広島統計談話会

Hiroshima Statistics Study Group

第 247 回談話会を下記にように開催致しますので
御参集下さいますようご案内申し上げます。

You are cordially invited to the 247th meeting as scheduled below.

日　時：　　　2009 年 4 月 10 日（金）15:00 –
Date　：　　　Apr. 10, 2009 (Fri) 15:00 –

場　所：　　　放射線影響研究所　講堂
Place　：　　　RERF Auditorium

演　者：　　　古川　恭治　(放射線影響研究所統計部副主任研究員)
Speaker　：　　Kyoji Furukawa, Ph.D.
　　　　　　　Associate Senior Scientist
　　　　　　　Department of Statistics, RERF

演　題：　　　「測定誤差を持つ変数を含む回帰モデルにおける線量反応推定のバイア
　　　　　　　ス修正法の比較」
Title　：　　　"A comparison of approaches to bias correction in dose-response analysis with
　　　　　　　regression models involving covariate errors"

要　約：
Abstract　：

　　Observational data in biostatistics and epidemiology frequently involve variables of interest or risk factors that are only indirectly observable or measured with unknown errors. It is well-known that a simple analysis with such a variable can cause systematic biases, most likely resulting in an underestimation of the corresponding regression coefficient. This is the case in A-bomb radiation studies where radiation dosimetry of each individual is usually estimated with substantial errors, mainly due to uncertainty in individual's information for the location and shielding at the exposure, which are the major factors to determine a dose estimate. In this study, we will review some major approaches to deal with such measurement error problems, including the regression calibration, which has been applied to A-bomb radiation risk assessments, and a full-likelihood error modeling approach under the Bayesian framework. Focusing on the dose-response estimation, a simulation study is conducted to evaluate the approaches under hypothetical situations of normal, logistic and Cox regression models with several shapes for the dose-response relationship. This simulation study is expected to provide some thoughts to consideration on use of individual data, rather than grouped data, for radiation risk assessments in the Life Span Study, the major source of information to study late effects of radiation exposure.