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Genetic Impact of Consanguineous Marriage on Morbidity Among the Muslims of Alppuzha, Kerala

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ABSTRACT The genetic impact of consanguineous marriages on morbidity is assessed through genetic load estimates in terms of detrimental equivalents among the Sunni sect of Muslims if Alappuzha by using a random sample of 515 marriages. Using weighted regression model, genetic burden manifested in total prereproductive morbidity was estimated between 1.5337 and 1.55119 detrimental equivalents per gamete, suggest that an average person carries in heterozygous condition 4 detrimental equivalent genes, if made homozygous they would cause on the average one genetic defect or disease. The consistently high consanguinity ratio (B/A) obtained in all four parameters of morbidity suggest that genetic load in the Muslim genealogy is predominantly mutational. Consanguinity associated prereproductive morbidity was found to be 5.23 to 14.4 times higher than controls (Relative risk (RR) = 5.23 to 14.4). Then Attributable risk (AR) for the whole sample is about forty-one percent. It could be show that inbreeding accounts for about forty-one percent of all morbidity in the present population.