established research centres, familiarity with today’s lingua franca (English), and scientific and individual traditions. Biotechnology requires money, which was and remains scarce in transitional countries.

The succession of Roman, Byzantine, French, Austro-Hungarian, and Russian cultural traditions in these countries also had negative consequences, particularly on free development and autonomy of education and science. In addition, communism, which combined a scientific view of the world with monolithic coercive power and strict social control, helped create intolerance to scientific creativity. Meanwhile, the dominance of the science-centred West, particularly after the second world war, stimulated cultural change of profound importance. Scientists who emerged in the United States, Canada, and the United Kingdom were regarded as having a public mission and a legitimate claim to political influence. They participated in creating “knowledge societies,” in which expert-run systems are incorporated into all parts of social life.

To address this North-South, West-East divide, I suggest that both sides work hard: teach English to improve scientific communication, explore funding possibilities that the European Union might provide, provide computer technology, encourage young people (who have proved their interest in science) to apply for scholarships and gain experience in the developed world. It worked for Western Europe after the second world war, and it should work for transitional countries today. The role in power of the social structure of science clearly has had an effect on its distribution worldwide. Perhaps the time has come, not only to declare obvious research inequalities but to rethink our strategies and use power to bridge the gaps.

Survey of attitudes and knowledge about science in medical students in southeast Europe

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For the countries of southeast Europe, joining the European Union would mean a fundamental reassessment of beliefs, attitudes, values, and structures developed during 50 years of communist regimes. This would include their healthcare systems and the training of their healthcare professionals. Medical schools in southeast Europe will need to restructure medical curriculums within the unified Europe.

Medical students will have to learn modern evidence-based medicine, for which they have not been prepared, mainly because of weak research output of their countries and inadequate education in research methods. To assess medical students’ knowledge about research methods and communication and their attitudes towards research in medicine we used a specially constructed and validated questionnaire in medical schools in five post-communist countries.

Participants, methods, and results

In total 4307 students (66% response rate) answered a voluntary and anonymous questionnaire. The questionnaire contained a 45 item Likert-type scale developed to measure attitudes towards science, grouped in three subscales, and an eight item knowledge test of principles of scientific research. The study was performed simultaneously at all schools, and students in all six years of their studies who were present at lectures could take part in the study.

Students generally had poor knowledge of research methods (mean of three correct answers out of a maximum of eight), with Albanian students scoring significantly lower than all other students (table). Students from Chisinau in Moldova and Mostar in Bosnia and Herzegovina performed significantly better than all other students (table). Students from Chisinau in Moldova and Mostar in Bosnia and Herzegovina performed significantly better than all other students (table). Students from Chisinau in Moldova and Mostar in Bosnia and Herzegovina performed significantly better than all other students (table). Students from Chisinau in Moldova and Mostar in Bosnia and Herzegovina performed significantly better than all other students (table).

Despite poor knowledge scores, students had generally positive attitudes towards science, the highest

Characteristics of the medical schools and countries in the survey can be found on bmj.com

scores were at Kragujevac (table). The greatest differences among the schools were for the subscale measuring the value of science for society, with the students from Albania having significantly lower scores than all others (table). Multiple regression analysis showed that female sex (β = 2.15, 0.91 to 3.61, P = 0.002), higher average grade (β = 0.68, 0.01 to 1.33, P = 0.04), and higher year of training (β = 0.55, 0.12 to 0.95, P = 0.01) all positively predicted total score on the attitude scale.

Comment

Although limited by the survey methods and differences in the size and curricula of medical schools, our results show that medical students from five post-communist countries have positive attitudes towards science despite rather poor knowledge of research methods and scientific communication. This should be considered during the integration of these countries into scientific and medical programmes of the European Union. Increases in knowledge of scientific methods and critical thinking may reinforce attitudes towards science and help these countries to embrace evidence based medicine. The knowledge of research methods differed significantly between the schools and according to the year of study, indicating that each country and school may need an individual approach.

We believe that targeting medical students may be a good way to start building up the critical mass of academic physicians with skills for understanding, performing, and communicating biomedical research and for critical thinking and appraisal of medical evidence. Most importantly, teaching principles of scientific research and evidence based medicine and fostering a positive attitude towards them among medical students can contribute to strengthening integrity in the academic environment and society as a whole. In societies with high levels of corruption, not only in the economy but in all other aspects of life, including academic medicine,\(^1\) this is perhaps the most important goal for the European Union.

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