

Distribution of ABO and Rh(D) Blood Groups among Koari (Backward Caste) Population of Jaunpur District

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ABSTRACT The distribution of ABO blood groups and Rh (D) factor has been studied among the Koari caste group population of Jaunpur (U.P.). The O, A, B, and AB blood group percentage were recorded as 34.5%, 24.6 %, 33% and 7.9% respectively. The allele frequencies of O, A and B were found to be 0.5898, 0.1787, and 0.2315 respectively and Rh (D) allelic frequency was 0.901.

INTRODUCTION

ABO blood group genes are mapped at 9q34.2. ABO and Rh(D) blood groups varies among different geographical and ethnic populations. Since its discovery in 1900 by Landsteiner, ABO typing is the single most important test performed in blood banking services to avoid mortality. During the last few decades, several studies have been carried out on the distribution of blood groups among several endogamous populations in India (Bhasin et al. 1992, 1994). In this paper an attempt is made to study the distribution of ABO and Rh(D) blood group systems among the Koari population of Jaunpur district.

MATERIALS AND METHODS

The blood samples were drawn from randomly selected 203 unrelated individuals of Koari caste (of both sexes) from Jaunpur district of Uttar

Pradesh. The samples were analyzed for the ABO and Rh (D) blood groups using standard antisera (Bhasin and Chahal 1996). Gene frequencies were calculated according to the method of Maurant et al. (1976).

RESULTS AND DISCUSSION

The frequency distribution of ABO phenotypes with gene frequencies in Koari population in Jaunpur district is presented in table 1. Phenotype O has the highest frequency (34.5%) followed by B (33.0%), A (24.6%) and AB (7.9%). The overall picture of phenotypic frequencies of ABO blood groups is O>B>A>AB. The decreasing order of allele frequency in Koari is O (0.5898)> B (0.2315) and A(0.1787). Out of the 203 subjects tested, 201(99.01%) were found to be Rh positive and 2(0.99%) were Rh negative. The frequency of D and d alleles is 0.901 and 0.099 respectively (Table 2).

Table 1: Distribution of the ABO blood group and their allele frequencies among the Koari.

Phenotype	Observed Number	%	Expected Number	Allele Frequency
O	70	34.5	70.6	A= 0.1787
A	50	24.6	49.3	B= 0.2315
B	67	33.0	66.3	O= 0.5898
AB	16	7.9	16.8	
Total	203	100.0	203.0	1.0000

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Table 2: Distribution of the Rh(D) blood group and their allele frequencies among the Koari.

Phenotype	Observed Number	%	Allele Frequency
Rh(D)Positive	201	99.01%	0.901
Rh(d)Negative	2	0.99%	0.099
Total	203	100.00	1.0000

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