CME: (2 Days) Hands-on Workshop on Essential Data Analyses Using SPSS

Day 1, Session Outline

Saturday, November 26th, 2016

Session	Content	Learning outcomes [The participants will be able to...]
Registration 8:45am-9:00am		
Session I: Data types and choosing the right test [Dr. Durdana] 9:00am- 09:40am	• Types of data & variables • Data transformation • How to choose the right statistical test? • Data analyses plan	• Differentiate among different types of data • Identify dependent and independent variables • Convert numerical data into categorical data • Identify the correct statistical test
Practice session 9:40am- 10:00am	**Exercise for identification and transformation of different types of data. The participants will also demonstrate the selection of correct statistical data for a given research question**	
Tea break 10:00am-10:15am		
Session II: Introduction to SPSS [Dr. Durdana] Integrated session 10:15am- 12:00pm	• SPSS interface (data and variable views) • Opening, and saving a file • Data entry • Importing data from MS Excel • Data transformation and file splitting	• Navigate through SPSS interface and run basic functions like opening, and saving files • Enter different types of data • Import data from an MS Excel file • Transform data from numerical to categorical
Session III: Hypothesis test and p-value dynamics [Dr. Durdana] 12:00pm- 12:45pm	• Principles of hypothesis testing • Null and alternative hypothesis • What the heck is p-value?	• Develop a null and alternative hypothesis • Describe general rules for dealing with a p-value
Session IVa: Descriptive statistics using SPSS [Abdul Latif] 12:45pm- 01:15pm Integrated session	• Describing data [normal/ non-parametric] - arithmetic means, medians, standard deviations, frequencies	• Run relevant descriptive statistics in SPSS
Lunch 01:15pm- 01:40pm Zuhar Prayer 01:40pm- 02:00pm		
Session IVb: Descriptive statistics using SPSS [Abdul Latif] 02:00pm- 02:30pm Integrated session	• Graphing data - histograms, and barcharts • Checking for normality of data - QQ plots, Kolmogorov-Smirnov, and Shapiro-Wilk tests	• Chart their data using histograms and barcharts • Check for normality of numerical data using QQ plots, Kolmogorov-Smirnov, and Shapiro-Wilk tests in SPSS
Session Va: Comparison of means [normally distributed data] - different t-tests and SPSS [Dr. Zeeshan] 02:30pm- 04:00pm Integrated session	• How to select the right statistical test? - an overview • One sample t-test • Independent two-sample t-test • Paired t-test • Practice on data running different t-tests	• Explain whether they need any of the t-tests • Run different types of t-tests in SPSS • Identify and describe the relevant information from the SPSS output
Day 1, Closing 04:15pm		

CME: 2 Days Hands on Workshop on Essential Data Analysis Using SPSS

Day 2, Session Outline

Saturday, December 3rd, 2016

Session	Content	Learning outcomes [The participants will be able to...]
Session Vb: **Comparison of means - ANOVA (for normally distributed data) & non-parametric tests in SPSS [Dr. Zeeshan]** **08:45am- 11:00am** **Integrated session**	• **How to select the right statistical test? - an overview** • **One-way ANOVA test** • **Non-parametric tests [Mann Whitney U Test (Wilcoxon Rank Sum Test), Wilcoxon Signed Rank test, Kruskal-Wallis test**	• **Use the algorithm for selecting the right statistical test** • **Run and interpret one-way ANOVA in SPSS** • **Run and interpret selected non-parametric tests in SPSS**
Tea break **11:00am-11:15am**		
Session VI: **Comparison of proportions using SPSS [Dr. Naveed]** **11:15am- 01:15pm** **Integrated session**	• **How to select the right statistical test for categorical data?** • **One sample proportion test (Binomial test); Two sample proportion test** • **Chi-square test of independence and Fisher's exact test**	• **Use the algorithm for selecting the right statistical test for categorical data** • **Run and interpret different tests for categorical data**
Lunch 01:15pm- 01:40pm **Zuhar Prayer 01:40pm- 02:00pm**		
Practice session **02:00pm- 02:30pm**	**Exercise for running different tests while comparing proportions in SPSS**	
Session VII: **Correlations analyses using SPSS [Dr. Umair]** **02:30pm- 03:30pm** **Integrated session**	• **When to use a correlation test?** • **Scatter plot** • **Pearson's correlation test** • **Spearman rank correlation test**	• **Identify the correct correlation test for their data** • **Run and interpret different correlation tests using SPSS**
Distribution of certificates 03:30pm- 03:45pm		
Day 2, Closing 03:45pm		

Workshop Facilitators:

Dr. Muhammad Fazal Zeeshan, PhD, MS in Health Management and Policy, MPH, MBBS

A Fulbright fellow with a PhD and MS in Health Management and Policy from Ohio State University (USA). Currently working as Director Postgraduate Program Unit at Prime Institute of Public Health and Assistant Professor at Peshawar Medical College. For details, click here.

Dr. Naveed Sadiq, PhD, MPH, BDS

Graduated with PhD from University of South Carolina, USA. Dentist by profession and holds several awards for his services in academic research and public health activities in USA. Currently working as Assistant Professor at Prime Institute of Public Health. For details, click here.

Dr. Umair Qazi, MPH (Epidemiology), MD

Earned his Master of Public Health degree from George Washington University (USA). Dr. Qazi has been involved in clinical research at John Hopkins University (USA) for more than a decade. For details, click here.

Dr. Durdana Khan, MPH, MBBS

Graduated with a Master of Public Health degree from College of Public Health at the Ohio State University, USA. Has extensive teaching and practical experience in public health research and projects analysing quantitative and qualitative data. Currently she is Assistant Professor in Peshawar Medical College and Prime Institute of Public Health.

Abdul Latif, MBA, MS in Health Management and Policy

Abdul Latif has earned his master degree in Health Policy and Management from Aga Khan University and carries vast experience of health system research.