

Biostat II: Lab 16, Understanding statistical analysis in journal articles

Date: 19 May 2008

In today's lab, you will read a journal article critically, paying particular analysis to features of the statistical analysis. Working as a group, read through your article and address the questions provided. After an hour of discussion, each group will get about 10 minutes to summarize key points from the article.

Group 1:

J Whitworth *et al.* (2000) Effect of HIV-1 and increasing immunosuppression on malaria parasitaemia and clinical episodes in adults in rural Uganda: a cohort study. *The Lancet*, 356: 1051-1056.

<http://www.biostat.jhsph.edu/~seckel/biostat2/lab16/whitworth.pdf>

Group 2:

Richards, M., Jarvis, M., *et al.* (2003) Cigarette Smoking and Cognitive Decline in Midlife: Evidence From a Perspective Birth Cohort Study. *American Journal of Public Health*. Vol 93. No. 96.

<http://www.biostat.jhsph.edu/~seckel/biostat2/lab16/richards.pdf>

Group 3:

ICG Leite and RA Ribeiro (2000) Dental caries in the primary dentition in public nursery school children in Juiz de Fora, Minas Gerais, Brazil. *Cad. Saúde Pública*, 16: 717-722.

<http://www.biostat.jhsph.edu/~seckel/biostat2/lab16/leite.pdf>

Group 4:

L Mele *et al.* (1991) Nutritional and household risk factors for xerophthalmia in Aceh, Indonesia: a case-control study. *The American Journal of Clinical Nutrition*, 56: 1460-1465.

<http://www.biostat.jhsph.edu/~seckel/biostat2/lab16/mele.pdf>

Group 5:

Atkinson SH, Rockett K, Sirugo G, Bejon PA, Fulford A, *et al.* Seasonal Childhood Anaemia in West Africa Is Associated with the Haptoglobin 2-2 Genotype. *PLoS Medicine* Vol. 3, No. 5, e172
doi:10.1371/journal.pmed.0030172

<http://www.biostat.jhsph.edu/~seckel/biostat2/lab16/atkinson.pdf>

To find your article go to the URL that follows the article citation.

Questions to consider:

1. What is the study population?
2. What is the primary scientific objective of the study? Are there any secondary goals?
3. What is the sample size available to address the scientific objective?
4. What type of analysis was used to address the primary aim of the study?
5. Were there any potential confounders relevant to this study? How did the investigators address these potential confounders?
6. If there is an independence assumption needed for the analysis, do you think it was met?
7. State the primary result of the study, highlighting both quantitative and qualitative aspects.
8. Can you think of any biases or confounders that were not handled adequately by the study? How would you view the results of the study in light of these limitations?
9. Any other interesting points you want to share?