SAMPLE SIZE CALCULATION FOR MULTICENTER RANDOMIZED TRIAL: TAKING THE CENTER EFFECT INTO ACCOUNT

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In multicenter trials, data from the same center are more similar than those from different ones. These similarities induce a correlation between data, known as the center effect and assessed by the Intraclass Correlation Coefficient. From a mixed effects model, we derive a sample size formula in the framework of a multicenter randomized trial comparing two treatments with a continuous outcome. Our analytical developments lead to an elementary formula allowing reducing the required sample size according to the center effect's importance.