

Types of Clinical Study Designs

Study Designs. In NICHSR Introduction to Health Services Research: a Self-Study Course

<http://www.nlm.nih.gov/nichsr/ihcm/06studies/studies03.html>

Meta-Analysis

A way of combining data from many different research studies. A meta-analysis is a statistical process that combines the findings from individual studies.

Example: [Anxiety outcomes after physical activity interventions: meta-analysis findings](#). Conn V. Nurs Res. 2010 May-Jun;59(3):224-31.

Systematic Review

A summary of the clinical literature. A systematic review is a critical assessment and evaluation of all research studies that address a particular clinical issue. The researchers use an organized method of locating, assembling, and evaluating a body of literature on a particular topic using a set of specific criteria. A systematic review typically includes a description of the findings of the collection of research studies. The systematic review may also include a quantitative pooling of data, called a meta-analysis.

Example: [Complementary and alternative medicine use among women with breast cancer: a systematic review](#). Wanchai A, Armer JM, Stewart BR. Clin J Oncol Nurs. 2010 Aug;14(4):E45-55.

Randomized Controlled Trial

A controlled clinical trial that randomly (by chance) assigns participants to two or more groups. There are various methods to randomize study participants to their groups.

Example: [Meditation or exercise for preventing acute respiratory infection: a randomized controlled trial](#). Barrett B, et al. Ann Fam Med. 2012 Jul-Aug;10(4):337-46.

Cohort Study (Prospective Observational Study)

A clinical research study in which people who presently have a certain condition or receive a particular treatment are followed over time and compared with another group of people who are not affected by the condition.

Example: [Smokeless tobacco cessation in South Asian communities: a multi-centre prospective cohort study](#). Croucher R, et al. Addiction. 2012 Dec;107 Suppl 2:45-52.

Case-control Study

Case-control studies begin with the outcomes and do not follow people over time. Researchers choose people with a particular result (the cases) and interview the groups or check their records to ascertain what different experiences they had. They compare the odds of having an experience with the outcome to the odds of having an experience without the outcome.

Example: [Non-use of bicycle helmets and risk of fatal head injury: a proportional mortality, case-control study](#). Persaud N, et al. CMAJ. 2012 Nov 20;184(17):E921-3.

Cross-sectional study

The observation of a defined population at a single point in time or time interval. Exposure and outcome are determined simultaneously.

Example: [Fasting might not be necessary before lipid screening: a nationally representative cross-sectional study](#). Steiner MJ, et al. Pediatrics. 2011 Sep;128(3):463-70.

Case Reports and Series

A report on a series of patients with an outcome of interest. No control group is involved.

Example: [Students mentoring students in a service-learning clinical supervision experience: an educational case report](#). Lattanzi JB, et al. Phys Ther. 2011 Oct;91(10):1513-24.

Ideas, Editorials, Opinions

Put forth by experts in the field.

Example: [Health and health care for the 21st century: for all the people](#). Koop CE. Am J Public Health. 2006 Dec;96(12):2090-2.

Animal Research Studies

Studies conducted using animal subjects. Example: [Intranasal leptin reduces appetite and induces weight loss in rats with diet-induced obesity \(DIO\)](#). Schulz C, Paulus K, Jöhren O, Lehnert H. Endocrinology. 2012 Jan;153(1):143-53.

Test-tube Lab Research

"Test tube" experiments conducted in a controlled laboratory setting.