

Advanced Statistical Methods in Epidemiology

Session Details

Day 1 - morning

9:30 Arrival and registration

10:00 Lecture 0: Introduction to Epidemiology and Study types:

basic concepts of epidemiological reasoning and major study types

including cross-sectional study, cohort and case-control

11:00 Coffee

11:30 Lecture 1: Measures of diseases occurrence: prevalence,

incidence, cumulative incidence, incidence density

12.30 Lunch

Day 1 - afternoon

14:00 Practical 1: Introduction to STATA for epidemiological

applications: concepts of STATA, data handling and transformation, epidemiological tools in STATA

14.30 Lecture 2: Direct standardization with examples in STATA:

comparability in epidemiologic surveillance, spatial and temporal

comparability, SEGI standard, national standard, European standard

15:15 Tea

15:45 Lecture 3: Measures of effect: risk difference, attributable

fraction, relative risk, risk ratio, odds ratio with examples in STATA

End of day 1

Day 2 - morning

9:00 Lecture 4: Confounding and effect modification: Mantel-Haenszel estimation, testing effect modification

10:30 Coffee

11:00 Practcial 2: Case studies on confounding and effect modification: case studies on confounding and Mantel-Haenszel estimation using STATA

12:30 Lunch

Day 2 - afternoon

14:00 Lecture 5(a): Modelling with covariates: Poisson regression as a fundamental tool for count data analysis, Poisson regression and count data, offset and person-time

15:30 Tea

16:00 Practcial 3(a): Modelling with covariates: case studies to Poisson regression using STATA

End of day 2

Day 3 – morning

9:00 Lecture 5(b): Modelling with covariates: logistic regression as a fundamental tool for all study types, maximum likelihood estimation, model comparison

10:30 Coffee

11:00 Practical 3(b): Modelling with covariates: case studies to logistic regression using STATA

12:00 Lunch

Day 3 - afternoon

13:30 Lecture 6: Survival analysis: Kaplan-Meier estimation and nonparametric group tests, Cox' proportional hazards model

14:40 Tea

15:00 Practical 4: Survival analysis: case studies to survival analysis using STATA

16:00 End of day 3 and end of course