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Q No (7)

Ans:→

Mean:

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

$$92 = \frac{663}{9}$$

Mean =

$$\frac{663}{9} = 73.66$$

Mode = no mode

Median:

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

Median = 77



Q No 2 :-

Write a short note on  
Presentation of research data?

Ans: Presentation of data this refers to the organization of data into tables, graphs or charts. So that logical and statistical conclusion can be derived from the collected measurements. tabular Presentation method of Presentation data using the statistical table.



(4)

Q No. 3,

Differentiate b/w relative risks and odd ratio with example?

Ans: is Relative risks.

Incidence in exposed individual  $S = a/a+b$  or Proportion of exposed people who developed the disease. Incidence in non exposed individuals  $S = c/c+d$  or Proportion of non exposed people who develop disease.

Relative Risks =  $\frac{\text{incidence in exposed}}{\text{incidence in non exposed}}$

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

example

	CHD +	CHD -	total
Smoker	112	176	288
Non Smoker	88	224	312

Incidence in non exposed =  $a/a+b = 112/288 = 0.38$

Incidence in exposed =  $c/c+d = 88/312 = 0.28$

$RR = 0.38/0.28 = 1.38$



## 2. Odds Ratio: (5)

Incidence cannot be measured in Case Control Studies because we start with the diseased people (cases) and non-diseased people (control). Hence we calculate OR.

Examples:

	Case	Control	
Exposed	a	b	a+b
No exposed	c	d	c+d

$$OR = a/c \quad b/d \quad \text{or} \quad ad/bc$$

			Total
Exposed	1400	3070	510
No exposed	400	234	274

$$\text{odds} = 140/40 = 3.5$$

$$\text{odds} = 370/234 = 1.6$$

$$OR = 3.5/1.6 = \boxed{2.2}$$

Compared to the control the odds of being a passive smoker are 2.27 in a breast case.



(6)  
Q No (4)

What is meant by Prevalence in research? Also explain Point and Period Prevalence.

Ans: Prevalence is

Prevalence quantifies the proportion of individuals in a population who have the disease at a specific instant and provides an estimate of the probability (risk) that an individual will be ill at a point in time. The formula for calculation the prevalence  $P = \frac{\text{number of existing case of a disease}}{\text{total population}}$  (at a given point in time)

Point Prevalence is

- Prevalence can be thought of as the status of the diseases 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 a fixed point in the course of events that varies in real time from person to person.



(7)  
Such as the onset of menopause or puberty or the third Postoperative day.

Period - Prevalence :-

it represents the proportion of cases the exist within a population at any point during a specified period of time.

The numerator thus includes cases that were present at the start of the period plus new cases that developed during this time

Eg:- Frequency of Patients receiving Psychiatric Rx b/w May 31 - Dec 31 2008.



Q No (5) (8)

What is Hypothesis? Also explain different steps in testing of Hypothesis.

Ans: Hypothesis:

A testable theory or statement of belief used in evaluation of a Population Parameter of interest e.g. Mean or Proportion.

1) Steps in Hypothesis testing.  
Statement of research question in terms of statistical hypothesis (Null and alternate hypothesis)

2) Selection of an appropriate level of significance.

The significance level in the risks we are willing to take that a sample which should a difference was misleading 5% significance level means the are ready to take a 5% chance of wrong results.



## 2) Steps in Hypothesis testing:

Choosing an appropriate Statistics i. test, z test for Proportions, Continuous data, chi square for Proportions etc. test Statistics is computed from the sample data and is used to determine whether the null hypothesis should be rejected or retained test Statistics generates P value. P value indicates the probability or like hood of obtaining a result at least as assuming that there is truly no association b/w exposure and outcome under consideration.

Performing calculation and obtaining P value

Drawing conclusion rejecting null hypothesis if the P value is less than the set significance level

$\alpha$  and P error:

Accept to Hypothesis = True  $H_0$   $\rightarrow$   $F_0 H_0$

Correct Decision	Wrong Decision
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Reject to Hypothesis	Wrong Decision Error	Correct Decision
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