

Babylon University – College Of Medicine  
Department of Community Medicine

*Lectures in Community Medicine  
For 4<sup>th</sup> Stage Students  
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## **Lecture 8**

# **Experimental Studies**

### **Experimental Studies (intervention):**

The investigator exercises control over the independent factors manipulating them to see the effectiveness of the new drugs or preventing methods for a certain disease .

The investigator would intervene, given the drug to one group of patients but not to another, properly conducted experiment is the most powerful way of establishing cause and effect relationship.

This method in medical research commonly takes the form of randomized control trials. Which study a new preventive or regime.

Randomized control trial (RCL) is an epidemiological experiment to study a new preventive or therapeutic regime. Subjects in a population are randomly allocated to groups, usually called treatment and control groups and the results are assessed by comparing the outcome in the two or more groups.

The outcome of interest will vary but may be the development of new disease or recovery from established disease. To ensure that the groups being compared are equivalent patients are allocated to them randomly i.e. by chance. Within the limits of chance randomization ensures that control and treatment groups will be comparable at the start of an investigation. Any differences between groups are chance occurrence unaffected by the conscious and unconscious biases of the investigators.

The investigation under test may be a new drug or a new regime, such as early mobilization after myocardial infarction.

***Problems of interventional studies***

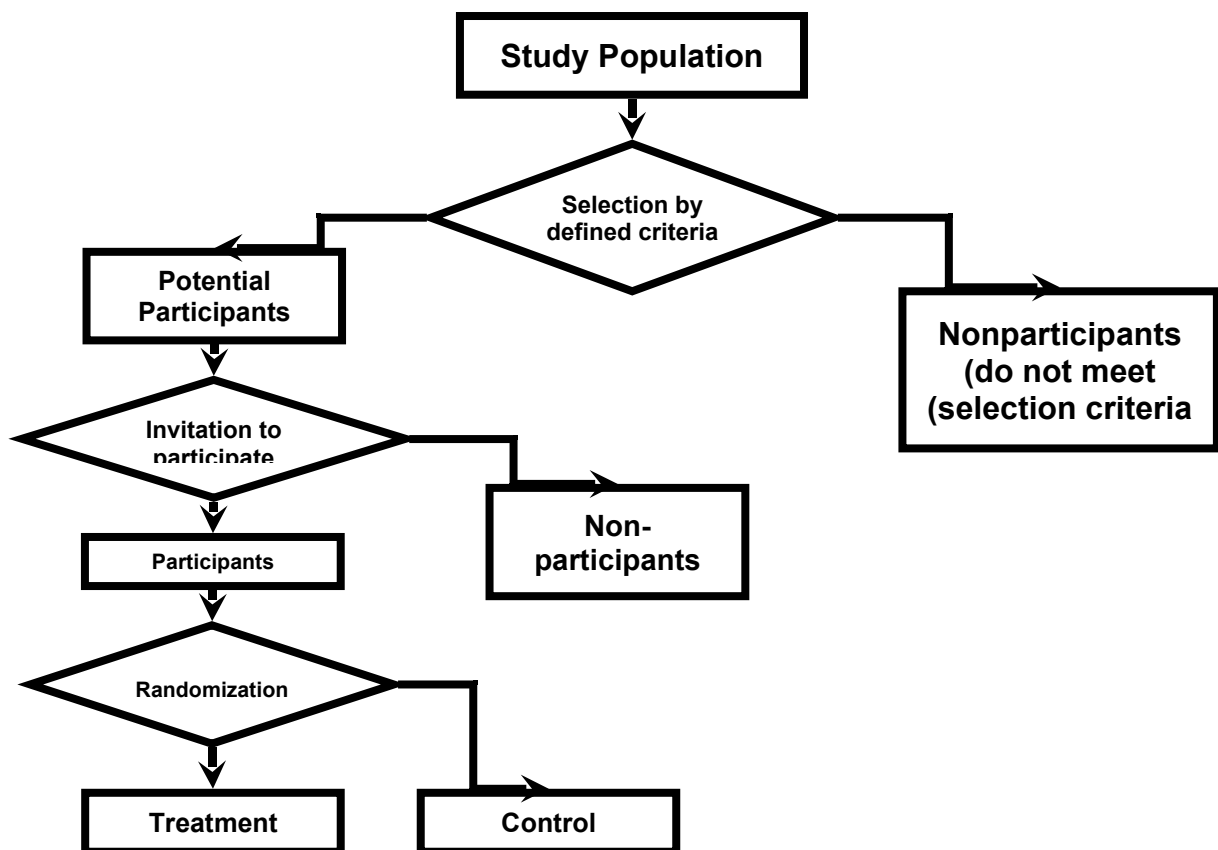
- Ethical:** there should be always some doubt in the beneficial or harmful effect of an agent procedure to be tested.
- Feasibility:** it is not always feasible.
- Cost:** the cost is higher than other studies.

***Blindness:***a) **Single blindness:**

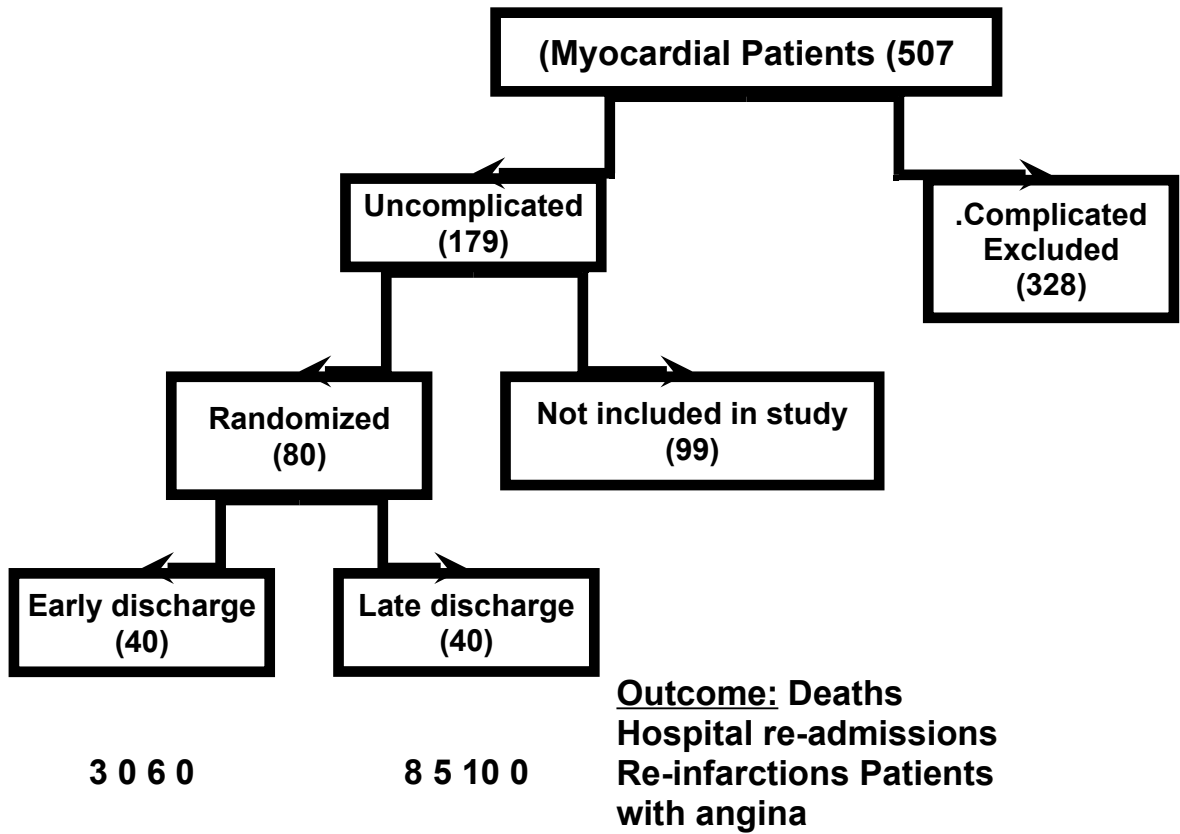
The patients are not aware about the drugs they received.

b) **Double blindness:**

Neither the investigator nor the patients are aware about the drugs received by the study group or the control group.



(Design of randomized controlled trial (RCT



**Randomized controlled trial of early hospital discharge after Myocardial infarction**