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BS (Dental)

Assignment

Research Methodology

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Q No - 1

Ans

50, 79, 70, 48, 90, 68, 89, 92, 77

Mean

$$\text{Mean} = \frac{\text{Sum of all no's}}{\text{no' of all no'}}$$

$$= \frac{50+79+70+48+90+68+89+92+77}{9}$$

$$= \frac{663}{9}$$

$$\text{Mean} = 73.67$$

= Median

write all no's in ascending order.

48, 50, 68, 70, 77, 79, 89, 90, 92

$$\text{Median} = 77$$

(2)

Mode

There is no repetitive number in the given sample, Hence there is no mode.

Mode = no mode

Q NO 5

Ans Hypothesis

A Hypothesis is a precise, testable statement of what the researcher's predict will be the outcome of the study.

This usually involves proposing a possible relationship between two variable, the independent variable and the dependent variable.

⇒ Different Steps in Testing of Hypothesis

Step 1: State the Null Hypothesis

The null hypothesis can be thought of as the opposite of the "guess" the research made. So the null would be that there will be no difference among the groups of the plant. Specifically in more statistically language for the null.

Step 2: State the alternative Hypothesis

H_A : mean treatment level not all equal. The reason we state the alternative hypothesis this way is that if the null is rejected, there are many possibilities.

(2)

Step 3: Set

if we look at what can happen in a hypothesis test, we can construct the following contingency table.

Step 4: collect Data

Remember the importance of recognizing whether data is collected through experimental design.

Step 5: Calculate a test statistics

For categorical treatment level means we use an F statistics, named after R. A Fisher.

- Step 6: Construct Acceptance / Rejection

Step 7 : Based on step 5 and 6 draw a conclusion about H_0 .

QNO-2 write a short note on presentation of Research data?

Ans The result section of an original research paper provide answer to this question: "what was found". The amount of finding generated in a typical research project is often much more than what medical journal can accommodate in one article. So the first thing the author needs to do is to make a selection of what is worth presenting. Having decide that, he/she will needs to convey the message effectively using the mixture of text, tables, and graphics.

SOME GENERAL RULES

- > keep it simple
- > Data should answer the research questions identified earlier.
- > Leave the process of data collection to the methods section. Do not include any discussion. These error surprising & quite common.

(2)

→ Always used past tense in describing a result

→ Text, tables or graphics? These complement each other in providing clear reporting of research findings. Do not Repeat the same information in more than one format. Select the best method to convey the message

(3)

QNO-3 Differentiate b/w Relative Risk and odd Ratio with example?

Ans. Odd Ratio and Relative Risk are often confused despite being unique concept. Well both measure association between a binary outcomes variable and a continuous or binary predictor variable.

The basic difference is that the odds ratio is a ratio of two odds (yep, it's that obvious) whereas the relative risk is a ratio of probabilities.

Example - (Relative Risk)

Suppose you have a school that wants to test out a new tutoring program. At the start of the school year they impose the new tutoring program for a group of students randomly selected from those who are failing at least 1 subject at the end of 1st quarter.

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At the end of school year the number of students in each group who fail any of their classes is measured.

	Event Fail	Event Dont Fail
Treatment (Tutoring)	a	b
Control (NO tutoring)	c	d

$$RR = \frac{\text{Risk of event in treatment group}}{\text{Risk of event in control group}} = \frac{a/(a+b)}{c/(c+d)}$$

Example of Odds Ratio

$$OR = \frac{\text{odds of event in treatment group}}{\text{odds of event in control group}} = \frac{a/b}{c/d} = ad/bc$$

Q. No - 4

Ans: prevalence

The measure of disease frequency we have calculated as the prevalence, that is the proportional of the population that has a disease at a particular time. prevalence indicate the probability that a member of the population has a given condition. at a point in time. it is therefore, a way of assessing the overall burden of disease in the population, so it is useful measure for administration when assessing the need for service or treatment facilities.

~~period prevalence~~

=> point prevalence

Epidemiologist sometime make a distinction between, point prevalence the proportion of the population at a point in time, so it includes all previous cases who are still have the condition and are still member of the population. A good way to think about point prevalence is to imagine that you

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took a Snapshot of the population and determined the proportion of people who had the condition of interest at the time the Snapshot was taken.

⇒ **Period prevalence** is similar to point prevalence, except that the point in time is broader. For example, suppose that 2477 residents of Framingham, MA were examined to establish the proportion of the population that had cataract. It may have taken 2-3 years to conduct all of eye exams and when they are done the prevalence over the observation period would include people who had acquired cataracts previously if they still lived in that population.