Epidemiology & Medical Statistics Introduction

Duration: 5 Days

Language: en

Course Code: IND05-110

Objective

:Upon completion of this course, participants will be able to

- Understand the importance of epidemiology within a healthcare setting.
- Explore the standards of the design and analysis of epidemiology studies.
- Monitor, measure and express disease incidence and prevalence.
- Explain the principles of epidemiology research and how to translate evidence data into policy.
- Utilise different techniques to measure disease mortality.
- Comprehend the different types of pathogens and understand how diseases are transmitted.
- Successfully recognises the validity of a diagnostic test and the benefits of screening tests.
- Determine bias, confounding factors, and interaction effects when conducting tests and analyses.

Audience

This course is designed for anyone within healthcare works within epidemiology, or healthcare providers who wish to develop their knowledge on data reporting. It would be most beneficial for:

- Epidemiologists
- Hospital Directors
- Consultants and Doctors
- Senior Nurses and Nurses
- Research Associates
- Directors of Epidemiology
- Public Health Analysts

Training Methodology

This course uses a variety of adult learning styles to aid full understanding and comprehension. Participants will review cases and studies of historical disease outbreaks to review the epidemiology process of gathering data, data analysis and the preventative steps taken and debate on their effectiveness.
They will be provided all the necessary tools and equipment to successfully partake in the learning exercises, which include seminars, video materials, case studies and group activities. This combination of exercises alongside the industry standard equipment will allow the participants to fully develop their knowledge of the taught content and demonstrate all related practical skills.

Summary

Epidemiology is an area of healthcare and research that is vital in maintaining public health and well-being. It is the study of public health problems, the people they affect, and why. This field serves a great purpose in understanding the transmission of diseases and how they are likely to develop or reduce over time.
Epidemiology revolves around data collection and analysis. Through health surveillance, healthcare providers gather data regarding specific circumstances. This data needs to be processed to identify patterns of transmission, key locations, and the types of people it tends to impact.
When all health data has been analysed, the epidemiologist’s responsibility is to strategize and implement preventative and control measures. These measures are often targeted at

each critical factor in the disease's existence through strategic study designs to minimise spread potential and reduce public risk.

Course Content & Outline

Section 1: **Introduction to Epidemiology**

- Defining what epidemiology is and its necessity within the healthcare sector.
- Explain the three types of epidemiology and how they may be used – descriptive, analytical, and experimental.
- Identifying common public health problems and how epidemiology can help manage them—infectious diseases, chronic illness, injuries, and more.
- Assessing the public health approach – surveillance, risk identification, intervention, and implementation.

Section 2: **The Nature of Disease**

- Understanding the different types of diseases and their cause – infectious disease, deficiency disease, hereditary disease, and psychological disease.
- Investigating the integrity of infectious diseases and exploring the modes of transmission.
- Analysing historical disease outbreaks and the development of how the healthcare sector and general population addressed them.
- Evaluating the disease lifecycle and type of medical intervention that can be utilised.
- Becoming familiar with the notifiable disease list and understanding why governments require this information.

Section 3: **Health Surveillance**

- Utilising health surveillance to gain greater comprehension of time, location and people impacted by a public health problem.
- The different types of health surveillance methods and what they best identify – active, passive and sentinel.
- Acknowledging the advantages and disadvantages of each surveillance type and understanding how their limitations can impact health data.

Section 4: Interpreting Health Data

- Following the scientific approach to collect and analyse health data – data collection, assessment, hypothesis testing and action.
- Calculating rates in relation to instances and populations to identify a correlation between particular characteristics and health problems.
- Memorising the rate formula and documenting results on a funnel plot.
- Using experimental and observational studies to develop an understanding of a public health problem.

Section 5: Outbreak Control

- Designing a study by developing specific knowledge and data – case-control, cross-sectional, and cohort studies.
- Gathering equipment and verifying the diagnosis by speaking with patients and analysing diagnostic test results.
- Establishing a hypothesis for the potential outbreaking and evaluating its validity.
- Strategise, create and implement preventative and control measures to reduce existing damage and restrict further cases.

Certificate Description

Upon successful completion of this training course, delegates will be awarded a Holistique Training Certificate of Completion. For those who attend and complete the online training course, .a Holistique Training e-Certificate will be provided

Holistique Training Certificates are accredited by the British Assessment Council (BAC) and The CPD Certification Service (CPD), and are certified under ISO 9001, ISO 21001, and ISO 29993 .standards

CPD credits for this course are granted by our Certificates and will be reflected on the Holistique Training Certificate of Completion. In accordance with the standards of The CPD Certification Service, one CPD credit is awarded per hour of course attendance. A maximum of 50 CPD credits .can be claimed for any single course we currently offer

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Tags

Statistics, medical, Epidemiology

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