

Stat-325 Epidemiology

50 Marks: 02 Credits

Number of Class: 20-26

Introduction: Definition and scope of epidemiology, uses of epidemiology, Descriptive Epidemiology, Concept of cause, establishing cause of disease.

Types of epidemiologic studies: Cross Sectional, cohort, case control, retrospective and prospective, clinical trials, community intervention and cluster randomized trials.

Measures of Disease Frequency: Incidence and prevalence rates, relation between incidence and prevalence, case fatality rate, risk ratio, rate ratio, risk difference, rate difference, mortality measures, standardized mortality ratio.

Measures of association: Relative risk, attributable risk, odds ratio, risk difference, comparison of proportion different sample.

Epidemiology and prevention: Scope of prevention, levels of prevention: primordial, primary, secondary and tertiary.

Screening: Sensitivity, specificity, negative and positive predictive values.

Text

1. Kenneth, J. and Rothman, S. G. (2008): *Modern Epidemiology*, 3rd Ed, Lippincott Williams and Wilkins, USA.

References

1. Barker, D.J.P. and Hall, A. J. (1991): *Practical Epidemiology*, Churchill Living Stone, Edinburg.
2. Kleinbaum, .G, Kupper L. L and Morgenstern (1982): *Epidemiologic Research*.

3. Mark Woodward: *Epidemiology ,Study design and data analysis*.
4. Newman, S: *Biostatistical Methods in Epidemiology*, Wiley, New York.
5. Nicholas P. Jewell: *Statistics for Epidemiology*.
6. Sahai, H. and Khurshid, A.: *Statistics in Epidemiology Methods, Techniques and Applications* CRC Press, Boca Rotan, Florida