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Study of ABO and Rh (D) Blood Groups in Scheduled Caste of Jaunpur District

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ABSTRACT The distribution of ABO blood groups and Rh (D) factor has been studied among the Scheduled Caste (Chamar) population of Jaunpur, Uttar Pradesh. The B, O, A, and AB blood group percentage are recorded as 31.4%, 30.9%, 29.4% and 8.2% respectively. The allele frequencies of *O*, *B*, and *A* groups are found to be 0.564, 0.224, and 0.212, respectively and Rh *(D)* allelic frequency is 0.793.

INTRODUCTION

During last five decades several reports are published on the distribution of blood groups among various ethnic groups from India (Bhasin et al. 1992, 1994; Bhasin and Walter 2001) and the present communication is an attempt to study the distribution of ABO and Rh (D) blood group systems among the Scheduled Caste (Chamar) population of district Jaunpur (U.P.).

MATERIALS AND METHODS

Blood samples from a total of 207 unrelated individuals of both sexes were drawn at random from the Scheduled Caste settlements of Jaunpur district of Uttar Pradesh. Blood samples were taken from finger pricks, and open slide method of testing for ABO blood groups and Rh (D) factor was followed (Bhasin and Chahal 1996). ABO Grouping and Rhesus Typing antiserum of Tulip were used for ABO and Rh Typing. The allele frequencies for these two systems were calculated according to the method of Mourant et al. (1976).

RESULTS AND DISCUSSION

The frequency distributions of ABO phenotypes with allele frequencies are presented in table 1. It is clear from the table that B phenotype has the highest percentage (31.4%) followed by O (30.9%), A (29.5%) and AB (8.2%). The overall picture of phenotypic frequencies of ABO blood groups is B> O> A>AB. The decreasing order of allele frequency in Scheduled Caste (Chamar) is O (0.564)>*B* (0.224)> *A* (0.212.). In case of Rh (D) blood groups 96% were positive and 4% were negative. The allele frequencies were recorded 0.793 for D and 0.207 for *d* (Table 2). The distribution of allele frequencies for ABO and Rh blood groups in the present study is similar to that observed for Scheduled Castes of North India (Bhasin and Walter 2001).

Table 1: Distribution of ABO blood group and their allelic frequencies among the Scheduled Caste (Chamar) population of Jaunpur

Phenotype	*Observed number*	*Percentage*	*Expected number*	*Allele frequencies*
O	64	30.9	65.9	*O* =0.564
A	61	29.5	58.8	*A* =0.212
B	65	31.4	62.7	*B* =0.224
AB	17	8.2	19.6	
Total	207	100.0	207.0	1.000

Table 2: Distribution of the Rh (D) blood group and their allele frequencies among Scheduled Caste (Chamar) population of Jaunpur

Phenotype	*Observed number*	*Percentage*	*Allele frequencies*
Rh(D)	198	95.85	*D* =0.793
Rh(d)	9	4.15	*d* =0.207
Total	207	100.00	1.000

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