

Original Article

## Does blood group affect people taking swimming as a hobby?

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### ABSTRACT

Objective of the present study was to co-relate blood grouping with the choice of taking swimming as a hobby. A total of 173 subjects participated in the present study. The subjects were the students of Bahauddin Zakariya University Multan, Pakistan. Blood group systems are the classification of the blood groups on the base of presence or absence of antigens on the surface of RBCs. Antigens can be A, B, AB and if no antigen is present, blood type will be O. These blood types can determine the physical nature of the subjects that which blood type people are likely to choose swimming as a hobby. It was concluded from the present study that A- blood type subjects are more likely to choose swimming as a hobby and B+ are least likely to take swimming as a hobby.

## 1. INTRODUCTION

### 1.1 Blood group system

Blood group systems are classification of blood on the base of presence and absence of antigens on the surface of red blood cells. "An antigen is a molecule that can stimulate an immune response". Antigen can be in the form of proteins or particles like glycoproteins or glycolipids on the surface of red blood cells. There are over 33 blood group systems that have identified by far now. They consist of different types of antigens coating the red blood cells or the presence or absence of them. ABO blood group system is the most common type of blood group system. Its antigens are in the form of glycoproteins that cover the red blood cells. They are classified on the base that which type of glycoprotein is present. A blood group (A oligosaccharide is present). B blood group (B oligosaccharide is present). AB blood group (both are present). O blood group (neither A nor B is present, precursor H oligosaccharide is present) [1]. These blood types can be positive or negative on the base of presence or absence of antigens. After ABO system, Rhesus blood group system is the second most common

type of blood group system. They consist of approximately 50 antigens. The surface of red blood cells may or may not contain the Rh factor or the D antigen. D antigen is immunoglobulin in nature and can cross the placenta so if mother and the fetus have opposite blood groups then immunization is given to the mother. Rh+ (If D antigen is present on the surface of red blood cells). Rh- (If D antigen is not present at the surface of red blood cells) [2]. MNS blood group system is based on two genes that are Glycophorin A and Glycophorin B. This system is controlled by chromosome no 4 and a pair of co-dominant alleles LM and LN. Their antibodies are also present correspondingly [3]. There are many other types of blood group systems that are less common. These includes Kell system, Duffy system, Lutheran system, Kidd system, P system, Lewis system any may others. These blood group systems have many importance. The carbohydrate and protein structures of antigens play their functions. Some of the protein antigens function as membrane transporters. Many antigens are controlling the ligand receptor binding and enzymatic activity etc. These blood group systems are used for the characterization of individuals according to their blood groups mostly ABO system.

## 1.2 Swimming as a hobby

Swimming is a healthy form of exercise. It is a great way to enjoy and get fitness. Swimming can be an activity of young babies to old ones. Swimming strengthens the muscles, relieve stress and improves the stamina or fitness. It is also good for fat and cholesterol levels, blood pressure and circulation. Swimming is also beneficial for our mind and spirit. It is a mind refreshing activity which boosts up the energy levels. By regular swimming, one can burn his fats. It can burn approximately 3 calories a mile per pound of body weight. It is also beneficial for pregnant women and the people which are recovering from surgical treatments. Swimming suit and goggles are very helpful for a swimmer. There are some artificial or public swimming pools which can be used for your swimming sessions. One can learn swimming from the official swimming centers where professional teachers teach you how to swim. Rest houses and schools have also swimming pools. Swimmers can build a pool in their own house which will be good for them. So, swimming is one of the best hobbies one can have and it is the best and low impact exercise which is beneficial in every aspect and at any age. Objective of the present study was to co-relate blood grouping with the choice of taking swimming as a hobby.

## 2. MATERIALS AND METHOD

A total of 173 subjects participated in the present study. The subjects were the students of Bahauddin Zakariya University Multan, Pakistan.

### 2.1 Blood grouping

Blood grouping testing was used to predict that whether the subjects have A, B, AB or O blood type. We took the blood samples of subjects with the syringe injection and labelled the samples with their names on it. Then we checked them one by one by taking a glass slide and put three drops of blood on it. Then, we put A antibody serum on first drop of blood, B antibody serum on second drop of blood and D antibody serum on the third drop of blood. Then each of them was mixed separately with a toothpick. Then, depending on the blood group of the respective subject, agglutination appeared. When agglutination appeared in A and in +/- or in third blood spot containing D antibody serum, that indicated that the subject has blood type A+. When agglutination appeared in A and not in B and D, that indicated that the blood type of that subject is A-. When agglutination appeared in B and D, this indicated that blood type is B+. When agglutination appeared in B and not in D, that indicated blood type B-. When agglutination occurred in all A, B and D that indicated AB+ blood type. When agglutination appeared in both A and B but not in D, that indicated AB- blood type. When agglutination did not appear in both A and B, that indicated blood type O+. When agglutination did not appear in any of them, that indicated blood type O-. The procedure is repeated for blood sample of every subject one by one and indicated their blood typed and noted it.

## 2.2 Project designing

All the information is collected and we took consent from the subjects that how blood group does affects taking swimming as a hobby? And if they have swimming as a hobby or not? I asked them their blood groups. Then I took their blood samples and checked their blood groups personally.

## 2.3 Statistical analysis

Statistical analysis was performed by using Microsoft Excel.

## 3. RESULTS AND DISCUSSION

Does blood group affect people taking swimming as a hobby? Figure 1 shows that how many subjects out of total 173 have swimming as a hobby. For A+ subjects, 16.13% take swimming as hobby and 83.9 do not. For A- blood type, 50% take swimming as a hobby and 50% do not. For blood type B+, 5.1% said YES and 94.9% said NO. For B- blood type subjects, 60% said NO and 40% said YES. In case of O+ subjects, 88.8 said NO and 11.2 said YES. In case of O- subjects, 100% subjects said NO. In case of AB+ subjects, 72.8 said NO and 27.2% said YES. In case of AB-, all the subjects said NO, 100% subjects said NO, that they do not take swimming as a hobby.

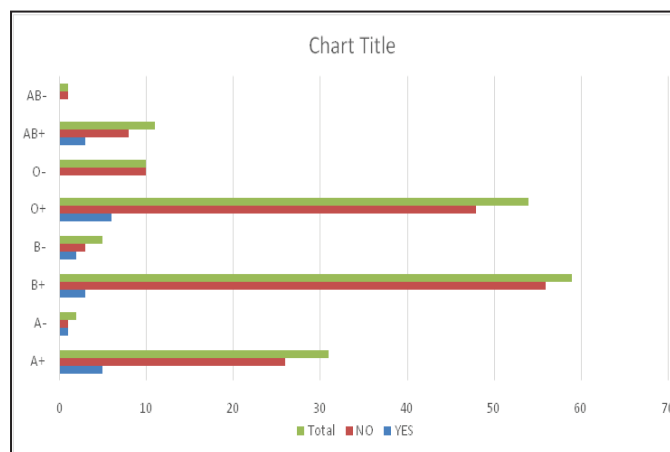


Fig. 1. Relation of blood group with choice of taking swimming as a hobby

Questionnaire based studies have given an important advancement in the recent researches [4-10]. There are some other researches which relate blood group with character and nature of the people and the choice of their hobbies. Swimming is a hobby and an exercise. So, A- blood type people are more likely and B+ are least likely to take swimming as a hobby.

## 4. CONCLUSION

It was concluded from the present study that A- blood type people are more likely to take swimming as a hobby. And B+ blood type people are least likely to take swimming as a hobby.

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