Original Article

Prevalence of Major Depressive and Anxiety Disorders in Hemophilic and Major Beta Thalassemic Patients

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Received:25October2011
Accepted:14January2012

Abstract

Background

The purpose of this study was to assess the prevalence of major depressive and anxiety disorders in hemophilic and major beta thalassemic patients related to education of their mothers as a family's agent.

Materials and Methods

A case-control study was performed on 34 major beta thalassemic patients. For each patient the control group was selected and matched (with age and sex). Psychological data, including major depressive disorder and anxiety, were assessed by Beck and Ketel tests, respectively. Demographic data included age, sex and mother's educational level. Statistical analysis was performed by chi-square test, using the SPSS 13.0 software.

Results

A case-control study was performed on 34 major beta thalassemic patients with age 11-38 years old and 32 men hemophilic patients with age 12-55 years old. The prevalence of major depressive disorder and anxiety in thalassemic patients were more than control group, which were significantly further in patients with low level of mother's education. Overall in hemophilic patients, the psychological and demographic data revealed no difference with the control group ($P>0.05$).

Conclusion

This study indicated that the prevalence of major depressive disorder and anxiety were more in major beta-thalassemic patients and it was related with mother's education level, but prevalence of them in hemophilic patients was similar to normal population but further study is needed to confirm these novel observations.

Keywords

Anxiety,Depressive Disorder; Major , Hemophilia A, Hemophilia B, beta-thalassemia

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Introduction

Thalassemia and hemophilia are the most common blood diseases that are transferred congenitally (1, 2). Major thalassemia is a disease lead to severe anemia, and it is necessary for patients to receive blood regularly, so that without it their life is at risk (3). Blood transfusion and also increasing iron intake cause to high iron level in blood and this iron increasing lead to growth retardation, especially sexual growth (4). As well as, need to receive blood regularly, impairing common social activities, especially presence on time at school (5). Anemia development is caused to some symptoms because of chronic hypoxia such as headache, irritability, chest pain, anorexia (4).

Hemophilia is a disease that is transferred by chromosome X (2). This disorder can cause hemarthrosise. Also, bleeding can cause severe pain in joints that decreases life quality of patient (6,9).

Multiple physical problems in thalassemia and hemophilia patients encourage researchers to examine mental specifications of these patients. Different studies have shown psychological disorders is more common in major thalassemia, (1,12) and about 80% of them suffer from at least one mental disorder (13).The reports indicated the most common disorders were imaged of self-disfigurement (1), anxiety (14) and major depressive disorder (15).

In the other hand, environment and social factors, especially family, play important role in improving and decreasing depression and anxiety of these patients (16, 17). Among social factors, mother education plays an effective role in determination of family cultural level. So, this study intended to investigate the prevalence of major depressive and anxiety disorders in thalassemia and hemophilic patients referred to special diseases center in Yazd, as eastern referal center in country, assess the relationship between mother educations, age and gender specifications in appearance of these problems.

Materials and Methods

In this case control-cross sectional study, patients with major thalassemia and hemophilia who referred to special diseases center in Yazd from 2010 to 2012, were investigated. Control groups selected by simple sampling from students of Yazd's schools and matched their age and sex with patients. For each patients group the control group members was selected and matched (for age and sex).

Thalassemic patients were 34 cases, including 17 male and 17 female in two groups (11-14) and (15-38) years old and hemophilic patients were 32 cases that all of them were male and divided into two groups (12-24) and (25-55) years old.

Psychological data including depression and anxiety, respectively and demographic data (age, sex and mother's education level) were assessed by Beck and Ketel tests.

Ketel anxiety test was including 40 questions that 20 of them evaluate hidden anxiety and the 20 other evaluated pathological anxiety and in sum, diagnose total anxiety.

This test was applied by Mansour and Dadsetan in 2007 and its validity was more than 70% in many studies (18).

Beck's depression test is a standard questionnaire, including 21 questions and each of them has 4 items with rank from 0 to 3, and it is determined major depressive disorder degree based on sum of individual rank. The minimum was 0, and maximum was 63. The value lower than 10 shows lack of depression , 10-19 mild , 20-25 moderate and more than 26, severe major depressive disorder.

This study was confirmed by the committee of medical ethic at first and before examination, made effective relation with patients. They were assured these tests were

just for research and to recognize their problems, and then patients participated in this study in self-agreement. After data collecting, results were analyzed by SPSS 13 software and significance levels were defined based on Chi – square test, and it was $\alpha<0.05$.

Results

Patients with major beta-thalassemia were 34 with average age (16.5±5.7) years old and control group were (16.06± 5.1). 32 of hemophilic patients were in average age (25.25± 9.15) years old and control group with (24.87±7.8).

In patients with thalassemia, 6 (17.75%) had mild major depressive disorder, 4(11.8%) severe major depressive disorder and the rest without major depressive disorder. In the control group, just 8 (12.1%) were with mild major depressive disorder and 60 (87.9%) without any major depressive disorder. Anxiety was seen in 14(41.2%) and 14(21.2%) of control.

Major depressive disorder and anxiety showed no significant difference than control group in regard to gender and age ($p>0.05$) (Table I). In patients who their mothers had low education level (Primary school education and lower), there was significant difference in major depressive disorder and anxiety level (Table II). But, in patients with high education level of mother (Guidance school education and higher) There was no significant difference to control group (Tables III).

In patients with hemophilia, 10 (31.3%) had mild major depressive disorder, 6 (18.8%) severe major depressive disorder, 17 (53.1%) anxiety. In control group 24 (37.5%) had mild major depressive disorder, 9 (14.1%) had severe major depressive disorder and 32 (50%) were anxious. The study of anxiety and major depressive disorder symptoms in patients with hemophilia shown in age group (12-24) years old, 5 (27.8%) had mild major depressive disorder, 4 (22.2%) severe major depressive disorder and 8(44/8%) had anxiety but in control group they were 14 (40%), 6 (17.1%), 19 (54.3%) respectively and there isn't significant difference (Pvalue for depression was 0.673 and Pvalue for anxiety was 0.497).

In age group (25- 55) years old, 5 (35.7%) had mild major depressive disorder, 2 (14.3%) severe major depressive disorder and 9 (64.3%) had anxiety. But in control group they were 10 (34.5%), 3 (10.3%), 13 (44.8%) respectively. There isn't significant difference between control and patients (Pvalue for depression was 0.915 and for anxiety was 0.232). Major depressive disorder and anxiety frequency didn't shown significant difference in patients than control group in regard to mothers' education. (Tables IV&V)

Table I: Psychologic disorders related to age and sex

	Men		Women		(11-14)years old		(15-28)years old	
	Patients	**Control**	**Patients**	**Control**	**Patients**	**Control**	**Patients**	**Control**
Severe depression	2(11.8%)	0	2(11.8%)	0	2(10.5%)	0	2(13.3%)	0
Mild depression	2(11.8%)	2(6.7%)	4(23.6%)	6(16.7%)	3(15.8%)	4(8.3%)	3(20%)	5(16.7%)
$\mathbf{P_{depression}}$	0.122		0.08		0.087		0.11	
Anxiety	8(47.1%)	7(23.3%)	6(35.3%)	7(19.4%)	6(31.3%)	6(16.7%)	8(53.3%)	8(26.7%)
$\mathbf{P_{anxiety}}$	0.094		0.211		0.203		0.078	

This table indicated that prevalence of depression and anxiety disorders in patients with thalassemia and their control group had no significant difference related age and sex of them, because all comparisons had Pvalue >0.05 .

Table II: Low education level

	Patients	Control	Pvalue
Severe depression	4(14.8%)	0	0.045
Mild depression	6(22.2%)	3(11.1%)	0.045
Anxiety	13(48.1%)	4(14.8%)	0.008

This table indicated that in thalassemia patients who their mothers had Primary school education and lower, major depressive and anxiety disorders was significantly more than control group, because all comparisons had Pvalue <0.05.

Table III: High education level

	Patients	Control	Pvalue
Severe depression	0	0	1
Mild depression	0	5(12.8%)	1
Anxiety	1(14.3%)	10(25.6%)	1

This table indicated that in thalassemia patients who their mothers had Guidance school education and higher, prevalence of major depressive and anxiety disorders was no significant difference to control group, because all comparisons had Pvalue >0.05.

Table IV: Low education level

	Patients	Control	Pvalue
Severe depression	4(16.7%)	4(14.8%)	0.321
Mild depression	9(37.5%)	6(22.2%)	0.321
Anxiety	13(54.2%)	13(48.1%)	0.668

This table indicated that in hemophilia patients who their mothers had primary school education and lower, prevalence of major depressive and anxiety disorders was no significant difference to control group, because all comparisons had Pvalue >0.05.

Table V:High education level

	Patients	Control	Pvalue
Severe depression	2(25%)	5(13.6%)	0.17
Mild depression	1(12.5%)	18(48.6%)	0.17
Anxiety	4(50%)	19(51.4%)	1

This table indicated that in hemophilia patients who their mothers had Guidance school education and higher, prevalence of major depressive and anxiety disorders was no significant difference to control group, because all comparisons had Pvalue >0.05.

Discussion

Results obtained from the present investigation revealed that the major depressive disorder and anxiety in patients with major beta-thalassemia are more than control group, but there isn't significant difference in hemophilic patients than control. There isn't significant difference in depression and thalassaemia prevalence in regard to age. However, patients with thalassaemia in age group 15-38 had higher major depressive disorder and anxiety than younger ones. Data show that there is a correlation between the level of mother education and the more depression level in patients who their mothers had lower education level than pre secondary. Major depressive disorder and anxiety had significant difference when compared to control group. But, in patients with mothers with high level of education, there isn't significant difference to healthy people. However, Pour Movahed et al (2003) concluded there isn't relation between anxiety level and mother's education (1). Hoseini et al (2007) conducted a study on patients with major beta-thalassemia and concluded that mental disorder in these patients was more common than their counterparts, but its severity and experience is in effect of different factors such as genetic factors, social support and even their treatment programs (10). This study concluded higher prevalence of major depressive disorder and anxiety in mothers with education lower than pre secondary. This is a reason to verify the relationship between social and environment factors in occurrence of these diseases.

Ghafari et al (2003) reported that the major depressive disorder in male patients with major beta-thalassemia, major depressive disorder is more than control group. But in female patients, it was lower than control (15). In this study, major depressive disorder occurrence in both genders was more than control.

Khodaei et al (2005) found similar results, and it represented there was no significant difference in major beta thalassaemia disorder in regard to gender (15).

Pour Movahed et al (2003) founded that anxiety in patients with major beta thalassaemia is more than healthy people (1). They offered different studies to justify these frequencies. Some authors believed patients' knowledge about disease and its effects on different parts of a body can be a reason for increasing anxiety (13). Some think treatment is a factor to increase anxiety and mental disorders (19).

Other researchers considered social centers such as family, school and surrounding environment and other also thought disorders (1, 14, 15). They think; loss of self esteem, humility and vague images about future can increase anxiety level (20).

So, in regard to above results, every reason for major depressive disorder and anxiety can't decrease the importance of mental examination and mental support. Therefore, it is recommended to perform counseling psychology in treatment method.

However, in patients with hemophilia, there isn't any significant difference in anxiety and major depressive disorder in regard to mother education and age than control group. While, according to Ghani Zadeh's study (2008) that performed on hemophilic patients 5- 19 years, anxiety and major depressive disorder was similar to thalassemic patients (21). Canclinic et al (1999) showed that there was no significant difference between hemophilia patients than healthy ones (22). So, these differences

require more studies in future so that reaches to more exact results.

Conclusion

Patients with major beta-thalassemia experience had more anxiety and major depressive disorder than healthy persons, and this is higher in patients whose mothers have low education level. In hemophilic patients, anxiety and major depressive disorder is similar to normal population and, it is not related to mother education.

This work is the result of a dissertation from Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Acknowledgement

We thank Dr. Kermani for his helps in this research.

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