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EDITORIAL

Equal access to orthopaedic research funding, databases and scientific publications

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Research and Publications go together like horse and carriage. Research fuels publications and vice versa. Academic surgeons became knowledgeable in grants processing, projects writing and some parallel expertise that is closer to finance projects than to art of surgery. Orthopaedic departments' chairmen commonly act as fund raisers and resource providers in order to keep the facilities running and the surgical teams active and happy. Modern hospitals require expensive facilities and the research laboratories connected to the clinical services are in continuous need of costly equipment or materials. Funding is essential for developing both. Orthopaedic surgery developed ceaselessly in the last decades with the basis for progress and aim of research and publication oriented towards improving patients care. Better materials and implants, impeccable techniques, sophisticated anatomical knowledge are essential as well as clinical and experimental studies on the outcomes of patients with different procedures.

Funding is linked to grants in many cases and access to grants should be even. However, some institutions receive more funding than others, thanks to the quality of their projects and to variables that are linked to the notoriety and credibility of the Services requesting involved. In most countries, basic research is supported by institutions, sponsors and governments that select the individuals to receive funding. In most cases, the number of grants these research councils can allocate is limited, therefore, a minority of the researchers receive the majority of the funds, and the large proportion of grant proposals—as well as scholars—remain unfunded [1].

Some political and social requirements imposed new rules related to equal access to resources from minorities or from special categories of institutions. The fact outlined by a recent editorial published in Nature [2] is that funding is granted on this basis and then may be reoriented to ordinary research applicants.

The majority of the published orthopaedic studies have no funding or only institutional funding granted by the authors' Department, or by funding sources that most commonly are orthopaedic implants manufacturers. Industry and material help could introduce significant bias in the allocation of resources; conflicts of interest should be clearly displayed [3].

The effect of funding has been studied as an indicator to evaluate articles/journals and researchers at the individual level. Receiving funding had a positive effect on an article/journal's and a researcher's scientific impact. Some studies reported a higher citation rate and faster citation of funded compared to non-funded articles [4, 5].

Similarly, researchers who receive a grant tend to have higher citation impact than those who did not, and professors with external funding publish more than those without external funding [6–8].

However, an increase in funding was associated with an increase in the number of articles, but not proportionally [9]; research output rise with funding until a threshold value where it reached a plateau and started decreasing [10, 11].

Funding of research implies a particular concern for quality as it is often involved in the evaluation of institutions and researchers. Such evaluations are usually based on measurable performances, such as the number of publications and impact factors. Therefore, research funders can affect indirectly all scholar indices, and may promote changes in the incentives and rewards of research. In this scenario, high standard evaluations in research and research funders are necessary. Agencies should fund high quality researchers; initiatives like ORCID may allow linkage between publication data and

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funding data based on the identity of the researcher. Additionally, evaluations may also allow funding agencies to more accurately depict what they have funded. Networks and social media metrics may provide for contact and communication between funding agencies and researchers. Ethics is the key mechanism to ensure that funded research is not misconducted; ethical screening of submissions, editorial process and peer-review is paramount. The editorial and peer-review process should identify scientific misconduct and the potential misuse of research; reviewers' role as whistleblowers should be emphasized [12].

Funders paying for article processing charges play a significant role in the expansion of open access publications. The key advantage of open access is that articles are freely available for anyone to read with the cost of article processing charges that are paid by the funder (often the author himself as a funder); this translates to an increased readership and availability to researchers in many countries. The major limitations of open access are the lack of quality control and long term sustainability to support research publication. Open access journals encourage publication of a higher number of articles to cover their expenses but with a negative impact on overall quality that is often related to easy, effortless publications. Additionally, through funding publications, funding agencies influence research practices, institutions and researchers most powerfully. These should be considered unethical and research misconduct. Establishment of ethical committees to monitor the sources of sponsorship and funding has been recommended [13].

Our Journal publishes clinical studies and empowers the credibility and curricula of the contributors. In the economy of publications the writing and publishing became a must and therefore we have solicitations from everywhere, from the highest-volume academic departments to the primary care hospitals from remote destinations. As editors, we are committed to ethical publishing of research and we encourage innovative research. Our key principles include voluntary anonymous submissions and peer-review, early identification of ethical issues, and publication of valuable research with recognized standards without any bias and fraud. Peer-review is fundamental for the evaluation and validation research as a quality filter; this is especially important in open access submissions/publications. The responsibility for optimal use of research funds without any misconduct rests on the researchers themselves, their institutional ethical committees and the handling editors of the submitted papers. Publications are usually available on the Internet; however the credibility of the published data is a matter of debate. Open sources with registries of procedures provide professional data [14–17]. Other sources including some large public databases or public channels can include biased information or even inaccurate data [18] data found on the Internet is of debatable value [19]. We encourage and promote publication of results from official registries and large number series in our continuous quest for quality and scientific truth.

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