**Mid-Term Assignment**

 **DPT 6th semester**

**Course Title: Teaching Methodology and community medicine**

**Instructor: Dr. M. Shahzeb khan (PT)**

 **Marks: 30**

**Note:**

**Attempt all questions, all questions carry equal marks.**

**Q1:** (A) What is epidemiology? Explain determinants, distribution, health related states and events?

**Ans A : Epidemiology :-**

It is the branch of medicine which deals with the study of incidence,, distribution, determinants and probable control of disease and other elements related to health.

**Determinants :-**

The determinants of epidemiology is that the epidemiologist would fine out the causes and the risk factors and search for questions like “ Who”, “ What”, “Where”, and “ When” and then they would try to answer of “ Why”.and “ How”.

**Distribution :-**

The distribution of epidemiology is that the epidemiologist would search about the“ Time”, “ Place “, and “ Person”. And study for the distribution of frequency and design.

Time – as this disease occurrence is due to Cyclic change , calendar time, or its because of seasonality.

Place – the place of disease like its In the country or international level or in urban or rural areas..

Person – the person age, sex, gender and physical activities are found

**States and Events :-**

Following are the states and events that is related to the patient health;

**1: condition of patient :-**

It shows how the patient is doing and observing his general health and condition with the disease he is suffering from.

**2: Severity and irritability :-**

It shows that the problem, which the patient is suffering is serious and harsh.

**Sign and symptoms :-**

This shows the physical examination and observation and the problems which patient tells.

(B) What is primary and secondary Data? Explain it with at least two examples.

**Ans B : Primary Data :-**

Primary data is the data in which the information is collected from his own surveys, experiments and it is a first hand source.

Data is specifically collected for the problem they want to study.

Primary data is the first hand data which is collected by the original researcher and from their own investigation and sure about sources of data. Primary data is costly process and takes less time..

**Secondary Data :-**

The secondary data is the data in which the information is collected from the other person surveys, experiments and it is a first hand source.

It use already collected data for research purpose.

Secondary data is the second hand data and collected from the other researchers.

Secondary data is cheap process takes less time.

**Two examples for primary and secondary data :-**

**Example no 1 :** For example a person wants to study trauma in burn survivors. He will first study the literature of subject after that he would collect the published and non published experiments and surveys which would be **secondary data**.

But when he go to the trauma unit and interviewed burn survivors. The data which he collected himself is called **primary data.**

**Example no 2 :-**

 The health ministry of pakistan collecting or counting the number of affectees of corona virus in pakistan would be considered as a **primary data.**

And i, using the same information of the affectees which is 9216 till date from their official website is considered as **secondary data.**

**Q2:** If you want to conduct cross sectional study, how will you conduct?

Explain each and every step with Example

**Ans : Cross sectional study :-**

Cross sectional study is a type of observational study in which the data is examine from population at a specific time , it is called cross sectional study. Cross sectional study is a snapshot study in which we found out the prevalence. The cross sectional sectional study gives us risk factors and outcomes both simultaneously in one time

**How to conduct cross sectional study :-**.

The cross sectional study can be conducted by making a questionnaire and distribute it into a sample size and then collect the data from this.

 The cross sectional study can also be conducted by interviewing the sample size or participants regarding our study.

The cross sectional study can also be conducted by doing the clinical examination of participants, It is because through clinical examination we can collect data from the participants and can conduct cross sectional study.

The cross sectional study can also be conducted by examine the previous records of the participants through which the data can be collected

**Steps for cross sectional study :-**

**1 : Defining the problem under study :-**

It is the first step of cross sectional study in which we define or pointed out the problem which we need to study, **for example;** if we want to study about any disease like lung cancer so in this case the define problem is lung cancer because we study about the problem in this step.

**2 : Defining the population under study :-**

In this step we define the population or point out the population where we would study about the problem, **for example;** if I want to study about the lung cancer prevalence in any place so I need to define the population or place.

**3 : Taking the sample of population :-**

In this step we sample the population which is the subset of population **for example;** In a defining population, individual sample is chosen entirely by chance in which each person of the population has a chance of probability and non-probability of the disease.

Different individual takes part which might be lung cancer patients, normal fit individual , cigarette smoker which are investigated referred to as a **participants.**

**4 : Collecting the data :-**

In this step we collect the data from the sample or participants which is being investigated**. For example;** the data is collected from the participants and get to know that many individual smoke cigarette has a disease of lung cancer and some individual do not smoke cigarette but has a lung cancer and some individuals has no lung cancer and do not smoke cigarette.

**5 : Analzing interpretation of data :-**

In this step we analyze the data through a software that how many people has the problem, **for example ;** the data collected from the sample is analyzed which gives us the comparison and of individual who is suffering from lung cancer by smoking cigarette and other has no lung cancer but they smoke cigarette

**6 : Drawing the conclusion :-**

In this step we find out the end result or the end of written assignment. **For example;** the analyzing data gives us the percentage of individual that how many individuals suffers from lung cancer by smoking cigarette and how many individuals who smoke cigarette but has no lung cancer and also tell us the risk factors and the overall conclusion regarding the disease.

**Q3:** Write down difference between cohort study and case control study.

Explain it with example

**Ans :**

 **Difference between cohort study and case control study :-**

|  |  |
| --- | --- |
| **Cohort study** | **Case control study** |
| **1:** It is a study in which group of people who share a common characteristics within a defined time period and free at the start of the study. | **1:** It is a study in which two groups are selected, one of people with the disease and the others are free from disease. |
| **2:** From cause to effect | **2:** From effect to cause |
| **3:** Start with people who exposed to risk factors. | **3:** Start with disease. |
| **4:** Tests whether disease occur more in those who exposed to risk factors. | **4:** Tests whether the suspected factor associated more with diseased. |
| **5:** Reserved for precisely formulated hypothesis. | **5:** First approach to testing the hypothesis. |
| **6:** it consist Large no of subjects. | **6:** Fewer no of subjects. |
| **7:** Unsuitable when exposure is rare. | **7:** Suitable foe rare disease. |
| **8:** YieldS IR, RR, AR. | **8:** Only estimates Odds ratio. |
| **9:** Expensive. | **9:** Relative inexpensive. |
| **10:** Often long waiting time. | **10:** Quick results. |
| **11:** Usually prospective. | **11:** Usually retrospective. |

**Example for cohort studies :-**

A group of 150 people middle-aged truck drivers involves in smoking and they are at higher risk for lung cancer but there is another group or 150 people at low risk factors for lung cancer. Both groups are followed for 25 years just to check the comparison and observes them that which group will develop lung cancer.

**Example for case control study :-**

Consider we have154 suicide attempters (cases) and the other 122 patients are without suicide attempt history (controls) these patients attended the government hospital LRH Peshawar.

So we visit the hospital and take the social, demographic, clinical and behavioural features which get retrospectively from all the patients and compare it with the before and presence suicide attempt history.