NURSING RESEARCH

課前預讀

Quantitative Research
Experimental Design
Quasi-experimental Design

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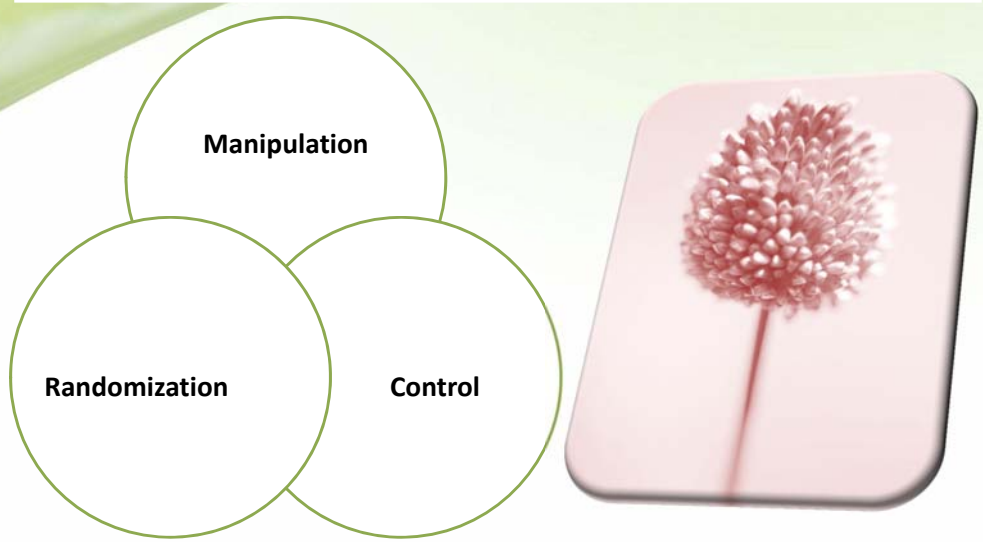
Objective

- After previewing, the student should be able to do the following:
  - Define experimental and quasi-experimental research design.
  - Identify the purposes of manipulation, control, randomization.

Experiments or Randomized Controlled Trial (RCT) Properties



Manipulation

- Doing something to study participants
- Experimenter manipulates the independent variable by administering a treatment (intervention) to some subjects and withholding it from others, or by administering some other treatment.

Control

- No treatment
- Placebo
- Standard treatment
- Attention control
- Wait list

Randomization

- Subjects into treatment conditions at random
- Approximates the ideal—but impossible.
- Basic randomization

Random Digits

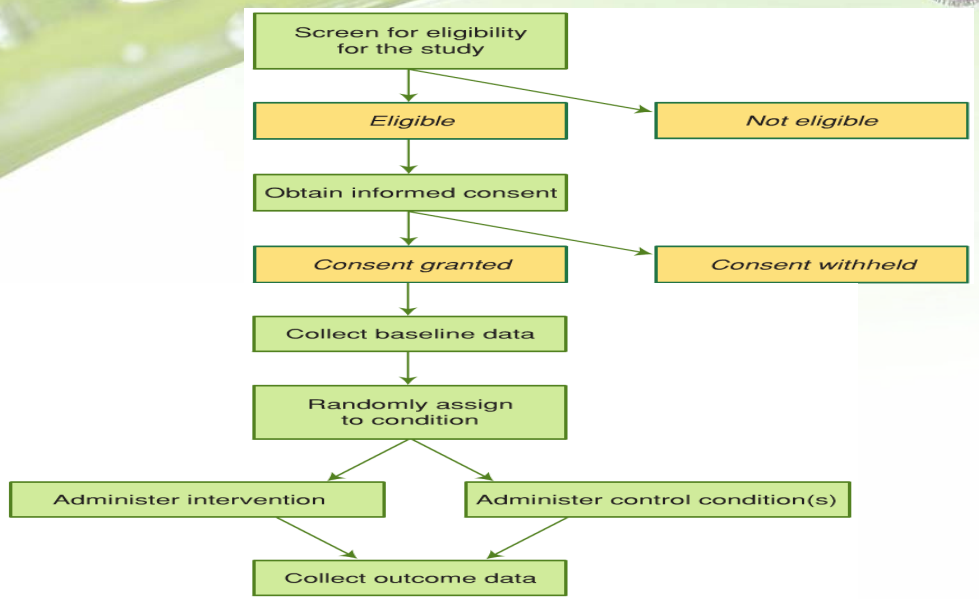
46 85 05 23 26	34 67 75 83 00	74 91 06 43 45
69 24 89 34 60	45 30 50 75 21	61 31 83 18 55
14 01 33 17 92	59 74 76 72 77	76 50 33 45 13
56 30 38 73 15	16 **52** 06 96 76	11 65 49 98 93
81 30 44 85 85	68 65 22 73 76	92 85 25 58 66
70 28 42 43 26	79 37 59 52 20	01 15 96 32 67
90 41 59 36 14	33 52 12 66 65	55 82 34 76 41
39 90 40 21 15	59 58 94 90 67	66 82 14 15 75
88 15 20 00 80	20 55 49 14 09	96 27 74 82 57
45 13 46 35 45	59 40 47 20 59	43 94 75 16 80
70 01 41 50 21	41 29 06 73 12	71 85 71 59 57
37 23 93 32 95	05 87 00 11 19	92 78 42 63 40
18 63 73 75 09	82 44 49 90 05	04 92 17 37 01
05 32 78 21 62	20 24 78 17 59	45 19 72 53 32
95 09 66 79 46	48 46 08 55 58	15 19 02 87 82
43 25 38 41 45	60 83 32 59 83	01 29 14 13 49
80 85 40 92 79	43 52 90 63 18	38 38 47 47 61
81 08 87 70 74	88 72 25 67 36	66 16 44 94 31
84 89 07 80 02	94 81 03 19 00	54 10 58 34 36

Basic pretest-posttest design

SCHEMATIC DIAGRAM	SITUATIONS THAT ARE BEST SUITED TO THIS DESIGN	DRAWBACKS OF THIS DESIGN
E R O1 X O2 C R O1 O2 E R O1 X O2 O3 O4 C R O1 O2 O3 O4	a. When the focus of the intervention is on change (e.g., behaviors, attitudes) b. When the researcher wants to asses both group differences (experimental comparison), and change within groups (quasi-experimental)	Sometimes the pretest itself can affect the outcomes of interest

KEY: R= Randomization; X= Intervention (XA= one treatment, XB= alternative treatment, does, etc.); O= Observation or measurement of the dependent variable/ outcome

Sequence of steps in a conventional randomization design



Q & A