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BLOOD TYPE AND LEVEL OF ANXIETY AMONG ENGINEERING STUDENTS

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Abstract

The objective of this study examines the relationship between blood type and anxiety level of engineering students. There were 200 students, for bachelor degrees of engineering as sample selected through random sampling technique. Blood group 'A' 100 and Blood group 'B' 100 students selected for this study. Beck Anxiety Scale were used as assessment tools for data collection. Data was analyzed using mean, standard deviation, T-test and regression analysis. The finding of this study indicates that student's blood group is not important for level of anxiety among engineering students.

Key words: Types of Blood, Anxiety, Students and Engineering.

1. Introduction

A blood group is a classification of blood based on the presence or absence of inherited antigenic substances on the surface of red blood cells (RBCs). These antigens may be proteins, carbohydrates, glycoproteins, or glycolipids, depending on the blood group system. Some of these antigens are also present on the surface of other types of cells of various tissues. Several of these red blood cell surface antigens can stem from one allele (or an alternative version of a gene) and collectively form a blood group system (Maton, 1993). Blood types are inherited and represent contributions from both parents. A total of 35 human blood group systems are now recognized by the International Society of Blood Transfusion (ISBT). The two most important ones are ABO and the RhD antigen; they determine someone's blood type (A, B, AB and O, with +, - or Null denoting RhD status). Many pregnant women carry a fetus with a blood type which is

different from their own, which is not a problem. What can matter is whether the baby is RhD positive or negative. Mothers who are RhD- and carry a RhD+ baby can form antibodies against fetal RBCs. Sometimes these maternal antibodies are IgG, a small immunoglobulin, which can cross the placenta and cause hemolysis of fetal RBCs, which in turn can lead to hemolytic disease of the newborn called erythroblastosis fetalis, an illness of low fetal blood counts that ranges from mild to severe. Sometimes this is lethal for the fetus; in these cases it is called hydrops fetalis (E.A. Letsky; I. Leck; J.M. Bowman, 2000).

ABO Blood Group System: The ABO system is the most important blood-group system in human-blood transfusion. The associated anti-A and anti-B antibodies are usually immunoglobulin M, abbreviated IgM, antibodies. ABO IgM antibodies are produced in the first years of life by sensitization to environmental substances such as food, bacteria, and viruses. The original terminology used by Dr. Karl Landsteiner in 1901 for the classification is A/B/C; in later publications "C" became "O". "O" is often called 0 (zero, or null) in other languages.

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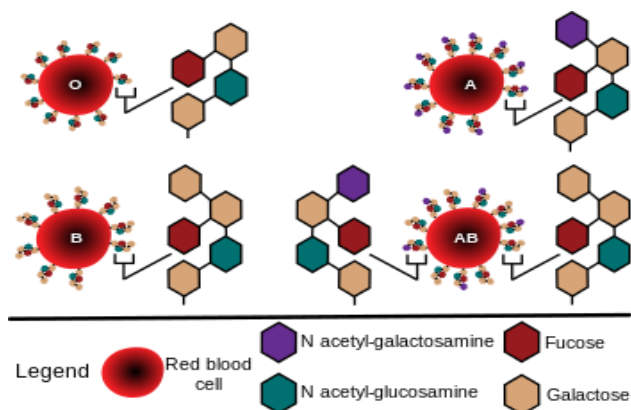
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Phenotype	Genotype
A	AA or AO
B	BB or BO
AB	AB
O	OO

Diagram: -Carbohydrate chains that determine the ABO blood group

Anxiety: Anxiety is a normal reaction to certain situations. A small level of anxiety is normal, but severe anxiety can be a serious problem. Academic anxiety can become more detrimental over time. As a student's academic performance suffers, the anxiety level related to certain academic tasks increases (Huberty, 2012). Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. Anxiety can also produce physical symptoms, including trembling, dizziness, shortness of breath and a racing heartbeat. In fact, people sometimes mistake a panic attack for a heart attack. It is also harm your health. Phobias about needles, blood or dentists, for example, may prevent people from getting the medical or dental care they need. Phobias can also be a problem for individuals with diabetes or multiple sclerosis who can't bring themselves to perform self-injections. Student anxiety has long been a topic of discussion amongst researchers. Some research from the 1950s indicates a negative correlation between

anxiety and academic performance and other research that did not support that correlation. The researcher worked with students at Brigham Young University to test the hypothesis that honors students with high academic ability have less anxiety than honors students with lower academic ability (Robinson, 1966). Anxiety has been linked to poor academic performance. High levels of academic anxiety can negatively affect working memory (Owens, Stevenson, Hadwin, & Norgate, 2012).

2. Review of Literature

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. (Cattell, Boutourline and Hundleby, 1964). 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. Lester and Gatto 1987 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. Maurer found that the groups 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. Most teachers will have students with social anxiety and/or academic anxiety. Social anxiety can also affect a student's academic performance. If a student has social anxiety, the student might not be able to complete group tasks or might not feel comfortable asking for help in class. Social anxiety can go along with or even lead to academic anxiety. Teaching student's self-regulation can reduce anxiety and increase academic performance (Ader&Erktin, 2010).



Statement of the Problem

Researcher proposes the problem, which is related to the engineering students. The statement of problem is- "Blood type and level of anxiety among engineering students".

3. Objectives

The present study is an investigation the difference between blood group and level of anxiety among engineering students.

- To study the blood groups 'A' students level of anxiety.
- To study the blood groups 'B' students level of anxiety.

4. Hypotheses

The following research hypotheses will be tested in the present study:

- There is no significant difference between the levels of anxiety among various blood groups engineering students.

5. Methodology

Sample

The sample of 200 engineering students will be selected out of 250 through random sampling technique, aged between 18-20 years. (Blood group A-100 and Blood group B-100 Total- 200) Participants selected for various engineering colleges form Ahmednagar district.

Assessment tool

Beck Anxiety Inventory: -The Beck Anxiety Inventory (BAI) is a questionnaire of twenty-one items implied to measure anxiety among participants. Each question has a set of four possible answers. These are; not at all (0), mildly (1), moderately (2), severely (3). The BAI has a maximum score of 63.

Statistical methods of data analysis

Data was analyzed by statistic tests such as mean, standard deviation and 't' test analysis.

Table – 1: Mean, Standard Deviation and t values for blood group 'A' and blood group 'B' Students on level of anxiety (n=200)

Variable	Blood group A Students (n=100)		Blood group B Students (n=100)		N	df	t	Level of Significance
	Mean	SD	Mean	SD				
Anxiety	39.28	9.32	37.41	11.22	200	198	1.48	Non-Significant

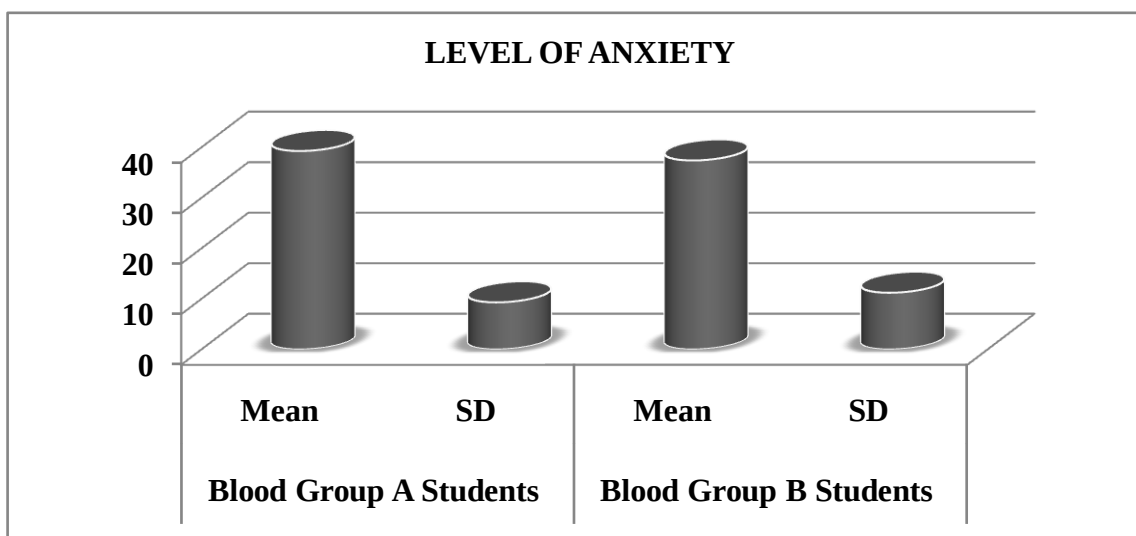


Chart: Mean and Standard Deviation for blood group 'A' and blood group 'B' Students on level of anxiety



6. Research Finding

In this study following result were found:

Above table - 1 show mean standard deviation and t-values for blood group 'A' and blood group 'B' Students on level of anxiety. Finding indicates that students anxiety has non-significant mean value [$t(198) = 1.48, p > .05$]. It also indicates that mean value of anxiety in blood group 'A' students ($M = 39.28, p > .05$) is greater than blood group 'B' students ($M = 36.71, p > .05$). Non-significant result of anxiety shows that blood groups differences of having anxiety are not too much and so non-significant.

7. Conclusion

The finding of this study indicates that student's blood group is not important for level of anxiety among engineering students. Therefore, it is observed in the present research that, engineering students are having higher anxiety level in the study.

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