

## Understanding Randomized Controlled Trials: Why are they important?

The very history of clinical studies goes back to 600 B.C and ancient Babylon when the first recorded clinical trial was conducted by [Daniel of Judah](#). What he did was simple but at the same time his report demonstrated significant influence for a jarringly long time – that of more than two millennia. Precisely, Daniel of Judah compared the results and effects of the vegetarian diet with those of the so called royal Babylonian diet. His experiment continued for more than 10 days. Ever since, clinical trials, [Good Clinical Practice \(GCP\) tendencies and tools of research keep advancing](#), thus playing a key role in all modern scientific methods. One such tool is the randomized controlled trial (RCT).

Defined as **the most powerful instrument when we talk about clinical researches, the randomized controlled trial is the only study design which enables investigators to readjust obscure group of prognostic factors** at the starting point in order to keep them in balance. Essentially, such tools serve to assign participants to one study group or another. Additionally, in a randomized controlled trial, subjects are allocated to clinical interventions at random. What is really important when we discuss RCTs is to bear in mind that **they represent quantitative studies**. What does that mean? It means that all outcomes are not simply compared after the individuals receive the intervention but they are also measured.



Typically, in most cases, **the term “intervention” alludes to the word “treatment”**. The only difference is that here it is supposed to be used in a more encompassing sense. This is comprised of a wider range of clinical maneuvers like interventional procedures, screening processes, diagnostic tests, prevention strategies and others.

What is the primary goal of carrying out RCTs?

When researchers decide to conduct a RCT, **the initial purpose of their trial is to test if an intervention or a treatment works**. In order to do it effectively and properly, they compare the particular intervention to a control condition which includes an alternative intervention or no intervention.

Other and less pivotal goals of implementing a RCT are:

- Pinpointing factors that have an impact on the effects of the intervention (moderators)
- Comprehending the undergoing processes through which the intervention affects different alterations

What are the advantages and disadvantages of RCTs?



**Designed to maximize validity and to minimize performance, allocation, attrition and assessment bias**, randomized controlled trials bring about many advantages. Firstly, RCTs make sure to deliver known and unknown specifics of participants and environments that may influence the outcomes. Furthermore, random assignments ensure that any external or irrelevant variation that is not related to the intervention is either randomized or controlled. Finally, **such trials balance the impact of undetailed or unspecific processes** which do not have a cardinal role in the intervention.

However, in a number of occasions, randomized controlled trials are considered to have some drawbacks since conducting such procedures are regarded as:

- Being too time-consuming;
- Requiring a lot of resources;
- Lacking feasibility when it comes to all interventions or settings

In sum, randomized controlled trials are experimental studies. **All of the effects of an intervention or a treatment are evaluated by gathering information before and after the whole procedure.** Moreover, RCTs are defined as comparative, quantitative, and controlled methods where researchers examine several interventions in different trial participants. Those participants receive the treatments randomly. Becoming more and more popular in the Medical industry, randomized controlled trials are envisioned as **the tools that will deliver bias-free results with optimized validity.**

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