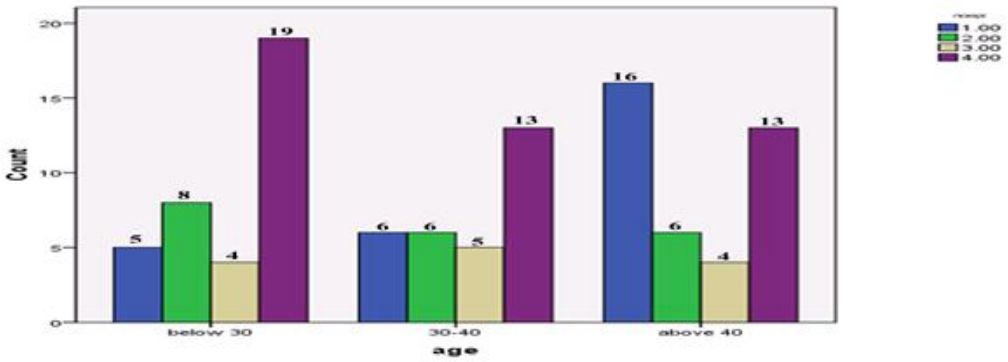

Figure 2: the relation of age group and bipolar disease

Table-5. Examining the relation between marital status and bipolar disorder

Bipolar disorder Marital status		1	2	3	4	Total
single	Observed	14	8	3	14	39
	Expected	10	7.4	4.8	16.7	39
married	Observed	8	8	7	19	42
	Expected	10.8	8	5.2	18	42
divorced	Observed	5	4	3	12	24
	Expected	6.2	4.6	3	10.3	24
Total	Observed	27	20	13	45	10
	Expected	27	20	13	45	10

Table-6. Summary of results of Chi square test (third hypothesis)

variables	N	Chi square	Degree of freedom	Cramer's V coefficient	Sig
Age x bipolar disorder	105	4.734	6	0.150	0.578

Hypothesis: there is relation between marital status and bipolar disorder

Chi square value (4.734) in degree of freedom 6 and significance of 0.578 is less than value of chi square of table in level of 0.05 (12.59). The null hypothesis is affirmed and the research hypotheses based on the relation between marital status and bipolar disorder is rejected. It should be mentioned that relation intensity coefficient 0.15 with significance level of 0.578 between marital status and bipolar disease shows that there is very weak and meaningless between marital status and bipolar disease.

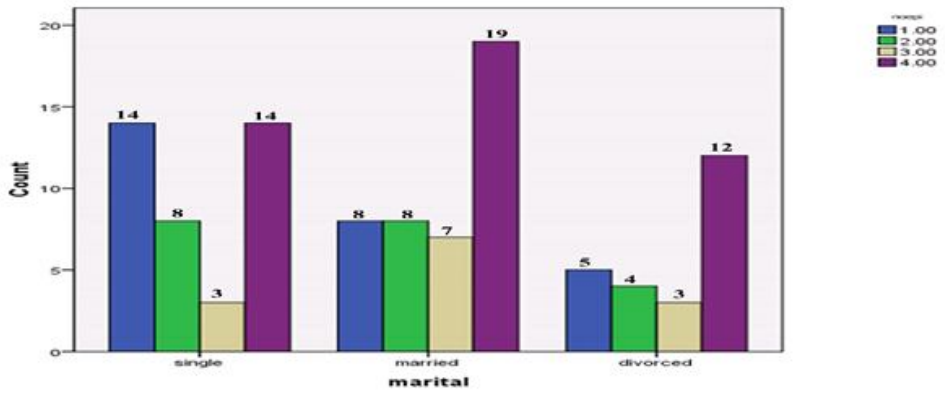

Figure 3: relation of marital status and bipolar disorder

Table-7. Examining the relation between profession and bipolar disorder

Marital status \ Bipolar disorder		1	2	3	4	Total
single	Observed	14	8	3	14	39
	Expected	10	7.4	4.8	16.7	39
married	Observed	8	8	7	19	42
	Expected	10.8	8	5.2	18	42
divorced	Observed	5	4	3	12	24
	Expected	6.2	4.6	3	10.3	24
Total	Observed	27	20	13	45	10
	Expected	27	20	13	45	10

Table-8. The Somers' D index about relation between professional status and bipolar disorder

	Value	Asymp. Std. Error	Approx T[b]	Approx. Sig.
Somer's D ordinal by ordin symmetric	0.404	0.075	4.878	0.000
Job Dependent	0.355	0.071	4.878	0.000
Noepi Dependent	0.470	0.086	4.878	0.000

Hypothesis: there is a relation between profession and bipolar disorder.

According to Somers" D value (0.404) at significance level of 0.000 the null hypothesis and research hypothesis based on relation between professional status and bipolar disorder is affirmed. It is necessary to mention that the relation intensity coefficient 0.974 is established with significance level of 0.001 between professional status and bipolar disorder that suggest that there is a very significant relation between profession statuses and bipolar disorder.

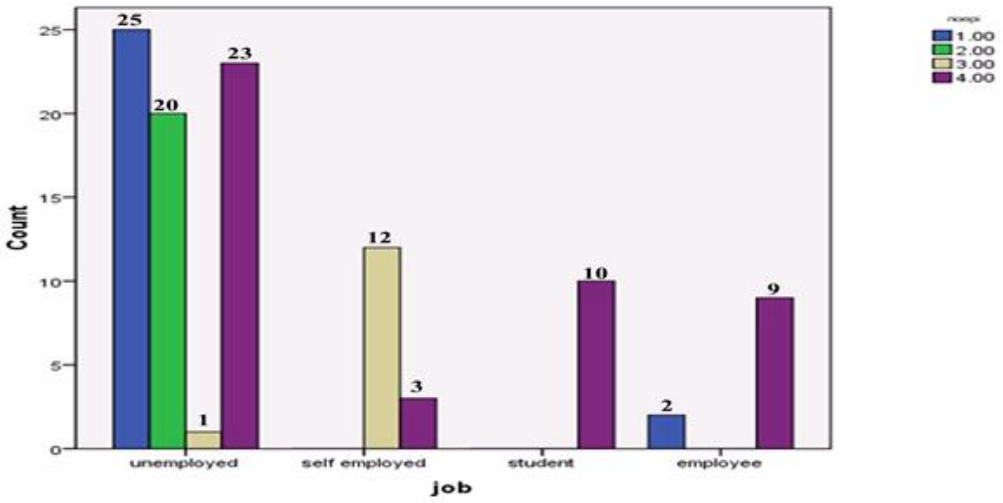

Figure 4: the relation of profession and bipolar disorder

Table-9. The relation between educational degree and bipolar disorder

education \ Bipolar disorder		1	2	3	4	Total
Illiterate and under diploma	Observed	10	14	8	25	57
Diploma and prebachelor	Observed	10	6	5	10	31
Bachelor and higher	Observed	7	0	0	10	17
Total	Observed	27	20	13	45	105

Table-10. Somers' D the relation of education and bipolar disorder

	Value	Asymp. Std. Error	Approx T[b]	Approx. Sig.
Symmetric	-.067	0.094	-0.718	0.473
Somers' D	-.062	0.086	-0.718	0.473
Noepi Dependent	-0.073	0.102	-0.718	0.473

Hypothesis: there is a relationship between education and bipolar disorder.

Based on Somers' D value (-0.062) and significant level 0.473 the null hypothesis is affirmed and the research hypothesis based on relation between education and bipolar disorder is rejected. The relation intensity coefficient 0.340 is established at significance level of 0.059 between education and bipolar disorder and suggest that there is no significant relation between education and bipolar disorder.

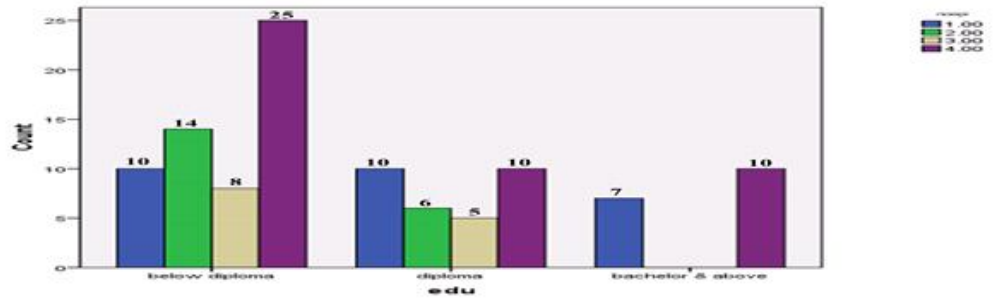

Figure-5. The relation between education and bipolar disorder

Table-11. The relation between socioeconomic status and bipolar disorder

Socioeconomic status \ Bipolar disorder		1	2	3	4	Total
Unsatisfactory	Observed	3	2	6	34	45
	Expected	11.6	8.6	5.6	19.3	45
Average	Observed	3	5	4	5	17
	Expected	4.4	3.2	2.1	7.3	17
appropriate	Observed	21	13	3	6	43
	Expected	11.1	8.2	5.3	18.4	43
Total	Observed	27	20	13	45	105
	Expected	27	20	13	45	105

Table-12. Summary of results of chi-square test (sixth hypothesis)

variables	N	Chi square	Degree of freedom	Cramer's V coefficient	Sig
Socioeconomic support x bipolar disorder	105	47.621	6	0.673	0.001

Hypothesis: there is a relation between socioeconomic status and bipolar disorder.

The value of chi-square (47.621) at degree of freedom of 6 and significance level 0.001 is greater from table value at level 0.01 (16.81). The null hypothesis and research hypotheses based on relation between socioeconomic status and bipolar disorder is confirmed. It is necessary to mentioned that the correlation coefficient of 0.673 with significance level of 0.001 is established between socioeconomic status and bipolar disorder and it suggests the high and significant relation between socioeconomic and bipolar disorder.

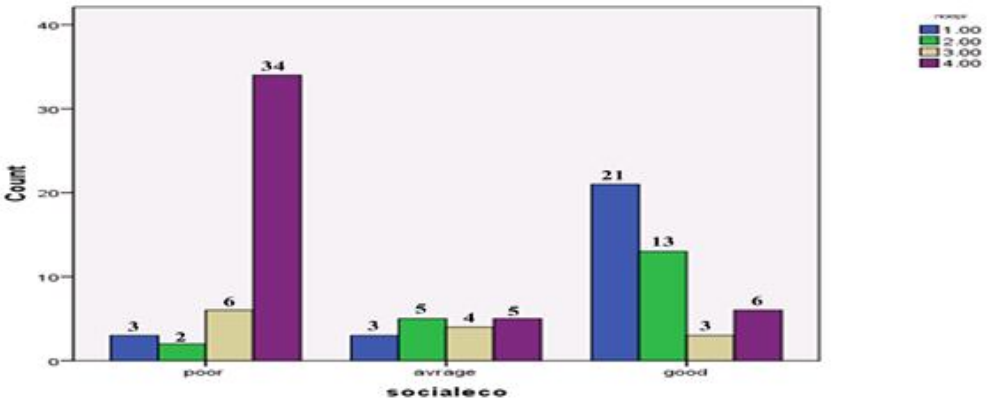

Figure 6: The relation between socioeconomic status and bipolar disorder

Regarding to obtained articles from U.S and other foreign articles and conducted research and the role of demographic factors for example about age factor and its relation with bipolar disorder from 18 to 44 years old according to figure this disorder is increasing percentage and compared with our country statistical data that is carried out in group ages the disorder increase until 29 years old.

- In general whether in U.S or in Iran there is no meaningful relation between age and bipolar disorder and the results of foreign and domestic research in this area was consistent.
- In united stated among three race of Spanish, white and black race, the white race was more prone to the bipolar disorder.
- The research in U.S showed that individuals standing in high school level were more prone to suffer from bipolar disorder. While the statistics in Iran showed that 35.2% of bipolar patients had diploma.
- In terms of clinical symptoms and demographic features among patient of bipolar disorder of manic phase type I, the domestic researches in 2004 indicated:
- Bipolar I disorder is reported more among single and divorced people than married persons and great number of patient was reported as unemployed or out of work. Consistently with these findings this study indicated just 45% of patients as married and 65% of manic patient were unemployed or out of work. In this project, education of 75 percent of patients were under diploma. Maybe low level of education of manic patients was arising from relatively early onset of the disorder or that patient with high educations refrained from getting hospitalized in Tabriz Razi hospital.
- Average of hospitalizing day in women was more than men. Handrick *et al*. (2000) found out that women are hospitalized in manic phase of bipolar I disorder more than men. When Global assessment of functioning is higher during hospitalizing, number of their hospitalizing day is less. This finding indicates that global assessment of function can help in prognosis of disorder procedure and number of hospitalizing days during hospitalizing patients.

In general this study indicates that average of hospitalizing days of mania among women is more than men, maybe it's because the family supports is less for women and the result of this research is consistent with current research.

- Speaking of adolescents educational performance with bipolar I disorder and impact of comorbidity of other psychotic disorders. Alagheband Rad. J *et al.* in 2006 have written an article from Tehran medical Science University that educational failure of bipolar students is almost 1.5 year within a mean period of 2.23±1.8 from onset of the disorder and near 60% of bipolar patients with hospitalization need have at least one year of educational lag. In this study there was no significant difference in educational level amount between bipolar patients without comorbidity and with comorbidity of other disorders and both of groups had the same level of educational failure. In other research the cause of this educational deficiency recognized as deficiency in these patients' cognitive performance (Lagasse 2003). Therefore by accepting this opinion in foreign researches as domestic researches we find out that educational level of bipolar disorder is the diploma and under diploma.
- Speaking of examining demographic features, disease and treatment of patients with first psychoses attack at Taleghani hospital. Dr Fatemeh Khodaeifar and associates in Beheshti medical science university in 2008 researched such:
  In this research number of men war near twice of women and near half of patient were married and most patient used to live with families and this suggests appropriate support of patient from families. The level of employment and work is less in our study that relates to some extent to high level of unemployment in our overall young society or limited number of part time jobs. Comparing this information with information of bipolar II patient hospitalized at Taleqani hospital in 2011, in this study the number of women was 2 % more than number of men and near 40 % of patient were married. Most patients used to live with their families that can bring about a good support from family.
- Speaking of demographic and clinical feature for bipolar disorder patient David J. Kupfer *et al.* in 2002 have studied in such manner; he group was consisted of 2839 participants living in radius of 150 miles of Petersburg. Onset age average on general sample was 28.1. More than 60% are at precollege and 30% finished college and 64% are unemployed. The difference between profession status and income comparing with education level shows sever disorder. While in Iran bipolar disorder onset age average is 20 years and in terms of educational status due to cognitive problems they are mostly at diploma level in domestic research and for the lower education there are unemployed and are consistent with above researches in terms of education.
- Meanwhile in term of professional status: it is indicated that among three groups of student non student and out of work in U.S, the bipolar disorder emerges more among non-student group and in Iran it is observed more among unemployed group.
- Speaking of socioeconomic status: it is a factor that associates with bipolar disorder and a research is carried out in Canada in

this regard concerning the relation between socioeconomic status and bipolar disorder and people benefiting this status showed significant improvement and subsiding the symptoms compared with control group.

Research suggestions :

1- Regarding occupation positive effect on reducing disorder relapse one should attempt to extend job training and art teaching centers for public with lowest cost and some day-center with monthly salary be established by government for youth and old people and retired individuals come back to their professions again.
2- Regarding positive effect of socioeconomic support on reducing bipolar disorder \ symptoms it should be attempted that list of patient be taken from hospitals and other treatment centers, thus in this manner patient can receive some financial aids from benevolent funds, also in terms of spiritual support, social workers can help in this regard.
3- Holding on learning workshops regarding talents of each patient and learning special skills such as office jobs. Management, music, computer, language and so on.

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