ISSN 0972-0073

THE ANTHROPOLOGIST

International Journal of Contemporary and Applied Studies of Man

PRINT: ISSN 0972-0073 ONLINE: 2456-6802

Anthropologist, 23(3): 423-428 (2016)
DOI: 10.31901/24566802.2016/23.03.13

Distribution of *ABO* and *Rh(D)* Allelic Polymorphisms North Waziristan Agency, (Federally Administered Tribal Areas), Pakistan

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KEYWORDS Allelic Polymorphism. Blood Group Markers. FATA. North Waziristan Agency. Pakistan

ABSTRACT This population based-study was conducted in the North Waziristan Agency (NWA) along the Pakistan-Afghan border, in order to determine the frequencies of ABO and Rh(D) blood groups. A total of 1026 subjects belonging to four tehsils (Doss Ali, Mir Ali, Miran Shah and Spin Wam) of NWA were recruited and phenotyped. The blood groups 'A', 'B', 'AB' and 'O' were found to be 27.4, 36.7, 10.9 and 25.0 percent, respectively. Similarly, Rh (+) and Rh (-) blood types were observed to be 90.6 percent and 9.4 percent, respectively. At the *ABO* locus, alleles *A[p]*, *B[q]* and *O[r]* showed frequencies 0.216, 0.277 and 0.507, respectively. At *Rh(D)* locus, frequencies for alleles *D* and *d* were 0.693 and 0.307, respectively. Distribution of blood group frequencies at both *ABO* and *Rh(D)* loci were observed to vary significantly across the tehsil-wise samples ($p<0.05$). In the same way, blood group frequencies also showed significant variation at *ABO* locus but not at *Rh(D)* locus when the data were analyzed with respect to the major ethnicities of NWA. Nei's genetic distances analyses revealed closed affinities between the sample drawn from NWA and the neighbouring populations of Hangu and Kohat districts.