

Week 3: Epidemiological Methods and Measurements

Comparison of Cohort Study to Randomized Control Trial

This week we are comparing and contrasting epidemiological methods of research; case-control and cohort study methods. Select either the case-control or cohort study method and compare its features, the methodology, to a randomized controlled trial using the following questions. Please format, organize, your responses using each question below:

- 1. What is the fundamental difference between the method you have chosen (either the case-control or cohort method) and the randomized controlled trial?**
- 2. What are the advantages and disadvantages of the study method you chose (case control or cohort study)?**
- 3. What are the characteristics of a correlational study?**
- 4. Where does the method you chose (case-control or cohort study) fall on the research pyramid? What does where it is on the research pyramid mean?**

Post your response to the DB. Your analysis should have in-text citations and utilize a scholarly voice with APA formatting.

Answer:

A Cohort study is also commonly known as a longitudinal, prospective, or follow-up study and can be designed from both a prospective and retrospective perspective. This study is valuable in assessing multiple outcomes resulting from an exposure. The defining feature of the cohort study is the follow-up of subjects (cohorts) over time, thus providing sufficient information about the cohorts to enable a reliable estimation related to the subject of the study, such as disease incidence or mortality (Rydberg Sterner et al., 2019). “Cohort studies are best carried out when the investigator has good evidence that links an exposure to an outcome and when the outcome occurs relatively often” (Curley, 2020, p. 75).

“Research gained from (cohort) studies has clinical relevance in relation to prevention, early diagnosis, clinical course, the experience of illness, understanding pathogenesis and prognosis” (Rydberg Sterner et al., 2019, p. 195). The cohort study approach is observational and nonexperimental. On the other hand, Randomized Controlled Trials (RCTs) are carefully planned experiments that introduce an exposure or treatment to study the effects on individuals.

RCTs are often referred to as the gold standard of research. Randomized control trials generally have a more robust design compared to cohort studies. In RCTs, subjects are assigned randomly to participate in either an experimental or control group; the experimental group receives the intervention or exposure, and the control group does not. Both groups are followed to determine the effectiveness of intervention with outcomes measured at specific times. (Hariton & Locascio, 2018). “Randomization reduces bias and provides a rigorous tool to examine cause-effect relationships between an intervention and outcome” (Hariton & Locascio, 2018, p. 1). This randomization aids in reducing bias and confounding factors which may provide false conclusions in a study. RCT methodologies promote the ability to make an informed comparison between the interventional and control groups, thus providing sound evidence related to cause and effect (Bruce et al., 2018).