Intention-to-treat analysis

Intention-to-treat analysis (ITT) is the best way to analyze randomized clinical trials because they preserve the benefits of randomization: to provide an unbiased assessment of relative treatment effects. Yet they play a more fundamental role, which can be demonstrated in a observational study.

Is based on the initial treatment assignment and not on the treatment eventually received. ITT analysis is intended to avoid various misleading artifacts that can arise in intervention research such as non-random attrition of participants from the study or crossover. ITT is also simpler than other forms of study design and analysis because it does not require observation of compliance status for units assigned to different treatments or incorporation of compliance into the analysis. Although ITT analysis is widely employed in published clinical trials, it can be incorrectly described and there are some issues with its application.

Furthermore, there is no consensus on how to carry out an ITT analysis in the presence of missing outcome data.