Constant updating of scientific health knowledge is a great challenge for medical students, and a small part of them choose to pursue their academic career as researchers. However, satisfactorily mastering the scientific method is essential to develop the competency of critical thinking to assess new knowledge and emerging health technologies. Thus, it is important that, during medical undergraduate training, strategies are developed to awaken the vocation of students to become critically capable of analyzing scientific and technological knowledge, in order to contribute to the development of the country.\(^{1,2}\)

Training activities in scientific research have been included as an integral part of the medical education curriculum in several countries.\(^ {3-8}\) In Brazil, Scientific Initiation Programs (ScIPs) have been the main strategy adopted with the goal of encouraging the scientific training of students through their participation in research projects, awakening the scientific vocation and encouraging new talent for research. These programs are widely offered in Brazilian higher education institutions, especially after the creation of the Institutional Scholarship Program under the responsibility of the National Council for Scientific and Technological Development (PIBIC/CNPq) in 1988.\(^ {3-8}\)

Most of the studies on the impact of ScIPs on the students’ academic trajectory assessed their admission and performance in graduate programs. In fact, it has been observed that students who work in scientific research projects during their undergraduate training are more likely to pursue their master’s and doctorate degrees, finishing these programs faster and with better academic performance than students who did not participate in research activities during medical school. In addition, studies indicate that although ScIP alumni do not necessarily become researchers, they have demonstrated greater communication and leadership skills, as well as teamwork in their professional activities.\(^ {9-21}\)

The interest of students in scientific activities has increased in medical courses. A study carried out in sixth year students from six Brazilian medical schools showed that only 7% had no interest in research.\(^ {12}\) Also, studies in Brazil and in other countries have shown that the main reasons that lead to participation in ScIPs are to improve the curriculum, learn the scientific method and present research results in scientific meetings and journals.\(^ {3-6,11,22-27}\)

Advisor-advisee interaction seems to be one of the most valuable experiences provided by the ScIP.\(^ {8}\) Accessibility, referral by other students, and scientific knowledge are the most cited reasons for choosing an advisor. The first two factors are directly related to the student’s perception of a possible positive relationship with the advisor, which shows the importance of this aspect for the success of scientific initiation projects.\(^ {6,23,24}\) Moreover, the lack of integration between advisor and advisee has been pointed out as the main factor associated with lack of motivation and withdrawal of students from scientific initiation activities.\(^ {6,23}\)

In addition, considering the important role that ScIPs have been playing in the Brazilian medical education, it is important to know the main factors that can restrict access, so that strategies to improve institutional ScIPs are developed. One of these factors refers to the lack of...
spare time for research activities, which has been pointed out by students as the main difficulty in developing research projects. In this context, some institutions have acted to make scientific initiation a curricular activity, so that the student can have fixed hours reserved to research projects.

Finding advisors that meet the students’ expectations has also been pointed out as a factor that restricts student access to scientific initiation activities, since, in order to participate in ScIPs, students must have an advisor developing research projects on topics of their interest. Limiting factors may be associated with other aspects, such as deficits in physical infrastructure, lack of financial resources, lack of student motivation and lack of motivation or lack of qualification of the teaching staff, and it is therefore important that institutions adopt measures to encourage faculty members to conduct research activities including undergraduate students.

CONFLICT OF INTEREST
The authors declare no conflict of interest.

REFERENCES