Case Study: Using Stents to Prevent Strokes

Mini-Assignment 2023-01-27 - MTH 361 - Spring 2023

Instructions:

- Please provide complete solutions for each problem. If it involves mathematical computations, explanations, or analysis, please provide your reasoning or detailed solutions.
- Note that some problems have multiple solutions or ways to solve it. Make sure that your solutions are clear enough to showcase your work and understanding of the material.
- Creativity and collaborations are encouraged. Use all of the resources you have and what you need to complete the mini-assignment. Each student must take personal responsibility and submit their work individually. Please abide by the University of Portland Academic Honor Principle.
- **Please save your work as one pdf file, don't put your name in any part of the document, and submit it to the Teams Assignments for this course. Your document upload will correspond to your name automatically in Teams.**
- If you have questions or concerns, please feel free to ask the instructor.

Packages:

```
library(tidyverse)
library(openintro)
```

I. Stents Datasets

Materials

- `stent30` - An experiment that studies effectiveness of stents in treating patients at risk of stroke with some unexpected results. It represents the results 30 days after stroke.

```
# original data
glimpse(stent30)
```

```
## Rows: 451
## Columns: 2
## $ group   <fct> treatment, treatment, treatment, treatment, treatment, treatme~
## $ outcome <fct> stroke, stroke, stroke, stroke, stroke, stroke, stroke, stroke~
```

```
# print as table
table(stent30)
```

```
##            outcome
## group       no event stroke
##   control         214     13
##   treatment       191     33
```

- `stent365` - An experiment that studies effectiveness of stents in treating patients at risk of stroke with some unexpected results. These data represent the results 365 days after stroke.

```
# original data
glimpse(stent365)
```

```
## Rows: 451
## Columns: 2
## $ group   <fct> treatment, treatment, treatment, treatment, treatment, treatme~
## $ outcome <fct> stroke, stroke, stroke, stroke, stroke, stroke, stroke, stroke~
```

```
# print as table
table(stent365)
```

```
##            outcome
## group       no event stroke
##   control         199     28
##   treatment       179     45
```

Exercises

1.
2.
3. (Outstanding Question)

References