

Case 24: Effectiveness of an Educational Intervention on Smoking Cessation

A health organization implements an educational intervention program to promote smoking cessation among a group of 100 participants. The program consists of educational sessions, counseling, and follow-up support over a three-month period. The effectiveness of the program is assessed by comparing the smoking status of the participants before and after the intervention. Before the intervention, the 100 participants are surveyed to determine their smoking status: Smoker or Nonsmoker. After the intervention, the same participants are surveyed again to determine their current smoking status. Table 5.10 summarizes the survey. Does the educational intervention affect smoking cessation?

TABLE 5.10: Smoking Status.

Before \ After	Smoker	Nonsmoker	Total
Smoker	58	12	70
Nonsmoker	2	28	30
Total	60	40	100

Initial Questions

1. What are the research objectives?
2. What are the statistical questions?
3. What is the response variable, and what is the data type of the response variable?
4. What are the explanatory variables of interest?
5. Are there covariates?
6. What is the population of interest?
7. What is the subject, and what is the number of distinct subjects?
8. Are there subject-level data?
9. Are response variables dependent (repeated measures / clustered subjects)?
10. Are the subjects selected randomly?
11. Are the subjects randomly assigned to different groups?

Initial Thoughts