

57

27 Subjects

Consume
Cocoa

BLOOD
FLOW
DAY 1



BLOOD
FLOW
DAY 2

FLAW IN DESIGN IS THERE

WAS NO CONTROL GROUP FOR COMPARISON PURPOSES.

WE DON'T KNOW IF THIS WAS A PLACEBO EFFECT

OR IF THE COCOA ACTUALLY AFFECTED THE

BLOOD FLOW

61

① COMPLETELY RANDOMIZED DESIGN

36
PATIENTS



Random
assignment

→ GROUP 1 (n=9) → ANTI DEPRESSANTS

→ GROUP 2 (n=9) → ANTI DEPRESSANTS +
STRESS MGMT

→ GROUP 3 (n=9) → PLACEBO

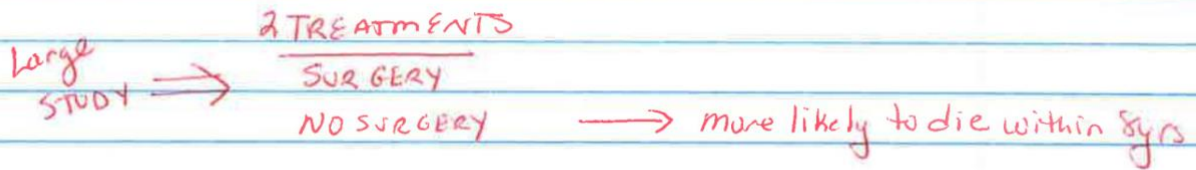
→ GROUP 4 (n=9) → PLACEBO +
STRESS MGMT

→ Compare
number
and
severity
of headaches

② PLACE THE 36 NAMES ON A SLIP OF PAPER,
PUT THE 36 SLIPS IN A HAT, MIX WELL.

- Draw 9 slips and assign to Group 1
- Draw the next 9 slips and assign to Group 2
- Draw the next 9 slips and assign to Group 3
- Draw the next 9 slips and assign to Group 4

163

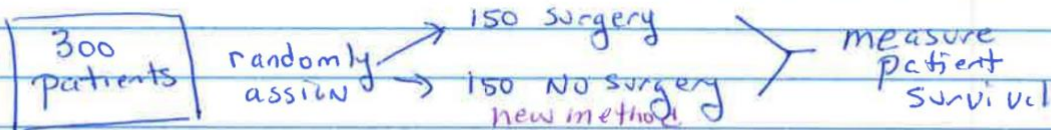


(A) Possible Lurking Variables:

Expense, condition of the patient, etc

In a serious case, when the patient has little chance of surviving, a doctor might choose to not recommend surgery. It might be seen as an unnecessary measure, bringing expense and a hospital stay with little benefit to the patient.

(B)



I always find sketching the experiment helps in writing up the design

- ① Randomly assign THE 300 patients to the 2 treatments
- ② One group of 150 patients will get surgery
- ③ the other group of 150 patients will not get surgery (the new method)
- ④ At the end of the study, measure how many patients survive.

(65)

Football
players

Choose

Treatment

- ① EXERCISE
- ② WEIGHT LIFTING

(a) EXPERIMENT VIOLATE PRINCIPAL OF RANDOM ASSIGNMENT, IF PLAYERS ARE ALLOWED TO CHOOSE WHICH TREATMENT THEY GET, THOSE WHO CHOOSE 1 TREATMENT OVER ANOTHER MAY BE DIFFERENT IN A SIMILAR MANNER. FOR EXAMPLE, WEAKER PLAYERS MAY CHOOSE THE NEW EXERCISE PLAN AND STRONGER PLAYERS MAY STAY WITH WEIGHT LIFTING CONSEQUENTLY, UPPER BODY STRENGTH MEASUREMENTS AFTER 3 WEEKS CAN NOT BE ATTRIBUTED TO THE TREATMENTS BECAUSE YOU CAN NOT DISTINGUISH IT FROM THE STRENGTH OF THE PLAYER.

(b) The response variable of the number of push ups a player can do is a possible response variable but it is only one kind of upper body strength and should probably combined with other measures.

67 (A)

CONTROL: We need to control for the effects of any extraneous (lurking variables) and use at least 2 groups for comparison purposes.

(B) CONTROLS:

- ① There were 2 groups - half assigned randomly to a preschool program.
- ② All the children had nutritional supplements and social workers

Random Assignment: help create roughly EQUIVALENT GROUPS BEFORE THE TREATMENTS ARE ADMINISTERED.

The children were randomly assigned TO THE 2 GROUPS

REPLICATION: ENSURES THAT A DIFFERENCE IN RESPONSE BETWEEN THE 2 GROUPS IS DUE TO THE TREATMENTS AND NOT

There were a total of 111 children in the experiment.