PRINT: ISSN 0972-0073 ONLINE: ISSN 2456-6802
Anthropologist, 4 (4): 297-298 (2002)
DOI: 10.31901/24566802.2002/04.04.14

# Distribution of ABO Blood Groups and Rh (D) Factors Among The Sonowal Kacharis of Assam

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## INTRODUCTION

The frequency distribution of various genetic characters are extensively employed in the study of ethnic variation and in the evaluation of the degree of affiliation among human populations. In view of the importance of blood groups in population characteristics, the present investigation was undertaken to study the distribution of the ABO and Rh (D)blood groups among the Sonowal Kacharis of Dibrugarh district of Assam.

The Sonowal Kacharis, an endogamous branch of Kachari tribe, is a populous plain scheduled tribe of Assam. The Kacharis, who migrated to Brahmaputra valley, Assam from their original abode in Tibet and Western China in the unknown past, is divided into several endogamous divisions such as Boro, Dimasa, Burman, Hojai, Mech, Thengal, Semsa etc, besides Sonowal. They belong to the Bodo section of Tibeto-Chinese linguistic family as the tribes like the Rabha, Garo, Lalung, Hajong, etc. The Sonowals are mainly concentrated in the districts of Dibrugarh, Tinsukia, Jorhat, Sibsagar and Lakhimpur in the State of Assam.

## MATERIAL AND METHOD

The present study was based on the data collected from Dainijaan, Dulia, and Lepetkata Kachari villages in Dibrugarh district of upper Assam. Data on ABO and Rh blood groups were collected from 184 unrelated Sonowal adults. Blood groupings were done on slides, following the standard method suggested by Lawler and Lawler (1951). The gene frequencies were calculated according to Bernstein (1930).

## RESULTS AND DISCUSSION:

The frequency distribution of ABO blood groups and their allele frequencies are given in table 1. It can be seen that the phenotype frequencies of O, A, B and AB blood groups are 21.20%, 52.17%, 15.76%, and 10.87% respectively and the frequencies of *A*, *B*, and *O* alleles are 0.3954, 0.1473 and 0.4573, respectively. The test of goodness of fit indicates that the population is in genetic equilibrium in respect of the ABO blood groups system ( chi-square =0.023 ; 0.80 >p > 0.90 ; d.f. = 1).

The frequency of Rh – blood groups among the Sonowal Kacharis is 0.54% and the frequency of *D* and *d* alleles are 0.9265 and 0.0735, respectively.

In an analytical review of sero-anthropology of Mongoloid populations in India, Bhattacharjee (1975) opined that *A* allele among the Mongoloid of North East India varies from 16.0% to 26.0%, except in Arunachal Pradesh, where it varies from 22.0% to 35.0%. On the other hand, *B* alleles ranges between 12.0% and 24.0%, except in Naga hills where it varies between 7.0% and 16.0%. *A* alleles among the Sonowal Kacharis is much higher than the highest level of range mentioned by Bhattacharjee (1975). Contrary to the present observation, the frequency of *B* allele exceeds the frequency of *A* allele in most of the Mongoloid tribal populations of North East India (Sengupta, 1983).

The distribution of ABO blood groups among the Sonowal Kacharis of the present study is statistically different from those among the Boro Kachari (Das et al., 1987); Dimasa , Thengal and Jharua Kachari ( Phookan, 1975); Lalung ( Das et al., 1980) and Semsa (Limbu, 1997). The present sample also stand significantly apart from all the cognate groups like the Rabha (Das, 1960 ; Das et al., 1980); Garo (Das et al., 1980); Mikir (Das et al., 1980) and Rajbongshi (Das et al., 1980).

The present findings on Rh - (0.54%) is more or less similar to those reported for the Mikir and Rajbongshi (Das et al., 1980). Of course , the Rh – *(d)* allele is either absent or present in a very low frequency among the Mongoloid populations of North East India.

**KEY WORDS** Genetic Relationship. Sonowal Kachari. Mongoloid Populations.

**ABSTRACT** A genetical study of the Sonowal Kachari was carried out with a view to understand the genetic differentiation within and between the Kachari tribes of

**Table 1: Phenotypic and allele distribution of ABO and Rh blood groups**

| *Phenotype* | *Frequency* | | *Allele Frequency* | |
|---|---|---|---|---|
| | *No.* | *%* | | |
| *ABO Blood Group* | | | | |
| O | 39 | 21.20 | *O* | 0.1473 |
| A | 96 | 52.17 | *A* | 0.3954 |
| B | 29 | 15.76 | *B* | 0.1473 |
| AB | 20 | 10.87 | | 0.9265 |
| *Rh Blood Group* | | | | |
| Rh + | 183 | 99.46 | *D* | 0.9265 |
| Rh– | 1 | 0.54 | *d* | 0.0753 |

Assam. The results were compared with those reported on other Kachari and cognate populations of Assam.

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