The Relationship between Blood Type A and Anxiety in the Students of Dezful Learning Centers

Seyedeh Zeynab Molaei Zadeh[1], Maryam Molaei Zadeh[1], Fereidon Nirouzad[1], Fatemeh Rastegarpour[*1], Sedigheh Bagheri Kahkesh[2], Mohammad Ali Tosang[1], Zahra Zolfaqarinezhad[1], Abdolmajid Bahreinian[3]

[1]Dezful University of Medical Sciences, Dezful, Iran
[2]Atherosclerosis Research Center, Ahvaz, Iran.
[3] Department of clinical psychology, Shahid Beheshti University of Medical Sciences, Tehran, Iran

ABSTRACT

Introduction: Anxiety is an unpleasant emotion that is expressed by words such as concern, worry, fear, and panic. Some theories have addressed the etiology of anxiety based on physiologic aspect. One of the physiological factors that could explain the anxiety is the blood type of people. According to the most important classifications human blood is divided into four types of AB, B, A and O according to another division it is grouped into positive and negative types. This study was conducted to determine the relationship between blood type and anxiety.
Method: This study was a cross-sectional study conducted in 2012-2014 in treatment center for the University of Dezful. Given the number of centers in each area and the number of clients referring to the centers according to the availability of samples, 200 of them were selected by random probability sampling. After selecting the samples the laboratory expert detected blood groups by Diagnostic reagents and then the psychologist took the Cattell test from the subjects. For descriptive study of the collected data statistical tables and general status data were used and test the hypotheses covariance analysis models were applied.
Findings: The results revealed no significant difference between blood groups in terms of anxiety because in the revealed f value of 2.056 the significance value was 0.106 which was greater than 0.05.
Conclusion: The results of this study indicated that there is no significant difference between blood groups in terms of anxiety; also there is no significant difference between men and women in this regard. And finally blood type in interaction with gender has no significant effect on anxiety.
KEY WORDS: Blood Type A, Anxiety, Students, Learning Centers

INTRODUCTION

Anxiety is an unpleasant excitement which is expressed using the terms such as anxiety, panic and fear. Marks and Lader (1973) consider 6 to 27 percent of anxious in need of treatment and believe that anxiety is more prevalent in women than men. The term anxiety disorder was used in the eighteenth century by the Scottish physician William Cullen for the first time. Anxiety can be defined as an advance concern about the coming danger or misfortune, accompanied by feelings of lack of pleasure or physical symptoms of stress (DSM IV, 1994). Clinical assessment of the symptoms of anxiety found that anxiety occurs at different levels including behavioral, physical, and cognitive communication.

According to the estimates of the World Health Organization, the prevalence of mental disorders in developing countries is increasing (Hosseini, 1999). The organization estimates anxiety at the top of mental disorders with 400 million patients in the world (Hosseini, 1999). Thus, among psychiatric disorders, anxiety disorders are probably the most common disorders. Studies have shown that women are more likely to develop anxiety than men. Although anxiety for many people is a normal and temporary reactions to protect them from potential damage (4) but pathological anxiety is associated with worry, fear, anxiety, intrusive thoughts, physical symptoms and feeling of stress that impair the performance of the individuals (Kaplan and Saduk, 1998, Hernandez, 1998). Anxiety can be divided into two types: balanced or normal anxiety in which the intensity of the reaction is proportional to the amount of risk and this is useful because its makes the person to be successful and avoid risks. Thus a moderate amount of anxiety is required for proper growth and development of the human personality and in fact there is no person who has no anxiety. Severe anxiety is a reaction that is not proportional to the amount of risk, it is combined with conflict and repression and other unusual characteristics and associated with defense symptoms and behaviors.

Corresponding author: Fatemeh Rastegarpour, Dezful University of Medical Sciences, Dezful, Iran

The difference between anxiety and fear is that when we are feared we know what dangers we are facing, but anxiety is often a feeling that exists in a person's unconscious state (1).

It is estimated that mood and anxiety disorders are among the most prevalent mental disorder in the USA and other places of the world (Kessler et al., 2005), although several individual subscales of the disorder are discussed in DSM-IV but anxiety disorders and depression have shared common symptoms and treatment methods. In addition to a lot of overlap with the etiology, they are similar in the treatment method. To be more specific anxiety disorders and depression are associated with changes in brain function (Van Tal et al., 2010). It is still not clear whether the abnormality in the brain have already existed or they are the result of this disorder or whether these the syndrome is reduced following a successful treatment with psychotherapy or with drug treatment or it will be cured. In general in the DSM-IV-TR classification of anxiety and mood disorders (APA, 2000) several disorders such as major depressive disorder and generalized anxiety disorder overlap. These disorders have some common features such as feelings of fear and worry that leads to repetitive and avoidance behavior which is the result of the least use of a part of the brain's fear network, including the thalamus, hippocampus, amygdala and prefrontal cortex (Ledoux, 1998). In the case of anxious patients in an MRI study the researches found specific flaws in the right temporal lobe of the patients suffering from panic (Rezaei, 2008). Locus ceruleus and hem nuclei send their protractions to limbic system and cerebral cortex (Rezaei, 2008). Limbic system in addition to be the entrance of the neuro adrenergic and serotonergic nerves, it has a large concentration of GABA receptors (Rezaei, 2008). A set of brain structures called the fear circuit are activated when people feel anxious or afraid (Malmyza, 2003). The amygdale is a part of the fear circuit that is involved in all anxiety disorders (Thomas et al, 2001). There are a variety of theories explaining fear. Joseph and Levitt (1997) consider anxiety as a state that a person waiting for a danger experiences it. Most theories agree with Long's theory (1968) which considers anxiety as an assumptive state. He believes that anxiety stems from an idea or thought and then it is transferred into feelings and physical exercise the result of which is increased heart rate, sweating and stress. Another group of theories have addressed etiology of anxiety based on psychological dimension. One of the physiological factors that could explain anxiety is the blood type of people. According to the most important classifications blood is classified into the four categories AS,A,B and O and based on another classification it is classified into positive and negative groups. Every human being naturally has one of the four blood groups. For example, a person with blood group A has the antigen A on the red blood cells and makes antibodies against other blood groups in his body. A person with blood type A has B antigen. A person with blood type AB has both A and B antigens and people with blood type O do not have any antigen. Bloos types A, B and O are the groups that show higher reaction against mantal disorders and heart disease (4). Clinical studies have identified a relationship between blood group and mental disorders. Adamo1997 (5) and Whitney 2001 (6) in their first studies concluded that blood is one of the most important factors that determines the mood. Furukawa (1927) in his first study on blood type and personality concluded that human blood is one of the most important determinants of his mood. He believed that the blood group type O and B are active, aggressive, progressive and positive while the blood group type A and AB are conservative, passive, defensive, negative (7). Also Furukawa 1930 showed that the majority of people with blood group O have features such as: warm, optimistic, sociable and willing and phlegmatic, he also found that people with blood group A are melancholic, shy, popular, conservative concerned, and effective, people with blood group B are frank, light-hearted, happy and sociable, reliable and accurate and people with blood group AB have a contradictory moods and it is hard to discuss about them (9). This study is designed to determine the relationship between these two variables, i.e. anxiety and blood group. Although research in this regard is limited and there are few related sources but the sources indicate that blood groups O and A are significantly different in terms of anxiety (A has higher anxiety) and both groups are different from the two other groups in turn (8). This study sought to examine the relationship between blood groups and anxiety.

METHOD

This research is a descriptive – cross sectional study that has been conducted in 2013-2014 in Dezful Health Center. The research population includes all student referred to the centers under study. In the first stage of sampling after determining all health and educational centers affiliated Dezful University of Medical Sciences, based on the number of centers in each area and the average number of the clients, 200 of them were selected randomly based on the availability of the samples (mean age 23.95) using non-probability sampling method. After selecting the samples the medical laboratory expert detected the blood groups then the psychologist gives the Cattell test to the subject which is composed of 40 questions. The first 20 items assess the covered anxiety and the second 20 items assess the manifest anxiety (16). In order to observe research ethics all participants were assured about their information's confidentiality. For descriptive study of collected data the statistical tables and general status data was used and to test the hypotheses the covariance analysis model was used.

Research Tools:

The research tools were the Cattell Anxiety Inventory along with demographic characteristics inventory.

Cattell Anxiety Inventory:

This test has 187 items designed to assess the participants' anxiety and has two components of covert and manifest anxiety. In Iran Barzegar (1996) has normalized this questionnaire with 910 male and female second and third year high school students in Shiraz. The mean test-retest reliability coefficient by test interval of two weeks was reported as 0.65, by test interval of three months was reported to be 0.52 and by Cronbach's Alpha method was reported to be 0.54 which are consistent with the coefficients reported by other studies (Asghari, 2001).

In foreign studies Cattell Inventory reliability is calculated in several ways, all of which demonstrated high reliability of this questionnaire. For example, the test-retest coefficient of reliability of the Inventory with two week interval about the Canadian and American subjects was as follows:

A=0.86 ، 0.58 و 0.51 , B=0.79، 0.78 , C=0.83 ، 0.79 , E=0.83 ، 0.79 ,,F=0.90، 0.81 , G=0.81 ، 0.79 و H=0.92 ، 0.77 و I=0.90، 0.75 و L=0.78 ، 0.70 ,M=0.75 ، 0.61 , N=0.77 ، 0.79 O=0.83 ، 0.73 0.82و=Q1 ، 0.73 , Q2=0.85 ، 0.62 ,, Q3=0.80 ، 0.62 , Q4=0.80 (Institute of capabilities measurement, 1986, quoted by Akbari, 1999).

Internal consistency reliability coefficient PF16 is obtained with the value of 0.66-0.86 with the mean 0.75 from the general population and from the college studentsand the test retest reliability with two weeks interval was obtained as 0.69-0.87 and with two months interval 0.56-0.79 (one week 0.78, six months 0.66, one year 0.59 and six years 0.48) by Schurger (1992).

Cattell Anxiety Inventory (1975) validity is confirmed and the validity is high. Also the cross-cultural studies in Western Europe, Eastern Europe, the Middle East, Australia and Canada have confirmed its validity (Cattell et al., 1975). For data analysis the mean, standard deviation, and ANOVA test as well as spss software version 18 were used.

RESULTS

The results of this study

Among 194 questionnaires that have specified their gender 142 subjects are female and 52 subjects are male.

The results in the above table represent the mean blood groups in the depression variable. The results show that among blood groups there is no significant difference in anxiety because the in the f level of 2.065 the observed level of significance is 0.106 which is higher than 0.05. There is no significant difference of the level of anxiety between two groups of men and women because in the f level of 0.64 the observed level of significance is 0.52 which is higher than 0.05. Also the blood group in correlation with gender does not affect anxiety because in the f level of 2.24 the observed level of significance is 0.08 which is higher than 0.05. Also the effect of gender on anxiety is not significant and the effect of gender and blood group as a whole is not significant. So the impact of gender and blood group together and in interaction with each other is not significant on the subjects (Table 1).

Table 1: Variance analysis for comparison of mean blood groups against anxiety variable

The source of changes	Total square error	Degrees of freedom	The mean square error	F Statistics	P_Value
Blood group	917.5	3	305.8	2.065	0.106
Within groups	28282.7	191	148.0		
Total	29200.2	194			

The results of the above table indicate the mean blood groups differences based on depression variable. The analyses indicate that there is no significant difference in anxiety between blood groups because the f level of 2.065 the observed level of significance is 0.106 which is higher than 0.05. Therefore the researcher's hypothesis based on the significance of difference between the means is not confirmed so the blood groups have no effect on anxiety.

Table 2: Independent t to compare the average male and female anxiety

		t statistics	Degree of freedom	P_Value
Anxiety	the equality of variances hypothesis	0.642	192	0.522
	the lack of equality of variances hypothesis	0.639	90.112	0.524

The results of the above table indicate the average difference between men and women in anxiety level. The analyses indicate that there is no significant difference in anxiety between men and women because in the f level of 0.64 the observed level of significance is 0.52 which is higher than 0.05. Therefore the researcher's hypothesis based

on the significance of difference between the means is not confirmed so the subject's gender has no effect on anxiety.

Variance analysis for assessing the effectiveness of gender and blood group on the subjects' anxiety

The source of changes	Total square error	Degree of freedom	The mean square error	F statistics	P_Value
Blood group	1004.7	3	334.9	2.24	0.08
Gender	248.0	1	248.0	1.66	0.19
Blood group *Gender	271.3	3	90.4	0.60	0.61
Error	27738.1	186	149.1		
Total	269204.0	194			

The obtained results indicate the simultaneous effectiveness of gender and blood groups on subjects' anxiety. According to the results blood group in interaction with gender has no significant effect on anxiety because in the f level of 2.24 the observed level of significance is 0.08 which is higher than 0.01. Also the effect of gender on anxiety is not significant and the effect of the correlation between gender and blood group is not significant on each other because in the f level of 0.60 the observed level of significance is 0.61 which is higher than 0.51. So the impact of gender and blood group together and interact with each other is not significant on the anxiety of the subjects.

CONCLUSION

The results of this study showed that there is no significant difference between blood groups in terms of anxiety also the mean obtained by the mean male and female groups has no significant difference in terms of anxiety. Finally the blood group in interaction with gender has no significant effect on the level of anxiety. The results of this study are in line with the studies in which Furukawa 1927 in its first study on blood type and personality concluded that human blood is one of the most important determinants of his mood. He believed that the blood group type O and B are active, aggressive, progressive and positive while the blood group type A and AB are conservative, passive, defensive, negative (7). Also Furukawa 1930 showed that the majority of people with blood group O have features such as: warm, optimistic, sociable and willing and phlegmatic, he also found that people with blood group A are melancholic, shy, popular, conservative concerned, and effective, people with blood group B are frank, light-hearted, happy and sociable, reliable and accurate and people with blood group AB have a contradictory moods and it is hard to discuss about them (9). In line with these results Thompson1936 (3) using High School Personality Questionnaire, Form A and Cattell Inventory found that there is no relationship between blood group and intelligence, emotions, idiosyncrasies or character (10).

The results of Cattell, Boutourline and Hundleby1964 showed that respondents with blood group A are more tender-minded than those with blood group AB, B, O. However the number of participants has not been reported and the frequency of blood groups are unequal (11). Cattle et al found that blood group O and A are significantly different from each other in anxiety (A was higher) and both blood groups are significantly different from the other two groups.

Eysenck(1982) analyzed the studies conducted on blood type and personality tests in more than 20 countries in relation to personality differences and genetic factors and found that anxiety levels and OCD of patients differ in terms of the people with blood type B. he also found that introversion is related to the AB blood group(8). Lester and Gatto 1987 (6) have reported three studies of the relationship between extroversion and blood group while people with blood type B were more neurotic and people with blood type A and B had higher introversion. Angst and Groeli found that AB blood groups were neurotic and A and B blood groups had higher introversion (12). Maurer found that the group A was emotionally vulnerable and group AB were open and extroverted. The findings of blood group AB are in contrast with the results reported by Angst and Groeli 1974 (7).

Whitney (1) and Adamo 2001 summarized blood groups as: O: extrovert,: introverted, B: independent, AB: intuitive. (6)

Furukawa (1927) found the blood group B active, while in another study Furukawa (1930) showed that group B was light-hearted, happy and sociable, reliable and accurate. Lester and Gatto (1987) considered the blood group B introverted. The findings related to group O were constant which indicated that they are active, optimistic, sociable and extroverted. Cattle et al. two calculations was possible using Howell (1997, p. 333) which provided the value 29% and indicated a low to moderate effect on the tender-mindedness of blood group A. This was for f value and significance level (F = 6.64, P > 1 0/0) which compared with other studies frequently. The findings of these restricted studies indicate that the relationship between the blood group and personality has reached its lowest effect (14). This was also confirmed by Cramer and Imaike. A few conducted studies on blood group and various

personality dimensions provide fragile concept. The various and weak methods of conducted studies make conducting a formal meta-analysis impossible. (15)

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