

SUBJECT: RESEARCH METHODOLOGY

MID TERM ASSIGNMENT.

SEMESTER: DT 6TH .

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Submitted to sir attullah.

SECTION A.

NOTE: Highlight the correct option of the given MCQs from section A. attempt all 3 questions from section B.

1. **You may remember that three years ago there was a multistate outbreak of illnesses caused by a specific and unusual strain of Listeria monocytogenes. As part of the investigation of this outbreak, CDC workers checked the food histories of 20 patients infected with the outbreak strain and compared them with the food histories of 20 patients infected with other Listeria strains. This study design is best described as which one of the following:**
 - A. Analytical, experimental
 - B. **observational, case-control**
 - C. Analytical, observational,
 - D. cohort Descriptive
2. **A published study follows a large group of women with untreated dysplasia of the uterine cervix, documenting the number who improve, stay unchanged, or progress into cervical cancer. This study design is best described as which one of the following:**
 - A. Analytic, experimental
 - B. Analytic, observational, cohort
 - C. Analytic, observational, case/control
 - D. **Descriptive, observational**
3. **A community assesses a random sample of its residents by telephone questionnaire. Obesity is strongly associated with diagnosed diabetes. This study design is best described as which one of the following:**
 - A. Case-control
 - B. Cohort
 - C. **Cross-sectional**
 - D. Experimental
4. **Based on a list of residents from election rolls, 2/3 of men in a large city are invited (including repeated educational urgings) and 1/3 of men are not invited to be screened by PSA blood test for prostate cancer. Over the next 10 years the two groups are compared as to the rate of death from prostate cancer. This study design is best described as which one of the following:**
 - A. Case-control
 - B. Cohort
 - C. **Cross-sectional**

- D. Experimental
5. In a case-control study of alcohol intake and bladder cancer, cases and matched controls are each interviewed by interviewers who are not blinded as to whether the subject is a case or a control. Many of the interviewers are in fact convinced that drinking alcohol is a cause of bladder cancer. Is this likely to represent a bias?
- A. No, because the interviewers can't affect whether the subjects are considered cases or controls; that's already decided
- B. Yes, but it's hard to predict the direction of the bias.
- C. Yes, and would predispose to a rejection of the null hypothesis.
- D. Yes, and would predispose to an acceptance of the null hypothesis.
6. Interviewing all members of a given population is called:
- A. a sample.
- B. a Gallup poll.
- C. a census.
- D. a Nielsen audit.
7. Sampling means following a sequence of stages. Which ONE of the following stages should come before the others?
- A. Proceed with the fieldwork.
- B. Find suitable source for the population members.
- C. Define the people of interest.
- D. Examine the objective of the study.
8. Which ONE of these sampling methods is a probability method?
- A. Purposive.
- B. Judgement.
- C. Convenience.
- D. Simple random.
9. Which ONE of the following is the benefit of using simple random sampling?
- A. We can calculate the accuracy of the results.
- B. The results are always representative.
- C. Interviewers can choose respondents freely.
- D. Informants can refuse to participate.
10. Which ONE of the following is the main problem with using non-probability sampling techniques?
- A. The expense.
- B. The results are never representative.
- C. Human judgement error.
- D. Informants can refuse to participate.
11. Which ONE of the following is the best - but an often unused - way to decide on sample size?
- A. By using industry standards.
- B. By calculation.
- C. By 'building blocks'.
- D. By budget available.
12. Which ONE of the following methods is generally used in qualitative sampling?
- A. Random digit dialling.
- B. purposive.
- C. Stratified random.
- D. Simple random.
13. The median of 7, 6, 4, 8, 2, 5, 11 is
- A. 6
- B. 12
- C. 11
- D. 4
14. Number which occurs most frequently in a set of numbers is
- A. mean
- B. median
- C. mode
- D. None of above
15. The mode of 12, 17, 16, 14, 13, 16, 11, 14 is
- A. 13

B. 11
C. 14

D. 14 and 16

SECTION B

Q 2: Explain cohort study and types of cohort study design in detail.

Q3: Define Sample and Explain types of Non-Probability sampling

Q4: Define and explain Data and types of data.

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Q2: Explain cohort study and types of cohort study design in detail?

A cohort is a group of people who have something in common (a characteristic or characteristics suspected of being a precursor to or risk factor for a disease) and who remain part of a group over a period of time.

Types of cohort studies.

Prospective cohort studies

Retrospective cohort studies.

Prospective Cohort Studies

The investigator assembles the study groups in the present time, collects baseline data on them and then continues to collect data for a period that can last many

Convenience Sampling:-

It is the process of taking those members of the accessible population who are easily available.

Sample is selected in a haphazard fashion.

It is widely used because of its obvious advantages in cost and logistics. However this type of sampling techniques in fraught with biases.

Purposive Sampling:-

Sampling is done on the basis of some pre determined idea (clinical knowledge etc).

Specific targets are interviewed because they possess the desired information.

Q4 Define and explain Data and types of data?

Data :-

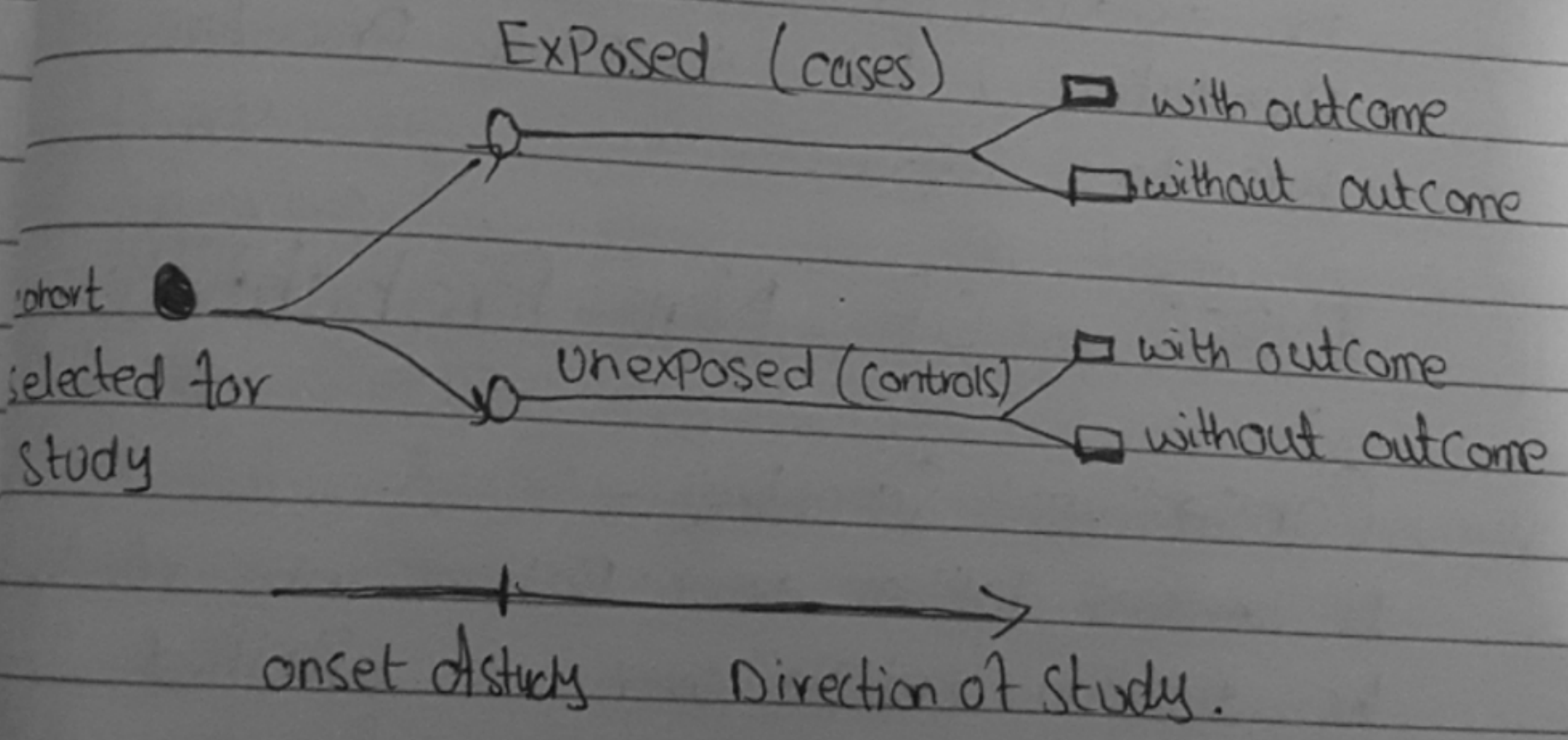
Data are values of the observation recorded for variable e.g (age, weight, sex).

hours to years.

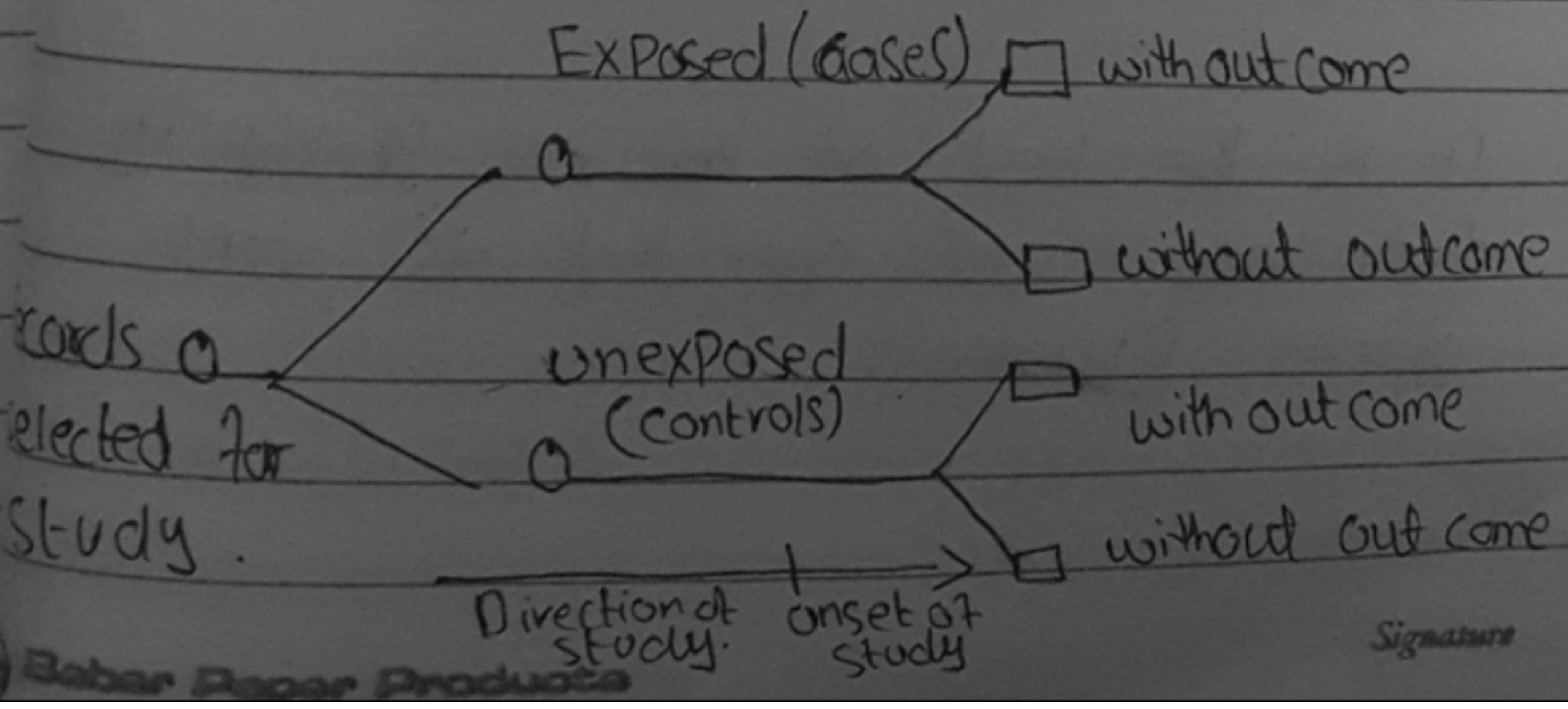
Retrospective Cohort Studies.

The investigator goes back into history to define a risk group (e.g. those children exposed to x-rays in utero vs those not) and follows the group members up to the present to see what outcome (cancer) have occurred.

Cohort study - Prospective:-



Retrospective cohort studies



Signature

Types of Data:-

Qualitative or categorical data:-

The characteristic which can't be expressed numerically like sex, ethnicity, height etc.

Quantitative data or numerical data:-

The characteristic which can be expressed numerically like age, temperature, no. of children in a family.

Categorical Data:-

There are two types of categorical data:-

Nominal

ordinal data

Nominal Data:-

The variables are divided into named categories. These categories however, can not be ordered one above another (as they are not greater or less than each other).

Ordinal Data:-

The variable are also divided into a number of categories but they can be ordered one above another from lowest to highest or vice versa.

Q3 = Define sample and explain types of non-probability sampling?

SAMPLING:-

"A sample is a sub set of the population with all its inherent qualities."

Inferences about the population sample. If the sample is truly representative of the population. Since a sample is expected to represent the whole population, the sampling procedure has to follow.

TYPES OF Non-Probability:-

Consecutive Sampling:-

It involves taking every patient who meets the selection criteria over a specified time interval or number of patient.

It is the best of the non-probability techniques and one that is very often practical.