

Distribution of ABO and Rhesus Blood Groups Among Lotha-Nagas of Nagaland

Benrithung Murry, M.P. Sachdeva and A.K. Kalla

Department of Anthropology, University of Delhi, Delhi 110 007, India

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ABSTRACT The ABO and Rh blood groups have been studied in 450 individuals of Lotha-Nagas, a heterogeneous population of Nagaland. Samples consisted of both sexes. The allele frequencies for ABO are: $ABO^*A = 0.2016$; $ABO^*B = 0.1161$ and $ABO^*O = 0.6823$. In case of Rhesus (D), the allele frequencies are : $D = 0.8451$ and $d = 0.1549$.

INTRODUCTION

The present study was conducted among the Lotha-Nagas of Wokha village, Wokha District of Nagaland. Wokha village is situated at an altitude of 1313.69 meters, 80 km. North of Kohima, the capital of Nagaland.

The Lothas are a non-consanguineous heterogeneous group having a population of 82,612 scattered over an area of 1,628 sq. km. with a population density of 51 persons per sq. km. Earlier, no physical anthropological research has been conducted on this population to the best of our knowledge.

MATERIALS AND METHODS

A total of 450 blood samples were collected from unrelated individuals of both sexes and analysed for ABO and Rh (D) blood groups using agglutination method. Gene frequencies were

Table 1: Observed and expected phenotype and allele frequencies of ABO blood groups among the Lothas

Pheno- type	Observed Number	Perce- ntage	Expe- cted number	Allele frequency
O	212	47.11	210	$ABO^*O = 0.6823$
A	139	30.89	142	$ABO^*A = 0.2016$
B	74	16.44	77	$ABO^*B = 0.1161$
AB	25	5.56	21	
Total	450	100	450	1.0000

$D/\bar{d} = 0.9836$; $\chi^2 = 0.9612$; $df = 1$, $0.50 > p > 0.30$

calculated following the examples given by Bhasin and Chahal (1996).

RESULTS AND DISCUSSION

The results of the analysis of the ABO and Rh(D) blood groups have been summarized in table 1 and 2, respectively.

In ABO blood group system, phenotype O has the highest frequency (47.11%), followed by A (30.89%), B (16.44%) and then by AB (5.56%) (Table 1). 97.56% of the individuals tested were Rh(D) positive and only 2.44% were Rh(D) negative (Table 2).

Table 2: Rh(D) phenotype and allele frequencies among the Lothas

Phenotype	Number	Percentage	Allele frequency
Rh +ve	439	97.56	$D = 0.8451$
Rh -ve	11	2.44	$d = 0.1549$
Total	450	100	1.0000

As regards the ABO blood group system five other Naga tribes of Nagaland have so far been studied, namely, the Aos and the Konyaks (Brit. Ass. Res. Comm., 1939), the Zeliangs (Chakraborty, 1965), the Angamis (Seth and Seth, 1973) and the Chakesangs (Dash, 1994). The results of the present study show non-significant differences with Aos, Zeliangs, Angamis and Chakesangs ($\chi^2 = 3.77$; 3.78; 3.40 and 1.18, respectively) but significantly differs from the Konyaks ($\chi^2 = 5.44$). No other study on Rhesus blood groups among other Naga tribes of Nagaland have so far been reported.

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