

Glucose 6-phosphate dehydrogenase deficiency in Muslim community settled in Jaunpur district

Sir,

Glucose 6-phosphate dehydrogenase (G6PD) deficiency is the commonest X-linked genetic defect, affecting 400 million people worldwide and predisposes affected individuals to neonatal jaundice, drug or infection-mediated hemolytic crisis, and favism. G6PD locus is known to be one of the most polymorphic loci among humans with almost 300 allelic variants reported so far. India is an amalgamation of several religion, castes, ethnic, and linguistic groups. People of different groups living side by side for past thousands of years and retain their unique and separate gene pool by practicing endogamy. Hindu and Muslim are the two major religious groups of Indian populations. There is no information about G6PD deficiency from Muslim population of Uttar Pradesh. We studied G6PD deficiency in Muslims settled in Jaunpur district of eastern Uttar Pradesh.

Screening for G6PD deficiency was performed by employing methemoglobin reduction test according to the method of Brewer *et al.*,^[1] 5 ml blood sample from 200 individuals belonging to Muslim religion were collected in acid citrate dextrose (ACD) coated vials. All subjects selected for the study were domicile of UP, and were of age group of 18-40 years. The genotype frequency of deficient (Gd-/Gd-), carrier (Gd+/Gd-), and normal (Gd+/Gd+) were 0.13, 0.035, and 0.835, respectively. In Muslim samples analyzed, frequency of P (Gd+) allele was 0.824 and q (Gd-) allele was 0.176 [Table 1]. In present study the G6PD deficiency frequency was found to be 13% which is well comparable with the frequency reported from Muslim populations of other neighboring Asian countries like - 3.3-20% in Bangladesh,^[2] 1.07-3.17% in Pakistan,^[3] 3.3-17% in Malaysia,^[4] 2.3% in Vietnam,^[5] 5.7-6.6% in Philippines,^[6] and 2.7-17.5% in Indonesia.^[7] Several

Table 1: Distribution of the glucose-6-phosphate dehydrogenase enzyme phenotypes and their allele frequencies among Muslim samples (n=200)

	Normal (Gd+/Gd+)		Carrier (Gd+/Gd-)		Deficient (Gd-/Gd-)		Total	Frequency
	Number	%	Number	%	Number	%		
Males	92	83.64	00		18	16.36	110	P (Gd+)=0.824
Female	75	83.33	07	7.78	08	8.89	90	q (Gd-)=0.176
Total	167	83.5	07	3.5	26	13	200	

European countries and United States of America have successfully controlled this disorder by implementing neonatal screening. Similarly in our country, neonatal screening should also be implemented to control the high prevalence of this disorder.

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