

Robustness of Small Sample Size Re-estimation Procedures

Professor Z. Govindarajulu
Department of Statistics
University of Kentucky

Abstract

In a two-treatment double-blind clinical experiment, one is interested in testing the null hypothesis of equality of the means against one-sided alternative when the common variance is unknown. We wish to determine the required total sample size when the error probabilities are specified at a predetermined alternative. For normal responses, Govindarajulu (2002) proposed a closed-form estimator for the common variance and showed analytically that the difference between the effective and nominal levels of significance is negligible and that the power exceeds the specified power when the initial sample size is large.