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**Short Communication** 

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# Blood Group System Connection with Depression

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## Abstract

We checked the blood groups of subjects and after identifying them made their connection with the depression. The objective of present study was to interlink the blood grouping with depression. A total of 159 subjects took part in it. It was concluded from the present study that the original findings are that the blood group B+ (males and females) have higher depression while blood group type AB- (males and females) have the lower depression overall.

Keywords: Depression; AB-; B+; Blood grouping

## Introduction

Blood grouping is basically the categorization of blood on the basis of presence or absence of certain antibodies and antigens on the surface of blood cells. These blood types are transferred from one generation to the next one and there are over 36 known blood group systems. The two most important are as follows: The ABO blood group system [1], The Rh blood group system [2]. This system consists of 4 groups regarding antigen nature of blood of humans. These groups are as follows: The A blood group will have the antigen A with the respective antibody B on it. These persons can receive blood only from group A and O and can donate blood to type AB and A. The B blood group will have the antigen B with the antibody A. These persons can receive blood from the groups B or O and can donate blood to the groups of B or AB. The AB blood group will have antigen AB but no antibodies on them. These persons can receive blood from any blood type because of no antibody production but cannot donate blood to any group other than AB. They are known as universal recipients. The blood group O will have both the antibodies on it. These individuals can receive blood only from a O blood type person but they can donate blood to all other blood types of ABO system. They are known as universal donors. The Rh blood group system: The Rh (Rhesus) blood grouping system is the second most important blood grouping system in humans. It is based on the presence or absence of Rh factor on the surface of red blood cells. A person who is positive will have the antigen and the Rh factor present. A person who is negative will have the antigen and the Rh factor absent. On the basis of this there is characterization of blood groups which is as follows A+ive and A-ive, B+ive and B-ive, AB+ive and AB-ive, O+ive and O-ive.

Depression is the common illness that negatively affects the way of person's thinking and the way of acting. It mainly causes feelings of sadness, loss of interests in hobbies and the negative thoughts about every situation. It may be explained as the loss of hope in life and feeling anxious about future or whatever the person is going through in life all the time. The other factors of depression include the use of drugs, alcohol and hormonal changes happening in body due to these factors also lead to depression. The giving up of smoking also lead to depression for some people because they no longer have a mood changer as depression is the severe changing of mood from good to bad even harsh. The average span of depression is about hours to 4-8 months. This time span may be shortened with the help of treatments. The major treatments of depression include the intake of anti-depressants, regular exercise, lifestyle changing, good company, talking about the problems which are irritating you with the friends or the family members, praying properly, admiring yourself etc. There are some types of the depression also on the basis of state or degree of depression. It affects the patterns of suffered person's sleeping, eating, working etc. They feel like scared, antisocial, judged, alone, tired, bored etc. Much of the young population is suffering from depression.

The objective of present study was to link the blood grouping with the depression.

## Materials and Method

## **Blood grouping**

For checking the blood group of any person, we took blood from his/her body. Sterilize fingertip by alcohol wipes then we took blood from fingertip by pricking it with needle. Blood is checked against three types of antibodies in test tube against Antibodies A, Antibodies B and anti-Rh serum. Agglutination tells about the type of Blood group of that sample. Put blood sample in test tube then add antibodies in it and check it against antibodies. After adding antibodies to blood sample wait for few while to observe clot formation. If blood cells clot it means blood cells reacted with one of the antibodies. If blood cells do not clot on antibodies A or Antibodies B then it is blood group O, if it clots on both antibodies A and B then Blood group is AB. If blood cells clot against Antibodies A then it is Blood Group B and if blood cells clot against Antibodies B, then it is Blood Group A. After this positivity or negativity of blood sample is checked against anti-Rh serum. Drop anti-Rh serum on blood sample if blood cells clot on Rh antibodies then blood type is positive and if do not clot then it is negative blood type such as A negative or A positive blood group.

## Project designing

Consent was taken from the subjects that whether we can check their blood groups to connect them with the depression, after that we checked the blood groups and combine the data by making questionnaire that they are suffering from depression or not. A total of 159 subjects took part in this project. An inclusion criterion for the project was that the subjects were students of Bahauddin Zakariya University, Multan, Punjab and Pakistan.

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## Statistical analysis

Statistical analysis was performed by using MS-Excel.

## **Results and Discussion**

We access the presence of depression by asking the subjects if they are suffering from depression or not. Blood group system connection with the depression is given in Table 1. Questionnaire based studies have given an important revolution in recent researches [3-10].

Blood groups	Males and Females Yes	Males and Females No
B+	14.5%	23.8%
A-	1.2%	0.0%
B-	1.2%	1.2%
AB+	4.35%	2.4%
AB-	0.0%	0.6%
O+	11.8%	16.9%
0-	3.1%	3.1%

Table 1: The connection of depression and blood groups shown.

## Conclusion

It was concluded from the present study that the original findings are that the blood group B<sup>+</sup> individuals (males and females) have higher depression while blood group type O<sup>+</sup> and B<sup>+</sup> have lower depression in individuals (males and females) collectively.

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