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SUBJECT: RESEARCH METHODOLOGY

MID TERM ASSIGNMENT.

SEMESTER: DT 6TH .

SECTION A.

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
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.

Ans ; **COHORT STUDY**; cohort study is a type of analytical study which is undertaken to obtain additional evidence to refute or support between suspected cause and disease

TYPES:

- 1; prospective study
- 2; retrospective cohort study
- 3; ambi directional cohort study

1.PROSPECTIVE STUDY;

>It is the strategy of cohort studies to start with a reference population some of whom have certain characteristics or attributes relevant to the study

>Both groups should at outset of the study be free from the condition under consideration.

EXAMPLE ; study subjects were examined every 2 years for 20 years.

RETROSPECTIVE COHORT STUDY;

>**A retrospective cohort study is the outcome have all occurred before the start of investigation.**

>**known with the name of historical cohort and noncurrent cohort**

EXAMPLE: suppose that we began our study on association between smoking habit and lung cancer in 2008

AMBI DIRECTIONAL COHORT STUDY;

>**elements of prospective and retrospective cohort are combined**

>**The cohort is defined from past records and assesses of date for outcome.**

EXAMPLE;

Outcome evaluated was death from leukemia or aplastic anemia between 1934 to 1954.

DESIGN OF COHORT STUDY:

Identify: EXPOSED:>developed disease

>do not develop disease

NOT EXPOSED:>develop disease

>do not develop diseases

Q3: Define sample and explain types of non-Probability sampling

ANS3; **SAMPLE:** A sample is a group of people, objects or items that or taken from a large population for measurement.

TYPES;

1: CONVENIENCE SAMPLING

2: QUOTA SAMPLING

3: PURPOSIVE SAMPLING

4: SNOWBALL SAMPLING

1:CONVENIENT SAMPLING:

When selecting of participants easy with no randomization called convenient sampling.

EXAMPLE:

If we have more than thousand university students but we are interested in 100 students. We should simply stand at one of the main entrances to campus where it should be easy to invite the many students , so it is very easy

2: QOUTA SAMPLING:

It is the selecting of participants in numbers proportionate to numbers in the large population

EXAMPLE:

Number of students from some group that we would occur in the sample would be base on the proportion of girls and boys

3: PURPOSIVE SAMPLING:

It's also called judgmental sampling or subjective sampling which reflects a group of sampling techniques that is based on the judgment of the researcher

EXAMPLE: specific people and specific cases or events

4: SNOWBALL SAMPLING:

It is the selecting of participants by searching one or two participants and tell them to refer you to others

EXAMPLE: meeting of poor or homeless person, asking to introduce you to other poor people you might ask.

Q4: Define and explain data and types of data

ANS: **DATA:** Data are the information or characteristics which we collect by observation. Data is the group of values of qualitative or quantitative variables.

TYPES:

1: **QUANTITATIVE DATA:**

>It is nm

representing in numbers or numerical

>It deals with numbers which we can measure such as height width and length, area and volume.

>It represents the measurements

>for example we can measure the width in progressively more precise scales

>It has three types

1: binary

2: nominal

3: ordered

2: **QUALITATIVE DATA:**

>It has descriptive information

>It deals with the characteristics that we cannot be measure easily but can be observed subjectively such as smell and taste

>It represents item which we can count.

>for example total number of boys in class of 10 it can be 0 to 10.we cant have 2.5 boys

