

Testing the Trend for Genotype Distribution of Hypertension Patients in Case-Control Studies

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ABSTRACT This study uses data from independent samples taken from two populations, each with the K distinct categories, which are the $2 \times K$ contingency tables. The goal here is to test whether there is a difference between two multinomial populations. When the categories are nominal, Pearson's chi squared test statistic is the most widely used method, but when the categories are ordered, it is not appropriate because of the ordinal nature. Cochran Armitage test is used for assessing the presence of an association for $2 \times K$ tables for specific scores, which use the ordinal information by assigning different weights. In the genetic studies, if the inheritance model is unknown, the weights are assigned according to the suspected model. The effect of the weights is discussed on *Genetic Analysis Workshop 18* data. It is concluded that test scores have a significant effect on the test results depending on the genetic model.