

1. Title of the practice:- Blood group determination test among students and faculties of Remuna Degree College by Department of Zoology.

2. Goals and Objective:-

- a) Major objective is to determine the blood group of individual students as well as faculties of the college.
- b) To determine the blood groups which plays a vital role in transfusion safety, understanding genetics, inheritance pattern & disease susceptibility.
- c) To study the frequency of different blood groups among the students and faculties so as to prepare a data base for the blood bank of this institution & also to create awareness for blood donation.
- d) The study also demonstrate the relationship between antigen and antibodies present in ABO Blood type.
- e) To determine the presence or absence of Rh antigen in blood, which will help to explore and predict the blood types that are compatible for blood donations, transfusion and haemolytic diseases.

3. The context:-

All human populations share some blood group systems although they differ in frequencies of specific types. Blood is a man's complete and unchangeable identity. There are several blood group systems and most important one among these is the ABO system. In the ABO system individuals fall under major blood groups according to the type of agglutinogens (antigens) & agglutinins (antibodies) present. The antigens are located on the surface of red blood cells & antibodies are in the blood plasma, produced by B-lymphocytes.

The Rh system is one of the most complex blood group systems known in humans. Rh antigens are highly immunogenic. According to the ABO and Rh blood grouping systems, an individual can belong to either of the following 8 blood groups: A Rh+, A Rh-, B Rh+, B Rh-, O Rh+, O Rh-, AB Rh+, AB Rh-. The blood grouping was done by the zoology department faculties, and voluntarily, departmental students also actively participated in it to validate the survey. The blood typing is done in laboratories by slide test method. The knowledge of distribution of ABO and Rh blood groups among the students is helpful in the effective management of blood banks and safe blood transfusion services. It helps students to acquire knowledge about basic components of the ABO blood group system. It helps students to develop knowledge for clinical studies and it helps a lot in reducing maternal mortality rate, as access to safe and sufficient supply of blood which will help significantly in reducing preventable deaths. Knowing the blood groups will help the students to minimize the risk factor during disease such as erythroblastosis and also miss donating the blood to the patient or miss receiving. This study focuses on the frequency and determination of ABO and Rh blood group patterns among students and faculties of Remuna Degree College, Balasore.

4. The Practice:-

The study was conducted in the department of zoology at Remuna Degree College, from 14th February 2020 to 13th March 2020. All the students of zoology department (1st year, 2nd year, 3rd year) along with faculties of the college were included in the study, the blood group determination was conducted daily for two days per week with 10 samples in one day. A total of 100 students of the zoology department participated in this survey practice. Blood group was determined on the basis of agglutination reaction in the zoology laboratory by conventional glass slide method. Blood samples were collected by finger

prick with a sterile needle, after cleaning the puncture site with 70% ethyl alcohol. A drop of antisera, anti A, anti B, anti D was placed on glass slides. A drop of blood from each student was mixed with each antisera individually with the help of separate glass rods. Blood groups were then observed and determined on the basis on the basis of agglutination.

5. Evidence of the success:-

The distribution of ABO blood groups in students are recorded. The results revealed that blood group B was predominant among the students in order of B+ > O+ > A+ > AB+. The frequency of ABO blood group among the students of zoology department was recorded out of 100 samples. The distribution in type B+ = 34%, type O+ = 30%, type A+ = 23%, type AB+ = 9%, type B- = 2%, type O- = 2%.

The frequency of ABO blood type in both the gender (male and female) were illustrated in the table given below. Out of 41 male sample, the percentage of respective blood group was recorded. Out of 59 female sample, the percentage of respective blood group was recorded.

	BLOOD GROUP	TOTAL MALE = 41	TOTAL FEMALE = 59
1.	A+	12%	30.5%
2.	B+	26.8%	38.9%
3.	B-	2.4%	1.69%
4.	AB+	17%	3.3%
5.	O+	39%	23.7%
6.	O-	2.4%	1.69%

Out of 10 sample collected from faculties, the most predominant blood group was recorded with B+. Many students voluntarily participated and also got knowledge about inheritance pattern, antibodies and antigen interaction and Rh factors and about safe blood transfusion.

BLOOD GROUP DETERMINATION AMONG STUDENTS OF THE DEPARTMENT

BLOOD GROUP	1 ST YEAR (35 Students)			2 ND YEAR (31 Students)			3 RD YEAR (34 Students)			TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	
A+	01	06	07	04	06	10	-	06	06	23
A-	-	-	-	-	-	-	-	-	-	nil
B+	05	08	13	03	08	11	03	07	10	34
B-	-	01	01	01	-	01	-	-	-	02
AB+	05	-	05	01	-	01	01	02	03	09
AB-	-	-	-	-	-	-	-	-	-	nil
O+	06	02	08	04	03	07	06	09	15	30
O-	-	01	01	01	-	01	-	-	-	02
B+ > O+ > A+ AB+										TOTAL STUDENTS = 100

6. Problems Encountered and Resources Required :-

- a) The major obstacle faced during survey practice was lack of interest among some students for active participation due to lack of knowledge and fear of blood typing process.
- b) Improvement in the lab facility with proper pathological set up is required for better conduct of the practice.
- c) Problems were encountered during disposal of use needles and other used material during the conduct of practice.

7. Contact Details :-

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