

ABO and Rh (D) Blood Groups Among Koppala Velama Caste of Andhra Pradesh, India

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ABSTRACT The distribution of the ABO and Rh (D) blood groups among Koppala Velama Caste of Andhra Pradesh, India has been studied. The blood group O records the highest frequency, followed by A and B. The incidence of the Rh (D) negative is 3.21%, which is in agreement with data from other caste populations of Andhra Pradesh.

INTRODUCTION

The Koppala Velama is an agriculture community, widely distributed in coastal Andhra Pradesh, South India. The present paper reports the distribution of the ABO and Rh (D) blood groups among Koppala Velama caste, a backward class community of Andhra Pradesh

MATERIAL AND METHODS

Finger prick blood samples from 218 unrelated adults from Koppala Velama caste inhabiting rural areas of West Godavari district, Andhra Pradesh were collected and tested for the ABO and Rh (D) blood groups by standard techniques. The gene frequencies were calculated following Mourant et al. (1976).

RESULT AND DISCUSSION

The phenotypes and allele frequencies of both ABO and Rh (D) blood group systems among Koppala Velama caste population of Andhra Pradesh are presented in table 1. The blood group O records the highest frequency (41.28%), followed by A (28.44%) and B (26.61%). The chi-square value ($p > 0.05$) as well as the D/σ value (lower than ± 2) indicate that this caste is in Hardy-Weinberg equilibrium for the ABO blood groups.

Reviewing the ABO phenotype frequencies of other Andhra caste populations, it can be ob-

Table 1: Distribution of the ABO and Rh (D) blood groups among Koppala Velama caste

Blood groups	Observed Number	Frequency	Allele	Allele frequency
<i>ABO Blood Groups</i>				
O	90	41.28%	O	0.6565
A	62	28.44%	A	0.1775
B	58	26.61%	B	0.1664
AB	8	3.67%		
<i>Rh (D) Blood Groups</i>				
Rh (D) + ve	211	96.79%	D	0.8208
Rh (D) - ve	7	3.21%	d	0.1792

$D/\sigma = 1.6667$; χ^2 for goodness of fit = 2.6911 ($p > 0.05$)

served that a majority of them also recorded higher frequencies of blood group O than either B or A. However, a few reported the highest frequencies of group B (Parvatheesam et al., 1997). compared to the average incidence of the A allele in Andhra castes, the Andhra tribes recorded higher frequencies, which implies that castes have a higher frequency of the B allele than tribes (Babu, 1993).

The incidence of Rh (D) negative is 3.21% with d allele frequency of 0.1792. This is generally in line with those observed in other Andhra caste populations. The tribal populations of this region differ with caste groups since several tribes have exhibited monomorphism for Rh (D) system (Babu, 1993).

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