

Training Course on

Hypothesis Testing, Study Designs and Sample Size Estimation

20 -22 March 2025 (10am to 5pm)

Organized by

Dept of Biostatistics and Health Informatics
Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India



Background:

Evidence-based medicine and clinical decision making have emerged as new areas of health and biomedical research. This has posed a challenge for researchers in these fields to arrive at appropriate conclusions. A good knowledge of research methodology and several quantitative techniques is useful. Hypothesis testing is an important tool for decision making and eliminating the research question (often called a hypothesis). It covers a broad area of research methodology. Statistical hypothesis tests define a procedure that controls the possibility of incorrect decisions based on the available evidence. The course will cover the basic concepts and applications of popular parametric and non-parametric tests, epidemiological study designs including Observational study, Experimental study designs (Randomized and Non-Randomized Clinical Trials), and estimation of minimum required sample size for testing of hypotheses in various situations in biomedical research.

Objective:

It is aimed to provide hands on skills to participants about fundamentals of hypothesis testing, selection of appropriate test. The course will also focus on different study designs and required sample size for the specific conditions. A Brief Discussion (power point presentation) will be followed by practical sessions for computation using popular statistical software SPSS. Effort will be made that after completion of the course, participants would be able to test the hypothesis, decide the study designs and sample size estimations.

Participants:

The course is suitable for young researchers including faculty of medical colleges/research institutes, residents, researchers, public health policy and decision makers, and others interested in statistical methods. Prior knowledge of basic descriptive statistics and SPSS will be useful for participants. Total 40 participants will be taken. A certificate of participation will be given at the end of the course.

Course contents:

Day1: Basic concepts of hypothesis testing, power of the test; Steps involved in hypotheses testing, Test of normality of data. Parametric test and non-parametric test for comparison of mean, median, proportion etc. using SPSS Software.

Day2: Regression and Survival analysis, Concepts and practical application through Numerical Data using SPSS Software.

Day3: Study designs (Observational and Experimental) and sample size estimations using G*Power and other online Software

Registration fee: Rs 1,000/- (One Thousand Only) [This includes only training kit, Course materials and Snacks/Tea].

Last date for application: 10th March 2025

Information by email to selected participants: 11th March 2025

How to Apply: The completed application form attached with this brochure is to be sent to the following email id: sgpgibiostat@gmail.com

RegistrationForm

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Sanjay Gandhi Postgraduate Institute of Medical Science,
Lucknow, India

20-22 March 2025

Name of the participant: Mr./Ms./Dr./Prof.

Gender: Male Female

Present Position held: _____

Department _____

Institute _____

Tel (O): _____

Mob: _____

Email: _____

Date Signature

Course Coordinators

Prof. Uttam Singh/Dr Prabhaker Mishra

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