USING PTOPENSITY SCORE WITH RECEIVER OPERATING CHARACTERISTICS (ROC) AND BOOTSTRAP TO EVALUATE EFFECT SIZE IN OBSERVATIONAL STUDIES

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Abstract

In non-randomised studies, prioritisation of patients who are most likely to benefit from more expensive and more effective treatments usually take place and/or patients select themselves to treatments. Propensity score methods have been considered as means to reduce the effect of selection bias. In this study it was shown that use of receiver operating characteristics (ROC) and area under ROC (AUC) provides an additional insight into analysis of non-randomised studies. The estimates of mean effect obtained with five different techniques were compared and nonparametric bootstrap was recommended as superior tool for propensity score analyses.

Keywords: effect size, non-randomised study, propensity score, bootstrap, online calculator