Data on ABO Group of Binjhwars and Their Phylogenetic Position Among Other Tribal Populations of Madhya Pradesh, India

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ABSTRACT Data on ABO blood group system in Binjhwars tribe of Madhya Pradesh, India are presented. Frequencies of phenotype O, A, B, and AB blood groups among Binjhwars were 38.22%, 23.15%, 30.82% and 7.81%, respectively and allele A, B and O values are 0.1688, 0.2163 and 0.1649, respectively. The genetic distance analysis revealed that the present tribal population is genetically closer to the Gond, Halba, Bhatra, Bih and Bhilala tribes inhabiting this Central Indian state.

INTRODUCTION

According to Russel and Hirala (1916) the Binjhwars are a Dravidian tribe and comparatively civilized among other tribal populations of Madhya Pradesh. They also opine that there is little or no doubt that the Binjhwars are an offshoot of the primitive Baiga tribe of Mandla and Balaghat, who occupy the Satpura or Maikal hills to the north of the Chattisgarh plains. The name is derived from the Vindhyas hills and they worship the goddess Vindhyabhasini of these hills as their tutelary deity (Russel and Hirala, 1916). According to 1981 census the Binjhwars numbered 92,079 in Madhya Pradesh (Singh, 1994). The Binjhwars are an endogamous group. They are a landowning community and their primary occupation is agriculture (Sen, 1975; Singh, 1994).

In this study we report the distribution of the ABO blood groups among the Binjhwars and attempt to find out their phylogenetic position among other tribal populations of Madhya Pradesh.

MATERIAL AND METHODS

Blood samples were collected from 743 unrelated Binjhwars in the Saraiapali and Basna blocks in Mahasamund tehsil, and Bhagwan block of Baloda bazar tehsil of Raipur district; and Pardhanya block of Katgora tehsil of Bilaspur district. Blood group analysis was carried out by standard serological techniques. For comparison with the present tribal population phenotype and gene frequency data for the ABO blood groups of other eleven tribal populations of Madhya Pradesh were collected from published sources. The genetic distances among these tribal populations were calculated after Nei (1972) and to the matrix of genetic distances thus obtained, the unweighted pair groups method (UPGM) was applied to construct a dendrogram after Sneath and Sokal (1973).

RESULTS AND DISCUSSION

Table 1 shows phenotypes and allele frequencies of the ABO blood group system among tribal populations of Madhya Pradesh including the present Binjhwars. In Binjhwars the phenotype frequencies of A, B, O, and AB blood groups were 23.15%, 30.82%, 38.22% and 7.81% respectively. The alleles A, B and O values among the present Binjhwars were 0.1688, 0.2163, and 0.6149, respectively.

It is observed that among these twelve populations, phenotype frequency ranges between

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23.15% in the Binjhwar and 38.33% in the Kamar for A blood group; between 29.17% in the Kamar and 37.86% in the Korku for B blood group; between 14.17% in Kamar and 31.15% in the Bhatra for O blood group; and between 5.59% in the Halba and 21.74% in the Nagesia for AB blood group respectively.

Table 2 shows the genetic distances among the tribal populations of Madhya Pradesh, India and figure 1 shows the dendrogram of these populations based on genetic distances. Table 2 shows that smallest genetic genetic distance is observed between the Gond and Halba (0.00009). Bhatra, Bilh and Bhilala tribes are genetically closer to each other, while the Binjhars with the former populations show smaller genetic distance in comparison to those of Khairwar, Korwa and Oraon tribal populations. The genetic distances between Khairwar and Korwa, and Korku and Nagesia are smaller. The maximum genetic distance is observed between Binjhwar and Kamar (0.10804). The present serological study therefore demonstrates close genetic relationships among the Binjhwar and several other tribal populations of Madhya Pradesh viz., Gond, Halba, Bilh, and Bhilala. However, to appreciate fully such relationships data from several loci pertaining to both biochemical as well as serological markers are required.

REFERENCES


Table 1: Allele frequency distribution of the ABO blood groups in tribal populations of Madhya Pradesh

<table>
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<tr>
<th>Populations</th>
<th>n</th>
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<td></td>
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<td>A</td>
<td>B</td>
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<tr>
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<tr>
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<tr>
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Table 2: Matrix of Nel’s genetic distance (D) among tribal populations of Madhya Pradesh

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<th>Halba</th>
<th>Khairwar</th>
<th>Korku</th>
<th>Kamar</th>
<th>Korwa</th>
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<th>Oraon</th>
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</table>
Fig. 1: Dendrogram of twelve tribal populations in Madhya Pradesh


Russel, R.V. and Hirelala, V.R.: Tribes and Castes of the Central Provinces of India. Published under the orders of the Central Provinces Administration (1916).


