

Promoting good scientific practice: contribution of Serbian scientists

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*“Years ago society accorded science the privilege of governing itself.
If it finds that its trust continues to be betrayed, the politicians will step by default”
S. Lock (cit. in ref. 1.*

Introduction

Good Scientific Practice (GSP), an international quality standard for designing, conducting, recording and reporting research, is essential for the integrity of science. It provides safeguards against scientific dishonesty and fraud, a highly dangerous issue that undermines public trust in science. After several highly unpleasant cases of proven scientific fraud in the last century, the USA scientific community undertook serious measures for safeguard GSP. Several European countries - members of the European Union - followed, and an initiative to spread the awareness of GSP among all European countries appeared in due course.

Think globally, act locally!

Although Serbia is not a member of the European Union, the Serbian scientists, led by a small group of researchers from the Institute of Oncology and Radiology of Serbia, joined the pan-European initiative to develop best scientific practices within the science system and among the scientists [2]. The main goal for this was to improve quality assurance, strengthen the self-regulation of science and help reinforce the public trust in science – the goal we think worth of any effort. To achieve this goal, we used and recommended several approaches like legal regulation, ethical regulation and, above all, education [3].

Legal regulation

In the new Scientific Activity Act of the Ministry of Sciences and Environmental Protection of Serbia, GSP as quality assurance in science was mentioned for the first time [4]. It is undoubtedly a very important fact; however, this Ministry, as the main funding organization in Serbia, is expected to codify its own rules of responsible conduct of research, which should specify legal relationships between the Ministry and the grantees. The Ministry should also oblige institutes that apply for grants to do the same. That is what the Germans did – they do not give grants to those institutions of science that lack the rules for responsible conduct of research in place [5]. The German experience proved very useful, and all funding organizations should follow this policy.

Ethical regulation

In contrast to this, much more is done regarding ethical regulation in several Serbian institutions of science. The very first institutions that formulated ethical codex of science (in 2001) and obliged their members to strictly adhere to it, were the Institute for Oncology and Radiology of Serbia and the Institute for Medical Research, Belgrade [6]. Several other institutions of science followed their example: the Institute of Oncology Sremska Kamenica, the Institute for the

Application of Nuclear Energy, the Institute Vinča, the University of Belgrade Medical School, and the University of Belgrade Dental School. The two institutions first mentioned, and also the editors of the journal *Archive of Oncology*, appointed ombudsmen – impartial, qualified, independent mediators who can advise on questions of GSP and handle allegations of scientific dishonesty. These ombudspersons helped resolve several conflict situations in the near past, which was gratefully acknowledged by all involved parties.

Education

It is agreed that the most important means to spread awareness of GSP is education. The Serbian proponents of such a movement acted in several directions.

They gave numerous lectures on the occasion of many educational seminars targeted to an audience consisting mainly of young investigators [7]. Several institutions of higher education (University of Belgrade Medical School, University of Belgrade Dental School, University of Kragujevac Medical School, University of Niš Medical School, and University of Novi Sad – Center for Continual Medical Education) introduced mandatory courses on science ethics in their recently organized PhD studies. To our great pleasure, this topic met a great success among attendees; many of them have consulted lecturers on any conflicting situation they had met.

Two meetings were also organized, where the editors of respectable international (the *Lancet*, *Croatian Medical Journal*, and *Balkan Journal of Stomatology*) and national medical journals (*Archive of Oncology*, *Materia Medica*) lectured on the publication ethics [8,9].

Editors of several national scientific journals (*Serbian Archive for Comprehensive Medicine*, *Archive of Oncology*, *Bulletin of Hematology*, *Bulletin of Transfusiology*, *Materia Medica*, *Medicus*, *Acta Rheumatologica Belgradensia*, *Serbian Dental Journal*, *Vojnosanitetski Pregled*) published articles dealing with topics that are the most interesting for their audience – authorship, publication ethics, conflict of interest, evaluation of science and scientists, etc. Some international journals (*Croatian Medical Journal*, *Journal of the Balkan Union of Stomatology*) also solicited articles on the same topics. One of us (LJVD) commented certain affairs of scientific misconduct in these and some other international journals (*British Medical Journal*, *the Scientist*).

Here, we wish to emphasize the contribution of the Balkan Union of Oncology (BUON): after a round

table held on the occasion of one of our congresses [10], the official journal of the Union, the *Journal of BUON*, published several special series on GSP [11-20]. In addition, this journal gave the opportunity to publish an interview with an editor of the *Lancet* [21] and also reports on meetings dedicated to GSP [8,9]. Since editors are obliged to act as educators, this journal should be praised for a really good job it has done regarding Good Publication Ethics.

Finally, based on these achievements, we published several monographs, books and chapters in books dedicated to the science ethics including good publication practice [22-25], all these being included in the mandatory literature in the above-mentioned PhD studies.

In conclusion, we are satisfied with the impact of our efforts in our scientific community and surroundings. However, we intend to spread the awareness of GSP continuously, because we are convinced that this is an obligation of all scientists. We are happy because our efforts have not met deaf ears thus far, and we are convinced that more and more scientists from Balkan countries will join us in the near future.

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