Effectiveness of a 1-year resident training program in clinical research: a controlled before-and-after study.

BACKGROUND: To increase the number of clinician scientists and to improve research skills, a number of clinical research training programs have been recently established. However, controlled studies assessing their effectiveness are lacking.

OBJECTIVE: To investigate the effectiveness of a 1-year resident training program in clinical research.

DESIGN: Controlled before-and-after study. The training program included a weekly class in clinical research methods, completion of a research project, and mentorship.

PARTICIPANTS: Intervention subjects were 15 residents participating in the 1-year training program in clinical research. Control subjects were 22 residents not participating in the training program.

MEASUREMENTS AND MAIN RESULTS: Assessments were performed at the beginning and end of the program. Outcomes included methodological research knowledge (multiple-choice progress test), self-assessed research competence, progress on publications and grant applications, and evaluation of the program using quantitative and qualitative methods.

RESULTS: Intervention subjects and controls were well matched with respect to research experience (5.1 +/- 2.2 vs 5.6 +/- 5.8 years; p = .69). Methodological knowledge improved significantly more in the intervention group compared to the control group (effect size = 2.5; p< .001). Similarly, self-assessed research competence improved significantly more in the intervention group compared to the control group (effect size = 2.5; p< .001).
increased significantly more in the intervention group (effect size = 1.1; p = .01). At the end of the program, significantly more intervention subjects compared to controls were currently writing journal articles (87% vs 36%; p = .003). The intervention subjects evaluated the training program as highly valuable for becoming independent researchers. CONCLUSIONS: A 1-year training program in clinical research can substantially increase research knowledge and productivity. The program design makes it feasible to implement in other academic settings.