DETERMINATION OF THE SAMPLE SIZE AND THE NUMBER OF FOLLOW-UP TIMES BY USING LINEAR PROGRAMMING

A. A. E. Ahmed

Abstract

Researchers who are interested in follow-up studies face the problem of determining both sample size and follow-up length, and this paper investigates to deal with this problem. Mathematical programming is used to determine both sample size and follow-up length according to predetermined cost.

Keywords and phrases: follow-up studies, sampling, linear programming.

Received August 9, 2015

References

- A. El-Helbawy, M. Adel-Sabour and S. M. Abdel-Nabi, Sample size determination for follow-up studies of lifetime with covariates, The first conference on statistics and its commercial and economical applications, Helwan University, Faculty of Commerce and Business Administration, Department of Mathematics, Insurance, and Applied Statistics, 2002, pp. 123-138.
- [2] B. S. Everitt, The Cambridge Dictionary of Statistics, Cambridge University Press, 1998.
- [3] C. Teddlie and F. Yu, Mixed methods sampling a typology with examples, J. Mixed Methods Res. 1 (2007), 77-100.
- [4] H. Pezeshk, Bayesian techniques for sample size determination in clinical trials: A short review, Statist. Methods Medical Res. 12 (2003), 489-504.
- [5] J. B. Grossman, Optimal sample designs with preliminary tests of significance, J. Busi. Econom. Statist. 4(2) (1986), 76-171.
- [6] L. Naing, T. Winn and B. N. Rusli, Practical issues in calculating the sample size of prevalence studies, Archives of Orofacial Sciences, 2006.
- [7] M. C. Sheps and A. F. M. Moustafa, Some considerations affection the design of follow-up studies, Egypt. Statist. J. 19(2) (1975), 76-85.

- [8] M. Palta and R. Mchugh, Adjusting for losses to follow-up in sample size determination for cohort studies, J. Chiron. Dis. 32 (1979), 315-326.
- [9] R. C. Elandt-Johnson and N. L. Johnson, Survival Models and Data Analysis, John Wiley, 1980.