

A preliminary study of blood groups among students in bayelsa state.

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ABSTRACT: Ensuring the availability of safe blood products is an essential public health responsibility. However, myths/fear associated with blood donation in Nigeria has been an uphill task for the health sector in developing reliable and standard blood banks. The aim of the study is to seek for methods to improve recruitment and retention of adequate, voluntary, non-remunerated safe blood donors within the Niger Delta region. This is a prospective study in which the ABO and Rhesus blood group systems were determined for a cross section of students in the Niger Delta University, Amassoma, Bayelsa state. A total of 72 students were analysed. 34 males (47.2%) and 38 females (52.8%). 52.8% had blood group O Rhesus positive, 2.8% = O⁻, 20.8% = A⁻, 3.8% = B⁺, 4.2% = B⁻, 5.6% = AB⁺, none had the AB⁻ blood group. 67 subjects (93.1%) were Rhesus positive and 5 subjects (6.9%) were Rhesus negative. These findings were in keeping with other findings in other parts of Africa, but markedly different from Caucasian values. The predominant O⁺ blood group showed that the student population could be a good source the health system could harness to ensure a readily available supply of blood for blood banks in the Niger Delta region.

Key words: Voluntary Blood donation, predominant Blood group, education, Niger Delta region.

INTRODUCTION

The need for readily available and safe blood for donation saves the lives of millions of patients such as accident victims, patients with cancers or blood dyscrasias. Ensuring the availability of safe blood and blood products is an essential public health responsibility. The number of available and functional blood banks in Nigeria's health facilities is grossly inadequate; the existing ones are also inefficient. The efficiency of the blood banks is directly related to the availability of willing donors. The myths/fear often associated with blood donation has been a major drawback for the health sector in developing reliable and standard blood banks. It is therefore pertinent to identify a population that can be educated easily and so act as a readily available voluntary donor population in the Niger delta region. The student population of the Niger Delta University, though dynamic, could serve as one of such population.

METHOD

The Niger Delta University has a student population of about 10,000. Subjects were selected by random sampling technique. 200 students were selected but only 72 participated. An informed consent was sought and obtained from each subject who was equally educated on the importance of the research. This distribution was as follows: 34 males and 38 females.

The inclusion criteria were; Studentship, and apparently healthy, male or female and exclusion criteria was ill health.

2mls of whole blood was collected from an antecubital vein into a well labelled EDTA bottle and stored at 4°C until analysed. The blood samples were delivered to the Haematology Laboratory of the Niger Delta University Teaching Hospital, Okolobibi. They were analyzed for ABO and Rhesus D antigens using standard commercial antisera based on the tile technique as described in Dacie and Lewis Practical Haematology¹. The data generated was analyzed using Microsoft excel software.

RESULTS

A total of 72 students took part in the study, 34 (47.2%) were males and 38 (52.7%) were females. 4 of the males were Rhesus negative and 30 were Rhesus positive. 1 of the females was Rhesus negative and 37 Rhesus positive. The various blood groups and their distribution among the student population are as shown in

the bar chart below. Equally, the distribution of the Rhesus status among the student population is displayed in the pie-chart below.

TABLE I: DISTRIBUTION OF ABO BLOOD GROUPS

BLOOD TYPES	FREQUENCY	PERCENTAGE
O	40	55.6%
A	15	20.8%
B	13	18%
AB	4	5.6%
TOTAL	72	

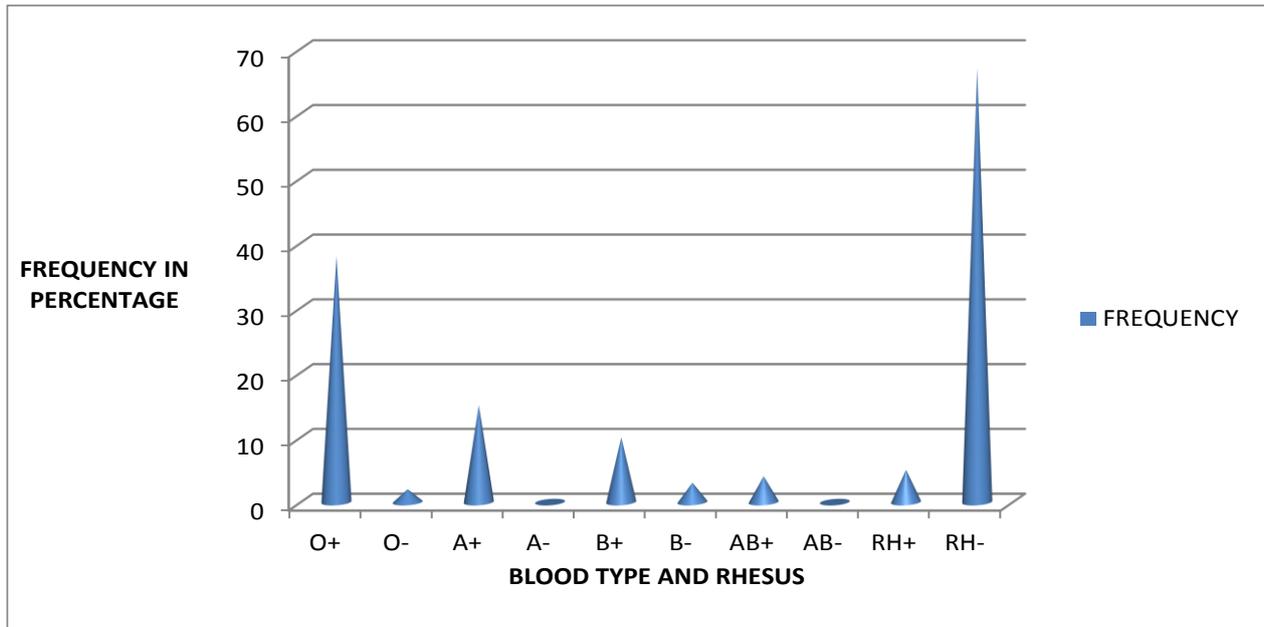


Figure 1. A GRAPHICAL REPRESENTATION OF BLOOD BROUP DATA

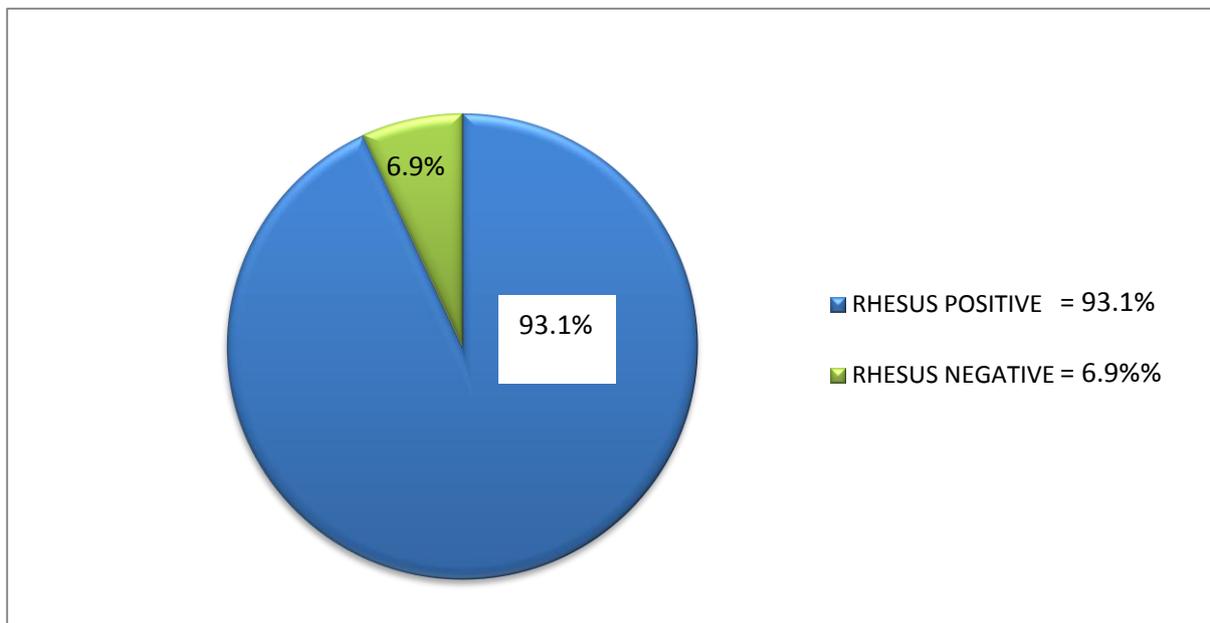


Figure 2. GRAPHICAL REPRESENTATION OF RHESUS STATUS

DISCUSSION

About 21 human blood group systems are recognised and the best known are the ABO and the Rhesus blood group systems. The blood group O is the commonest throughout the world, reaching a frequency

of almost 100% in south and Central Americans. Type A is associated with high frequencies in Europe although its highest frequencies occur in some Australian Aborigines. Type B has its highest frequencies in India and Central Asia. The AB blood group is the least common.³

In this study, it was noted that the frequencies of the different blood group were similar to that recorded on previous African studies i.e. group O = 55% Vs 49%, group A = 20.8% Vs 26% group B = 18% Vs 21%, group AB = 5.6% Vs 4%. The results were however slightly different from that recorded for Caucasian studies i.e. group O = 55% Vs 47%, group A = 20.5 Vs 42%, group B = 18% Vs 8% and group AB = 5.6% Vs 3%⁴. The slight variations observed might be due to the relatively small sample size in this pilot study.

The study also noted that there were more Rhesus negative subjects (93.1% Vs 6.9%). There were three Rhesus negative subjects recorded, and more were associated with the blood group B. Rhesus negativity was only recorded in the B and O blood groups while no Rhesus negative subjects of the blood group A and AB were recorded. These findings showed that there were very few individuals with Rhesus negative blood groups; therefore, Rhesus negative individuals should be encouraged to make more donations, since in emergency transfusions they are more difficult to find.

Despite the limitations of a small sample size, the above findings have shown the well-known blood group O, who are general donors were the most prevalent in the sample population. Therefore, the student population though a very dynamic pool can serve as a good source of healthy willing donors that can be harnessed to sustain a reliable blood bank policy in the Niger Delta region.

RECOMMENDATION

Enlightenment campaigns on the life saving importance of blood donation should be carried out on campuses to encourage free blood donations.

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