



BLOOD GROUP AFFILIATION OF THE CONTEMPORARY BULGARIAN POPULATION FROM THE AREA OF SHUMEN

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ABSTRACT: *The present research studied the blood group affiliation to the ABO and Rhesus factor systems of 200 people (100 men and 100 women) from the region of Shumen in comparison with a control group of contemporary Bulgarian population. The comparison revealed that in the group from the Shumen region there was an increase in the prevalence of groups O and B, and a decrease in the frequency of Rh-. Such a configuration is also observed in the comparison of Europeans with persons of Mongoloid origin. The obtained results give grounds to establishing a presence of certain eastern (Mongoloid) characteristics in the ethnogenesis of the population to which the studied individuals belong.*

KEY WORDS: *blood groups ABO and Rhesus factor, Shumen region*

Introduction: Our blood group research falls into different areas - ethnic, regional, age- and disease-related. However, in this research there are relatively few studies with a regional focus [1, 2, 3, 4, 5]. Their results reveal certain differences between the studied and the control group. The present study covers a population from the region of Northeastern Bulgaria, in which different peoples and tribes of Turkic origin settled during different periods of our history. The study of these ethnic groups reveals some Mongoloid features, a fact which can be confirmed by the characteristic ratio in the blood group affiliation of the population in this region.

Aim of the study: To establish the distribution of blood group affiliation to the ABO and Rhesus factor systems in the contemporary Bulgarian population from the region of Shumen.

Material and methods: 200 people (100 men and 100 women) from the region of Shumen were studied. Their blood group affiliation to the ABO and Rhesus factor systems was monitored. The comparison with the control group of the contemporary Bulgarian population [6] was made by means of the T-test.

Results and discussion:

The data of the study are presented in table 1 and figure 1 and 2.

Table 1. Frequency of the blood types from systems ABO and Rhesus factor in the population from Shumen region, and the control group (%)

Blood types		O	A	B	AB	Rh+	Rh-
Population from Shumen region n 200	n	67	76	43	6	182	18
	%	33,50	38,00	21,50	7,00	91,00	9,00
Control group n 1080	n	342	472	184	82	916	164
	%	31,67	43,70	17,04	7,59	84,81	15,19

ABO system

The study of the blood group affiliation of the population from the region of Shumen identified the following distribution: O group - 33.50%, A group - 38.00%, B group - 21.50% and AB group - 7.00 %. In the control group the values were as follows: O group - 31.67%, A group - 43.70%, B group - 17.04% and AB group 7.59% respectively. The comparison showed an increase in the prevalence of group O by 1.83% to 33.50%, and of group B - by 4.46% to 21.50%. In the other groups there was a slight decrease in distribution: in group A it was by 5.70% to 38.00% and in group AB - by 0.59% to 7.00%. All identified differences were insignificant ($p > 0.10$), which can be seen in table 1, diagram 1.

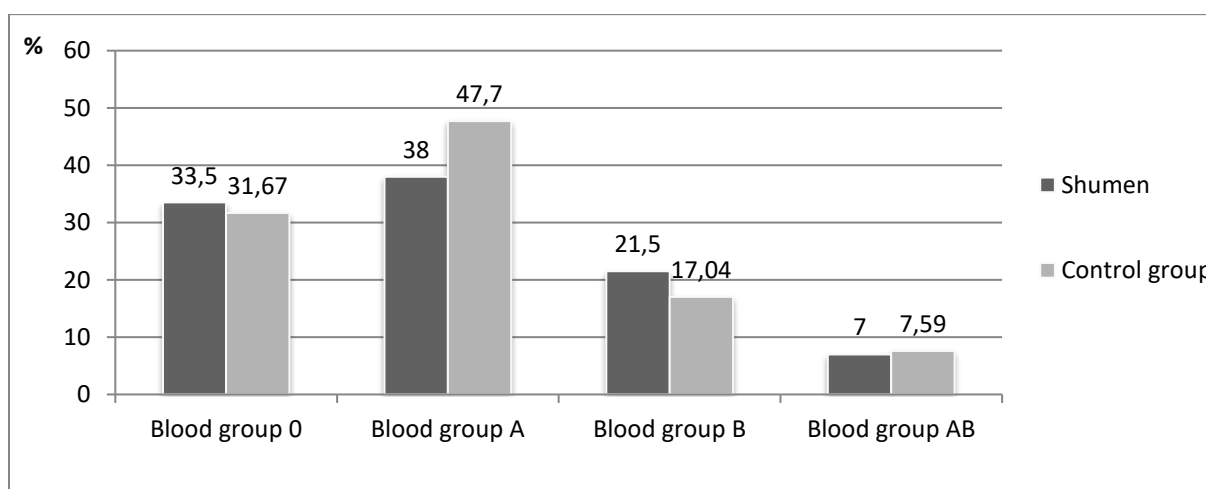


Figure 1. Distribution of blood types of ABO system in the contemporary population of the region of Shumen (%)

Rhesus factor system

The frequency of occurrence of the two groups of this system in the population from the region of Shumen are: Rh + - 91,00% and Rh- - 9,00%. For the control group, the values were 84.81% and 15.19%, respectively. The comparison shows an increase in the presence of Rh + by 6.19% to 91.00%. The reported differences are insignificant ($p > 0.10$), as shown in table 1, diagram 2.

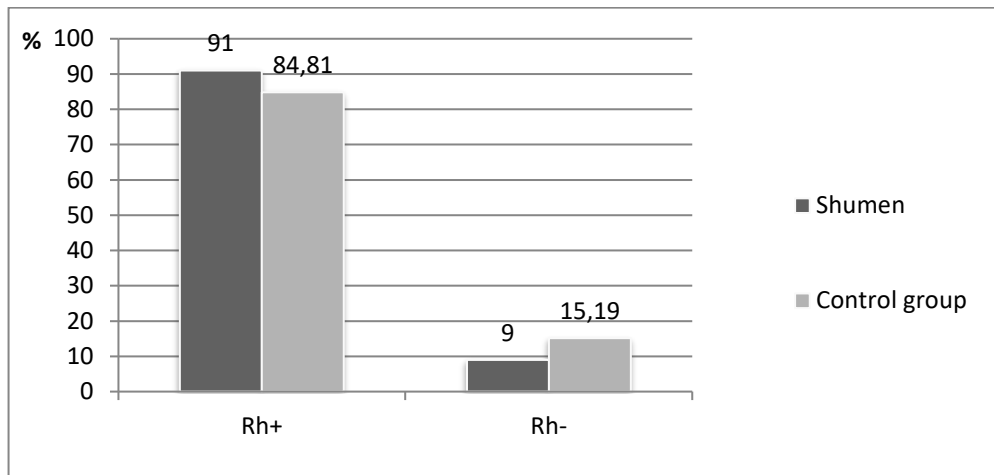


Figure 2. Frequency of the blood types from the Rhesus factor system in the contemporary population of the Shumen region (%)

The Bulgarian people have a complex ethnogenesis, which differs in different regions of the country. The obtained results reveal a slight increase in the frequencies of 0 and B groups and a decrease in the values of Rh-. The same trend, although much more pronounced, is observed when comparing the blood type of peoples of Mongoloid origin, such as Chinese [7] or Vietnamese [8] with Europeans [9]. Our results give us reason to assume that peoples and tribes of Turkic origin took part in the ethnogenesis of the population of the studied region. This conclusion confirms the historical records of the settlement of proto-Bulgarians, Cumans, Pechenegs and other ethnic groups in this area.

Conclusions:

1. The obtained results show that in the ethnogenesis of the studied population from the region of Shumen took part nationalities of eastern (Turkic) origin with Mongoloid characteristics.

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In memory of Dr. Velislav Nikolov Todorov who retired a long time ago but continued to work in the field of anthropology until his last days!

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