because of inclusion of stable subjects with studies, the expected event rate in the reduction could lead to diminished power the inverse square of the effect size sample size requirement will increase by for the control group remains constant, observed). Even if the expected event rate among controls. Further, the open nature of random concealment makes the differences between treatment groups non-representative of the differences between random samples from a single population. Therefore, the investigators should not mistakenly equate this allocation method to randomization, a process in which the allocation is random and concealed. While calculating sample size in clinical studies, the expected event rate in the control group is overestimated usually because of inclusion of stable subjects with limited comorbidity, as noted in this study (50% predicted event rate vs. 41% observed event rate among controls). Further, the investigators also overestimated the effect size reduction, i.e. the risk reduction between the control and two treatment groups (60% expected vs. 54 and 41% observed). Even if the expected event rate for the control group remains constant, sample size requirement will increase by the inverse square of the effect size reduction. Overestimation of the effect size reduction could lead to diminished power and limit internal validity of study findings.

Amiodarone vs. amiodarone plus losartan vs. amiodarone plus perindopril for the prevention of atrial fibrillation recurrence in patients with lone paroxysmal atrial fibrillation

In reference to the interesting study by Yin et al., we would like to raise the following comments regarding randomization and effect size.

The study design follows a non-concealed allocation sequence by serially placing the eligible patients into each of the three groups, and the assigned patients to each of the treatment groups were followed in an open-labelled fashion. Non-concealment may not lead to bias because the allocation in the study is unrelated to any patient baseline characteristics. However, the open treatment allocation may shape the investigator’s decision to recruit patient into a particular group, resulting in treatment groups that are not comparable. In addition, lack of random concealed allocation makes the differences between treatment groups non-representative of the differences between random samples from a single population. Therefore, the investigators should not mistakenly equate this allocation method to randomization, a process in which the allocation is random and concealed.

While calculating sample size in clinical studies, the expected event rate in the control group is overestimated usually because of inclusion of stable subjects with limited comorbidity, as noted in this study (50% predicted event rate vs. 41% observed event rate among controls). Further, the investigators also overestimated the effect size reduction, i.e. the risk reduction between the control and two treatment groups (60% expected vs. 54 and 41% observed). Even if the expected event rate for the control group remains constant, sample size requirement will increase by the inverse square of the effect size reduction. Overestimation of the effect size reduction could lead to diminished power and limit internal validity of study findings.

Reference


5. Balavenkatesh Kanna Department of Internal Medicine Lincoln Hospital New York USA

Mithula Gopalam Department of Internal Medicine Lincoln Hospital New York USA

Reference


Yuehui Yin
The Second Affiliated Hospital of Chongqing University of Medical Sciences
74 Linjiang Road Yuzhong District Chongqing 400010 People’s Republic of China
Tel: +86 23 63777035 Fax: +86 23 63822815 E-mail address: yinyuehui63@yahoo.com.cn