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Paper Research methodology

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Q.3=

ANS= Difference between relative risk and odd ratio.

Relative Risk

Odd Ratio

→ It can only be used for data from studies with a randomly selected sample

→ It can be used to summarise data from most studies.

→ It can be used to calculate the attributable risk

→ Give an estimate of risk when the prevalence of the outcome is not known.

→ Usually in prospective, cross sectional and clinical

→ Usually in Retrospective studies and in cross sectional

trial studies

→ It needs incidence of the disease

→ It does not need incidence for calculation.

→ It demonstrates parity

→ It has good estimate for RR in case of low frequency disease.

Example: You could have two groups of women: one group has a mother, sister or daughter who has had breast cancer.

Example: If you are normally on call 2 out of 7 days in a week, then the odds of you being on call on a certain day of the week is

$$[(2/7)/(5/7)] = 0.40$$

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Q.2 =

ANS = Presentation of Data:

→ Data once collected should be presented in a such a way as to be easily understood. The style of the presentation depends on type of data.

→ Data can be presented in as frequency tables, charts, graphs etc.

Here we would discuss some of the important means of presentation.

Frequency Tables:

→ In a frequency Table data is presented in a tabular form.

It gives the frequency

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with which a particular value appears in data.

Systolic blood pressure of patients coming to a tertiary care hospital OPD:

Distribution	Frequency	Relative	C. Relative
Below 100	6	0.10	0.10
100 - 120	9	0.15	0.25
121 - 140	24	0.40	0.65
141 - 160	15	0.25	0.90
Above 160	6	0.10	1.00

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Q.1 =

ANS = 50, 79, 70, 48, 90, 68,
89, 92, 70.

(1) Mean = $\frac{\text{Sum of values}}{\text{Number of values}}$

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

$$= \frac{656}{9}$$

$$= \boxed{72.88} \text{ mean}$$

(2) Median = 48, 50, 68, 70, 70,
79, 89, 90, 92

$\boxed{70}$ is median

→ Median is middle value

(3) Mode = 48, 50, 68, 70, 70, 79

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89, 90, 92

mode is 70

→ mode is most frequently value.

Q.5 =

Ans = HYPOTHESIS:

→ It is the testable theory or statement of belief used in evaluation of a population parameter of interest

E.g.: Mean or proportion

Steps in hypothesis test:

- 1) Statement of research question in terms of statistical hypothesis.

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2) Selection of an appropriate level of significance.

The Significance level is the risk we are

willing to take that

a sample which

showed a difference

was misleading. 5%.

Significance level means

that we are ready

to take a 5% chance

of wrong results.

3) Choosing an appropriate statistics t test, z test

for continuous data,

chi square for proportions etc.

→ Test statistics is

computed from the sample

data and is used

to determine whether

the null hypothesis

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should be obtained or rejected.

4) Performing calculations and obtaining p value.

5) Drawing conclusions, rejecting null hypothesis if the p value is less than the set significance level.

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Q.4=

ANS= PREVALENCE:

→ For a representative sample, prevalence is the number of people in the sample with the characteristics of interest, divided by the total number of people in the sample.

Point Prevalence:

→ Prevalence can be thought of as the status of disease in a population at a point in time and as such is also referred to as point prevalence.

→ This "point" can refer to a specific point in calendar time or to

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a fixed point in the course of events that varies in real time from person to person.

Period Prevalence:

→ It is the proportion of a population that has the specific characteristics at any point during a given time period of interest "past 12 months" is a commonly used period. Lifetime prevalence is the proportion of a population who, at some point in life has ever had the characteristic.