The aim of the present work is to compare three di erent estimators of a treatment e ect in clinical randomized studies. The purpose of these studies is to compare the change of a distribution of certain variable between two attendances. Mentioned estimators were developed from the assumption of validity of some model. In this work we gather properties of the estimators when each of all given models is valid. We deal with the consistency of the estimators and with their asymptotic distributions and then we compare the estimators on the basis of their asymptotic variances. In the most of cases is possible to make the comparison in general. In the case when it is not possible, we show a few particular examples. Eventually, we accomplish the simulation study, which certi es theoretical conclusions and extends pieces of knowledge in the cases when it was not possible to make theoretical computation in general.