



## ABO and Rh (D) Blood Group Polymorphisms in Soliga Tribal Population of Tamil Nadu, India

R. Nandakumar\*, P. Raghu, A. Deva and K. Prabhakaran

PG and Research Department of Zoology, Periyar E.V.R. College (Autonomous)  
(Affiliated to Bharathidasan University), Tiruchirappalli, Tamilnadu India  
\*E-mail: drnkzoo@gmail.com

**KEYWORDS** Blood Groups. Polymorphisms. Soliga Tribes. South India

**ABSTRACT** The present study reports the distribution of ABO blood groups and Rh (D) factor among the Soliga population of Erode district, Tamil Nadu state, India. The phenotype frequencies of ABO blood group were O = 33.3%, A = 39.6%, B = 21.7% and AB = 5.4%. The frequency of blood group (A) was the highest, and the allele frequencies of A, B, O are 0.26, 0.148 and 0.592 respectively, all the participants were Rh positive.

### INTRODUCTION

The present study was undertaken to study the distribution of ABO and Rh (D) blood groups among Soliga of Erode district, Tamil Nadu. Soliga tribals live in deep forest valley of Erode district. Soliga, also spelled Sholagas. The Soliga speak Sholaga, a dialect of Kannada which belongs to the Dravidian language family. Their population is around individuals 5,988 (2011 census Govt. of Tamil Nadu) and total population is 1,89,661 (2011 census).

### MATERIAL AND METHODS

Blood samples from 129 unrelated individuals of both sexes were drawn from the Soliga tribal settlements, Erode district of Tamil Nadu. ABO and Rh blood group tests were carried out by using a sterilized needle to obtain a drop of blood from a sterilized finger from each participant (Bhasin and Chahal 1996). The antisera, anti-A, anti-B and anti-D were obtained from SPAN Diagnostics Ltd, Gujarat, India. The ABO allele frequency was calculated according to Pedro et al. (2002).

### RESULTS AND DISCUSSION

The phenotype frequencies of Soliga tribal for ABO blood group were O = 33.3%, A = 39.6%, B = 21.7% and AB = 5.4% (Table 1). They occurred in the order A > O > B > AB. The allele phenotypic frequency of blood group (A) was the highest. The allele frequencies of ABO blood group A, B, O are 0.26, 0.148, 0.592, and respectively. Hardy Weinberg log likelihood value = -158,  $\chi^2 = 1.46$  and p value = 0.23. Among Soliga sample for the present study no Rh negative was observed.

### ACKNOWLEDGEMENTS

The work is supported by MRP from UGC, we kindly, acknowledge UGC.

### REFERENCES

- Bhasin MK, Chahal SMS 1996. *A Laboratory Manual for Human Blood Analysis*. Delhi: Kamla-Raj Enterprises.  
Pedro JN, Silva 2002. Allele Frequency Estimation in the Human ABO Blood Group System. From <http://alfl.cii.fc.ul.pt/~pedro/Soft/ABOestimator>.

**Table 1: ABO blood groups and allele frequencies among Soliga tribe**

Phenotype	Observed number	Percentage observed (%)	Expected number	Allele frequencies
A	51	39.6	48.52	A = 0.260
B	28	21.7	25.36	B = 0.148
O	43	33.3	45.19	O = 0.592
AB	7	5.4	9.93	
Total	129	100	129	1.000

Hardy Weinberg log likelihood value = -158,  $\chi^2 = 1.46$ , d.f = 1 and p value = 0.23