ADVANCED RESEARCH METHODOLOGY & BIOSTATISTICS

The workshop is designed for the Supervisors of clinical postgraduate programs. Aim of the workshop is to equip the trainers with the tools required for designing and conducting studies in clinical settings with a focus on clinical trials both randomized controlled trials and pragmatic trials. The statistical modeling techniques based on correlation and regression analysis will also be explained so that the clinicians can generate high quality practice-based evidence that can lead to realistic evidence-based practice decisions in their clinical settings benefiting both the profession and the society.

Intended Learning Outcomes

Upon completion of the workshop participants will be able to:

1. Explain fundamental principles for conducting the systematic inquiry
2. Design Observational studies in clinical settings
3. Explain different phases of Clinical trials and select suitable clinical sample and outcome measures relevant to each phase
4. Compare and contrast various trial designs based on the type of intervention and nature of hypothesis
5. Identify differences between Randomized Controlled Trials and Pragmatic Trials
6. Design a Clinical trial in a range of clinical setting and/or diseased populations
7. Calculate appropriate Sample Size based on the appropriate confidence level and power
8. Perform Randomization, Baseline Matching and Blinding as part of clinical trials
9. Identify Inappropriate Research Conduct based on the Ethical considerations of clinical trials
10. Choose appropriate Data Analysis techniques for clinical trials
11. Perform and interpret Bivariate analysis for describing associations between independent samples and paired samples
12. Describe assumptions underlying Correlation and Regression
13. Perform Simple & Multiple; linear, logistic, ordinal and survival regression analysis Interpret Regression Coefficients and associated Confidence Intervals in the context of health outcomes