

Epidemiological study and clinical trial

[Health & Medicine](#)



EPIDEMIOLOGICAL STUDY AND CLINICAL TRIAL For any work to be considered scientific, it must follow the set scientific requirements and procedures which generally form a research process or study. Science is a broad subject subdivided into numerous fields of study such as biochemistry, genetics, epidemiology, clinical medicine (encompassing clinical trial), nutrition, and biology just to mention a few. This essay highlights the scientific methods and steps, difference between epidemiological and clinical trial, the kind of results which can be obtained from factors studied in clinical and epidemiological sciences, considerations made by researchers when conducting clinical trial, and limitations that consumers should consider when reading a research work in the media. To begin with, a scientific method or experiment is a multistep procedure that involves experimentation, observation and formulation of a hypothesis or theory. It is majorly done to confirm the stated hypothesis or the unknown fact. Stepwise methods involved in a scientific study are: Observations on a given phenomenon are made by a researcher after which a research question on the observation is made. A hypothesis is then formulated based on the observations and this is then followed by carrying out an experiment to confirm or reject the hypothesis. During the experiment, data is collected and documented. Lastly, the obtained data is analyzed to confirm or reject the data. In the event that the hypothesis is confirmed, additional experiments are carried out to test and confirm the accepted hypothesis. If the accepted hypothesis is reconfirmed by the additional experiments, then it is referred to as a theory. However, the hypothesis may be rejected if the data do not hold up for the hypothesis. There exist different kinds of research studies or experiments which are done for different purposes and <https://assignbuster.com/epidemiological-study-and-clinical-trial/>

therefore give different stories. The exemplified experiments which are of emphasis to this paper are epidemiological experiments and clinical trials. Epidemiological studies or observational studies are done to assess disease trends, nutritional habits, and to determine the factors that influence named phenomena. Epidemiological studies uses in place relationships to convey information. They only indicate relationship between factors and do not suggest how the obtained data is linked to cause and effect. Clinical trials on the other hand are experiments which are rigidly controlled or regulated by given intervention to establish its effect on health condition or disease. The referred interventions may be medications, controlled diets, and nutritional supplements. Basis for every research work or done experiment is to come up with results whose analyses give the elucidations necessary for the confirmation of the hypothesis. The obtained results are subject of factors studied in each given experiment and they may differ depending on the type of the experiment. The results could be empirical data, graphical representations or even pictures. However, without having to look at the nature of the results obtained, the type of results obtained in studying factors under the epidemiological studies are exemplified with nutritional habits and disease trends just to mention a few practical scenarios. On the other hand, the clinical trial results used to assess factors might be exemplified with results from blood pressure analyses. For the success of clinical trial research, a number of factors should be considered by the researchers. These factors are: Randomize clinical trials is done to reduce the chances of being biased on participants and also ascertains that the participant groups coincide with factors being measured in the study. Another consideration is that of “blinding” participants and researchers to

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the given treatment. “Blinding” can be carried through single or double blind experiment. Single blind experiment allows researchers to identify the group given treatment while the identity for the group given the treatment is concealed from the participants. Consequently, neither do participants nor researchers know the group given the treatment when double blind experiment is used. With double blinding, researchers are prevented from seeing the results of their interest and even from seeing the results that have not occurred. Lastly, a placebo (treatment done through imitation and which does not affect participants) may be given to a control group in the case where nutrition supplements and medication testing are used in the blinding process. Such an experiment is referred to as double blind randomized clinical trials. As much as media helps in disseminating information regarding research works, consumers should take precautions when getting the same information from the media sources. Consumer cognizance on research processes and products is a vital requirement and they should therefore aspire to understand research process and to learn research results interpretation. It is therefore advisable consider the following limitations or factors when gaining knowledge on research from media reports: Knowledge on who carried and funded the research is necessary to establish if conflict of interests exists. Secondly, knowledge on the reporter should establish whether the report was done by a group or persons with interests to gain financial benefits. Consequently, some writers are not trained on writing reports biased on research studies and therefore they may convey wrong and distorted information to consumers. Other factors to consider is whether the report is based on reputable research studies, or based on personal experience testimonials, and whether what the

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report claims are true (Rabar& Macnee, pg 16) It is the therefore worth noting that before fully utilizing any given research work that is within ones reach, efforts to evaluate the marketing statements and research studies should be made. Having such information equips one or a consumer with relevant knowledge on research products and works. Work Cited Rebar, Cherie R., and Carol L. Macnee. Understanding nursing research: using research in evidence-based practice. 3rd ed. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health, 2011. Print.