



GENETIC VARIATION OF ABO AND RH (D) BLOOD GROUPS IN PAKI (SCHEDULED CASTE) OF COASTAL ANDHRA PRADESH, INDIA.

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ABSTRACT The distribution of ABO blood groups and Rh (D) factor has been studied among the Paki a Scheduled Caste population of West Godavari District, Andhra Pradesh. The O, B, A, and AB blood group percentage are recorded as 46.74%, 27.99%, 22.01% and 3.26% respectively. The allele frequencies of O, B, and A groups are found to be 0.6921, 0.1717, and 0.1362, respectively and Rh (D) allelic frequency is 0.7982.

KEYWORDS : Blood Groups. Population Study. Polymorphism. Genetic Variation, West Godavari District, Andhra Pradesh, India.

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 (Paki) population of West Godavari district of Andhra Pradesh. The people following the occupation of scavenging came to be known of Paki. Paki or Moti or Thoti, are migrated from Orissa are considered as scheduled caste in social strata which is now a separate caste by itself, was once an integral part of sapiri in bygone days. The reasons for the present split up has its roots in the 1877 famine. W. Francis also recorded that famine is the main cause for the splitting up the caste (Vol.1, p.83). The Paki mainly take out their livelihood by scavenging and working as sweepers in municipalities and some of them are engaged in fruit selling. Most of them work as sweepers and scavengers in the municipalities some of them are doing some other petty jobs in public and private organisations. The Pakis main groups sapiris are distributed mostly in Coastal Andhra Pradesh, the mother tongue is separate and is known as Paki language. It is an admixture of Telugu and Oriya. They speak Telugu fluently while conversing with outsiders. They use Telugu script for reading, writing and learning.

MATERIALS AND METHODS

Blood samples from a total of 368 unrelated individuals of both sexes were drawn at random from the Scheduled Caste settlements of West Godavari district of Coastal Andhra 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

Table 1: Distribution of the ABO blood group and their allele frequencies among the Paki (scheduled caste) (Number of samples analyzed=368)

Phenotype	Observed number	Percentage	Allele Frequency
O	172	46.74	0.6921
A	81	22.01	0.1362
B	103	27.99	0.1717
AB	12	3.26	
Total	368		

The frequency distribution of ABO phenotypes with gene frequencies are presented in table 1. It is clear from the table that O phenotype has the highest frequency (46.74%) followed by B (27.99%), A (22.01%) and AB (3.26%). The overall picture of phenotypic frequencies of ABO blood groups is O> B>A>AB. The decreasing order of allele frequency in Settibalija is O (0.6921) > B (0.1717) and A (0.1362). The table also shows the distribution of observed and expected percentage frequencies of ABO Phenotypes. In case of Rh (D) blood groups 96.80% were positive and 3.20% were negative. The allele frequencies were recorded 0.7982 for D and 0.2018 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 2: Distribution of the Rh(D) blood group and their allele frequencies among Paki (Scheduled caste)

Phenotype	Observed Number	Percentage	Allele Frequency
Rh (D) + ve	353	95.92	0.7982
Rh (D) - ve	15	4.08	0.2018
Total	368	100	1000

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