

HIGH-YIELD

Statistics

Is a field of study that concern with
The Collection ,Organization and Summarization of data
And
Drawing of inference about a body of data when only
part of data are observed

Biostatistics consist of

- 1-Collection of data .
- 2-Presentation of data
- 3-.Estimation of data

:two distinct subcategories

- .I- Descriptive Biostatistics
- .II- Inferential Biostatistics

Descriptive Biostatistics

, It is a series of procedures designed to clarify the data

This include:

Presentation of data by

1. Graph and or
2. Tables
3. Calculation

Data are the values you get when you measure a variable

Variable (Y)

**It is the characteristics ,that observed in:
persons, places or things .**

**This characteristic is not the same when observed in
different possessors
is some thing whose value can vary**

Type of variable :

1.Categorical variable (Qualitative Variable)

- a- Nominal
- b- ordinal

2 Metric variable

(Quantitative Variable)

- a-Continuous
- b-Discrete

1. Categorical variable

a- Nominal

Blood group

- Data do not have any unit
- ordering of the categories is completely subjective

b- Ordinal

grading of tumor

- the data are *not properly measures*
but assessed in some way
- these data are not real numbers*
- we cannot apply any arithmetic's roles
- Data do not have any unit
- ordering of the categories is not subjective
the order category in a meaningful way

2 Metric variable

Continuous variable(C.V)

Height ,Weight

- usually comes from measuring Can be properly measured
- they are a real numbers
- we can apply all mathematics' operations
- All have units of measurement attached to them
- The difference between any pairs of adjacent values are exactly the same (equal) this is known as the **interval property**



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2 Discrete variable

n. of student

- Usually comes from Counting
- It is real numbers It can be counted
- It have a unit of measurements
- It is integer, measurement or values are integers
- They have the same interval and ratio properties as continues variables

Presentation of Data

Data need to be transformed into information

- by reducing them
- by summarization
- Arrange it in a simple and useful way
- bring out the *important point clearly & concise*

Table

. It is first step in data presentation
Is the simplest and often most useful summary of data

Nominal+Ordinal :Simple Frequency Table

Frequencies : No. of observation in each category

Relative frequency :Frequency each category divided by the total frequency.

Percentage frequency :Frequency of each category divided by the total frequency
X 100

Continuous Metric variable(CMV):grouped frequency distribution

Cumulative Freq. Dist.

That is to convert the frequencies distribution into less than and more than .

- Adding two or more classes frequency

Cumulative Relative and Percentage Dist.

add two or more Relative frequencies together

Blood group	Frequency N=95	Relative Frequency	Percentage %
A	22	$22/95=0.231$	23.15
B	25	0.26315	26.315
AB	18	0.18947	18.947
O	30	0.3157	31.5789
Total	95	1	100

AGE year	frequency	Commutative frequency	Relative frequency	% R.F.	Cumulativ R.F.	%cum Freq.
20-29	1	1	0.02	2	0.02	2
30-39	2	3	0.04	4	0.06	6
40-49	2	5	0.04	4	0.1	10
50-59	3	8	0.06	6	0.16	16
60-69	12	20	0.24	24	0.4	40
70-79	14	34	0.28	28	0.68	68
80-89	12	46	0.24	24	0.92	92
90-99	4	50	0.08	8	1.00	100
total	50	--	1	100	--	--