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Program : BS D.T 6th semester.

Department : AHS

Examination : Final Term.

Subject : Research Methodology.

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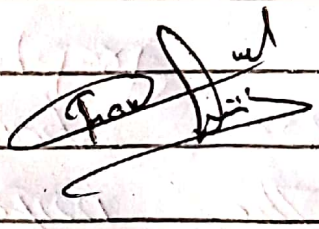

(1):

Q = (1):

Ans:: Writing the data in Ascending other.

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

there, $n = 9$

$$\text{Mean} = \frac{\sum x_i}{n}$$

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

$$\boxed{\Sigma = 73.6 \text{ Means}}$$

Median = ?

$n = 9$

$$\text{Median} = \left(\frac{n+1}{2}\right)^{th} = 5^{th} \text{ Term}$$

$$\boxed{\text{Median} = 77}$$

Mode:-

There is no repetative sample in the given Number.

Hense, there is no mode. in given, since no. number is repeated more than one times

There is no mode.

Q = (2):-

Ans:- Presentation of Data:-

The presentation of data which means that the data should be presented in such a way that the facts and figure, as clearly understood and the style of presentation depends on course on the types of data.

The data can be presented in a Frequency table, graph and chart etc: and we should discuss some of the important means of presentation.

Form of Presentation:-

Textual:-

- Data is written in paragraph
- Data is Form of presented in Form of text.

Tabular:-

- Data presentation in row.
- Also known as Tabulation

Diagramatic:- We present in diagram method graphical.

(i):- **Frequency Tables:-**

The Frequency Table data is presented in a Tabular Form which gives The Frequency with which are the Number of time with a particular value that apears in The data.

(ii):- **Graphs:-**

The Graphs may be summarize and display data is through use of graph or pictorial representation of Nomerical data.
The Graph should be designed to convey a single glance The general pattern in sets of data.

Bar chart:-

The Bar Chart are used For Nominal or ordinal data.

Pie chart:-

Pie chart can also be used to display ordinal or Nominal data.

Q-3)

Ans:- Relative Risk (cohort study)-

Incicl of outcomes with exposure

Incicle of outcomes without exposure.

The relative risk which expressed How many times more (or less liked an exposed person develops an outcome relative to an unexposed person.

- Incidence in exposed individual = a/a+b
  Or proportion of exposed people who developed the disease.
- Incidence in non-exposed people who develop disease.

Incidence in exposed.

incidence in non exposed

$$RR = \frac{a/a+b}{c/c+d}$$

Interpretation:-

- RR > 1 Increased risk of outcomes
- RR = 1 No risk of outcomes.
- RR < 1 Reduced risk of outcomes

What is the correct interpretation of a RR of 1.36.

Risk of diseas is increase by 136%

Risk of disease is reduced by. 36%

Risk of exposure is increased by. 136%

Risk of exposure is reduced by. 36%

What is the interpretation of a RR of 0.80?

→ Risk of the outcomes in the exposed grouped. was reduced by 20% (or accured 20% less) relative to the unexposed grouped.

(7)

Calculating The Relative Risk:

Disease status.

	CHD +	CHD -	Total.
smoker.	112.	176	288
Non-smokes	88	224	312.

Incidence in exposed =

$= a/a+b = 112/288 = 0.38.$

Incidence in Non exposed =

$= c/c+d = 88/312 = 0.28.$

$RR = 0.38/0.28 = 1.38.$

Interpretation of RR.

Which compared to non Smokers, the Smoker have a 1.38 times greater risk of developing CHD.

(b) Odds Ratio: (case control):-

"OR" = Odds of exposure in those with disease / Odds of exposure in those without disease

How many times which more likely to the Odds of Finding an exposure an someone with disease is compared to Finding the exposure in someone without the disease.

The odds ratio which can the incidence cannot be measured in case control studies because we start with the disease people (cases) and non disease people (control), hense we calculate OR.

Case Control:-

	Cases	Controls	
Exposed	a	b	a+b
Non Exposed	c	D.	c+D

(OR) = a/c / b/d / or ad/bc

Interpretation:-

- OR > 1 ∴ Increased Frequency of exposure among cases.
- OR = 1 ∴ No change in frequency of exposure
- OR < 1 ∴ Decrease Frequency of exposure.

How Big should The RR be for us to be impressed.

- In a RCT we should be satisfied with a small increased (or decrease) in Risk.
- Cohort study :- RR ≥ 3 For a minor adverse events.
- Case Control :- OR > 4.

Passive smoking and Breast cancer.

Exposed passive smoker	Breast cancer (a)	No Breast cancer (b)	Total
	140 (a)	370 (b)	510
Not exposed	40 (c)	234 (d)	274

odds = 140/40 = 3.5 odds = 370/234.

OR = 3.5/1.6 = 2.2 = 1.6.

Qs=(4)

Ans:- **Prevalance:-**

def^{n}:- The prevalance is the proportion of a population who have a specific characteristics in a given time period.

Prevalance means the burden of disease -

"OR"

The prevalance is defined as the Number of affecting person in the population devided by no of all person in the population in the specific period of time.

"OR"

Prevalance quantifies the proportion of individual in a population who have the disease at a specific instant and provide the estimate of the probability (Risk). That can individual will be ill at a point in time.

→ Explain:-

- Prevalance may be reported as a percentage (5% or "5" people out of 100). or as the number of cases per 10,000 or 100,000 people.
- The way prevalance is reported depends on how common the characteristic of the population.

(i):- Point Prevalance:-

The point prevalance is the proportion of a population that has the characteristics at a specific points in Time.

Point prevalance is a measure of proportion of people in a population who have a disease or condition at a particular time.
→ Such as a particular date.

→ such as the the unset of menopause or puberty or the third postoperative clay.

→ Measure the Frequency of disease at a given point in time.

→ Applies when the data has been collected at one point in time.

Example of Points Prevalance:-

- 150 children in a school.
- screening for refractory errors of time "t".
- 15 children requires Glasses.
- Prevalance of refractory errors.

15/150 = 10%

(ii):- Period Prevalance:-

The period prevalance is the proportion of a population that has the characteristics at any point during a given time period of interest.

The period prevalance that represent the proportion of a cases that exist within a population at any point during a specific period of time.

The Numerator that include cases that were present at the start of the period plus new cases that developed during this time.

The period prevalance which can measure the Freguency of disease over some times.

→ Applies when the data has been collected over a period of time.

Example.

- Scenario:
  - Population of 150 person.
  - Follow up for one year.
  - 25 had a disease of interest at the begining.
  - Another 15 new cases developed during the year.

Calculate:

- point prevalance at the start of the period.
- period prevalance for the year.

$P = C/N = 25/150 = 0.17$ (17%).

$PP = (C+I)/N = (25+15)/150 = 0.27$

$= 27\%$

Q-(5).

Ans:- Definition of Hypothesis:-

A Hypothesis can be defined as a logicall assumed relationship b/w two or more variable expressed in the form of a testable statement.

Example:-

Training his significant relationship with employee Job performance.

"OR"

What is Hypothesis:-

A testable theory, or statement of belief used in evaluation of a p. population parameter of interest.

e.g - Mean of proportion.

Why Test Hypothesis :-

→ Hypothesis Testing permits generalization of an association or a difference obtained from a sample to the population from it comes.

→ Hypothesis testing involve conducting a test of statistical significance and quantifying the degree to which sampling variability may account for the result observed in a particular study.

It intail the following steps

Steps in Hypothesis Testing:-

(i) statement of Research question in terms of statistical Hypothesis (Null and alternate Hypothesis)

(ii):- selection of an appropriate Level of significance.
The significance level is the risk we are willing to take that a sample which can showed a difference was misleading.
5% significan level means, that we are ready to take a 5% chance of wrong results.

(iii):- choosing an appropriate statistics t, test Z, test for continuous data.

Test statistics is computed from the sample data and is used to determine whether the Null Hypothesis should be rejected or retained.

(iv):- Performing calculation and obtaining P-value.

Drawing conclusion, rejecting Null Hypothesis If The p value is less than The set significance level.

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Drawing conclusion, rejecting Null Hypothesis if the p-value is less than the set significance level.