J. Hum. Ecol., 10(4): 301-302 (1999)
PRINT: ISSN 0970-9274 ONLINE: 2456-6608
DOI: 10.31901/24566608.1999/10.04.13

Blood Groups Among the Munda and Oraon Tea Garden Labourers of Assam, India

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KEY WORDS Blood Groups. Variation. Munda. Oraon. Assam.

ABSTRACT Baseline data are presented on the distribution of the ABO and Rh(D) blood group groups among the Munda and the Oraon, two migrant endogamous tea garden labour population of the North-Eastern State of Assam.

INTRODUCTION

The tea garden labour population of Assam is composed of various tribes and castes, who originally migrated to the State between 1840 to 1961 from various cultural, linguistic and ethnic heritages and from many provinces of India. At present, they constitute about 12 per cent of the total population of the State of Assam where they are now recognized as O.B.Cs (Other Backward Community).

We report here results of our observation on the distribution of the ABO and Rh(D) blood groups among the Munda and the Oraon tea garden labourers, who relatively older in settlement as well as populous in numerical strength.

MATERIALS AND METHODS

Blood samples from a total of 200 individuals of both sexes of the Oraon and Munda population were collected at random from Bashapather, Lengrai, Basmotia, Sealkoti, Nandanban, Bijlibari tea gardens of upper Assam. The samples were analysed for the ABO and Rh (D) blood groups using the standard antisera, following manufacturers' instructions, and with adequate controls. The allele frequencies were calculated after Mourant et al. (1976).

RESULT AND DISCUSSION

Results of the ABO blood group system are shown in table 1. Both the populations show a very high frequency of *O* allele (Munda = 51.65%, Oraon = 56.71%). The frequency of *B* allele (Munda = 30.33%, Oraon = 22.97%) exceeds the frequency of *A* allele (Munda = 16.02%, Oraon = 20.31%), a contrast situation found in most of the Mongoloid tribal populations of the North East India (Sengupta, 1983, Bhasin et al., 1994). In order to calculate the homogeneity of sample, expected phenotype numbers for the ABO blood groups were calculated from corresponding allele frequencies. The chi-square values for goodness of fit being non-significant in both the samples (Munda = 1.71, Oraon = 2.59) indicate that both the samples are homogenous in nature and thus, may be considered as representative of the respective populations. The chi-square test of significance however reveals that the variation observed between the Munda and the Oraon ($\chi^2 = 2.19$, d.f. = 3) is statistically not significant.

The Munda and the Oraon are overwhelmingly Rh (D) positive (Table2). The Rh(D)

Table 1: Distribution of the ABO blood groups and allele frequencies

Population	*n*	*Phenotypes*				*Allele frequencies*		
		O	*A*	*B*	*AB*	*A*	*B*	*O*
Munda	100	25 (26.68)	21 (21.86)	39 (40.53)	15 (10.93)	0.1802	0.3033	0.5165
Oraon	100	30 (32.16)	26 (27.16)	30 (31.33)	14 (9.33)	0.2031	0.2297	0.5671

Figures within parentheses indicate expected numbers

Table 2: Distribution of the Rhesus(D) and allele frequencies

Population	*n*	*Phenotypes*		*Allele frequencies*	
		RH(D)+	*Rh(D)-*	*D*	*d*
Munda	100	99	1	0.9000	0.1000
Oraon	100	98	2	0.8586	0.1414

negative phenotype frequency varied from 1 per cent in the Munda to 2 per cent in the Oraon. The chi-square showed a non-significant difference ($\chi^2 = 0.34$, d.f. = 1) between them, It is well know that *d* allele is almost absent, or if present at all, it is present in a very low frequency among the tribal populations of North East India.

Considering the present findings on two genetic markers, it may be said that the Munda and the Oraon differ from most of the tribal populations of the region, who show Mongoloid ethnic strain among them.

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