

How to avoid an overinterpretation of the results of statistical analyses in medical research

Jan Hauke and Waldemar Wołyński

Adam Mickiewicz University, Poznań, Poland

Abstract

A significant inference-facilitating tool often applied in medical research is a statistical analysis of the experimental data obtained. Owing to the high cost of research or an insufficient number of experimental cases analysed, the obtained body of data may happen to be rather modest. Another problem is the great variability of patient parameters. The above makes us realise that there are limitations to the various statistical methods employed. In the presentation, attention is paid to a correct choice of statistical methods and a way of their application that will limit their overinterpretation. The comments will largely refer to uni- and multivariate statistical methods. Practical examples leading to invalid inferences will be shown as well as ways of correcting them.

Keywords

Statistical methods in medical research.