

Scientific debate in medicine

Salvatore Chirumbolo

As an Editor of this Journal, I often wondered how a scientific debate may give its fundamental contribution to any School of Medicine and the community of experts.

Discussion usually should be confined within the fence of a fair parley from recognized experts in the field and should be reported exclusively on referenced and peer reviewed journals. This means that any debate would be “scientific” if confined within the boundaries of the scientific community, i.e., within specialized journals and research conference networks. And surely, this approach is widely approved and agreed.

The British Medical Journal (BMJ) shows a clear editorial policy about the scientific discussion, particularly performed in the section “Rapid Response Letters”: “Anyone can respond without a subscription to any article published.... by sending a rapid response...” and yet the term “anyone” does not match the exclusive group of doctors or academic members. The BMJ reports moreover: “We are delighted to consider articles for publication from doctors and others, and from anywhere in the world. Obviously, non-expert people who are not used to discuss about defined topics, are very rarely considered for publication in a scientific journal and therefore rarely introduced into scientific debate”. The BMJ policy should suggest that anyone can comment, for the simple reason that is a renowned expert in a defined bio-medical field, particular aspects concerning important issues that would encourage and expand the debate on fundamental medical concerns.

Addressed authors are often invited to reply in the same journal. Some doctors prefer to address the debate out of the community arena, such as press, familiar media, personal websites or even disciplinary courts, rather than simply reply to raise comments. This is because, particularly in Italy, scientific literature is usually misunderstood with journalism, which actually comes over the social need of talking and understand of individuals and Italy is particularly prompted to expand medical debates within the citizenry. Quite recently, the Guardian reported that media worldwide need to understand the difference between what is considered a civil, genuine scientific debate and what is a minority outcry that would disagree with an overwhelming consensus of evidence [1]. Dave Hone’s article concludes that not every personal disagreement discussed in media about research issues is a scientific debate if lacking rules of any scientific controversy and experimental investigation. Therefore, this should suggest that any scientific debate must be performed exclusively within the expert community using specialized journals.

But: who are experts for the scientific community worldwide?

Experts

Experts are represented by people actively working in a scientific and/or academic context on one or more interrelated fields who have extensively published on reference journals. Editors of specialized scientific journals in the biomedical area may consider an author as an expert in the field on the basis of her/his bulk of reports shown on public databases such as PubMed, Scirus, Web of Science, Scopus and so on. Editors themselves are experts. Very rarely journals welcome Letters to the Editor or Commentaries or other Correspondence, as unsolicited contributions, or even Reviews if the corresponding author is not considered an expert or an authority in the field. Space constraints hamper the possibility to publish a comment on the journal if the latter does not come from an authority in the field, particularly if the comment is reported by a single author.

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Usually, the number of authors increases as higher is the impact factor of the journal. On the other hand, very few papers on highly ranked journals are published by experts as single authors. Anyway, participation in the debate should pertain to any renowned authority in a defined field of competence endowed with a sound, peer reviewed literature.

Although the percentage of published comments and reply in PubMed/Medline for Italian researchers is higher (= 1.5%) than US scientists (= 0.70%), the amount of non-medical experts contributing in bio-medical or surgical specialized journals is particularly low. Most probably, the gross bulk of addressed comments and discussions, which represent the democratic parley where novelties and new ideas in the biomedical research are created, can be retrieved in local meetings, workshops and conferences, rather than in the international arena. This fact increases intellectual exchange in restricted spaces of discussion and may hamper a wider diffusion of ideas and novelties in the field. Yet, freedom in commenting should be highly considered as of utmost importance.

Suggestion from EU statements

The Commission and the Council of European Union published a recent document “EU Human Rights Guidelines on Freedom of Expression Online and Offline” on May 12, 2014 where some fundamental concepts, particularly point 13 (page 3): “All forms of opinion are protected, including opinions of a social, political, scientific, historic, moral and religious nature. States may not impose any exceptions or restrictions to the freedom of opinion nor criminalise the holding of an opinion”, which would mean that any scientific opinion, correctly and properly published in a specialized peer reviewed journal or any legal form of editorial publishing in science, cannot be considered matter for venue. Furthermore at point 17 (page 4), the document says that “Freedom of opinion and expression further includes the freedom to express and impart information and ideas of all kinds that can be transmitted to others, in whatever form, and regardless of media. Information or ideas that may be regarded as critical or controversial by the authorities or by a majority of the population, including ideas or views that may “shock, offend or disturb”, are also covered by this. Commentary on one’s own or on public affairs, canvassing, discussion on human rights, journalism, scientific research, expression of ethnic, cultural, linguistic and religious identity and artistic expression, advertising, teaching are all examples of expressions that are covered by the freedom of expression. It also includes political discourse and advertising during election campaigns should assess the fundamental role of the freedom of expression in the scientific context”.

During a polite debate, either if intellectual, cultural or scientific, people might undergo discrimination and be bashed with offensive terms such as narcissist, pathologic, weak minded, aggressive, rarely cooperative, too much autonomous, problematic and so forth, then

arranging a panoply of pseudo-psychological attacks against behavior and its natural, spontaneous existence and performance. There is people who steals their own time to scan with a persecutory attitude PubMed resume of a possible foe to overshadow his career during a trial. Other people comments issues previously published on personal web sites. Debate may be arranged through means and approaches that are not shared with the scientific community and its tough, undisputable ethics. Contenance of language should respect individuals and their expression, but, depending on the stress exerted by defined medical issues and concerns, particularly about their impact on the general population, the scientific debate may escape its rules and afford to branch out a public domain, obviously taking into account any media-related opinion. In this perspective, people may even be sanctioned, slandered or marginalised if participating in the legitimate scientific debate as a peer or a renowned expert, simply because of their freedom.

A link of the Italian version of Scientific American; contains, in a discussion held on August–September 2014, an example of how people working in scientific journalism in Italy, perceive the scientific debate [2].

How to escape from this somewhat regrettable attitude?

Proposal

Education is a possible suggestion.

Schools of Medicine should promote educational courses on scientific publishing within the academic schedule of frontal lectures. If a first level may be how to read a scientific specialized paper, further levels may deepen the role, usage, meaning and value of published research, in order to educate students and future physicians, practitioners and surgeons to freely contribute in expanding the scientific debate and accomplishing the widest participation in the expertise field of biomedical science. The proposal should deal with the invitation to experimental research language and scientific publication just in the first years of the academic degree, in order to educate students to medical research and its meaning for the common people. Very few scheduled lessons within the degree course deal with this fundamental issue and address this important concern.

How students in the School of Medicine are educated to manage scientific information through reading and lately writing a scientific research publication or contribute to raise comments about?

This represents an important topic in the canonical bullet point of scheduled arguments addressed in a medical course during the school teaching. Students should be deeply informed about the fact that disagreement with concepts and criticism expressed in referenced journal should be limited within the fair politeness of the scientific language. When the debate is transferred to personal and private settings, such as web-sites, disciplinary courts, personal non-peer reviewed opinions and so on, any addressed point of view might

be misunderstood with personal offense, obviously because COPE rules for correct ethics in publishing cannot warrant for compliance to the scientific debate out of the community of experts. Scientific discussion, on the fairground of peer reviewed comments and replies in the community of experts, ensures any debate to be commendable and legitimate and improves our knowledge of biomedical science [3].

Doctors' feedback

Are medical doctors prompted to welcome this proposal and arrange a thematic course in the scheduled lectures of the School? Yes, for most of whom having an excellent, high skilled scientific background.

Usually, undergraduate students attending the School of Medicine are highly satisfied about how they are introduced in courses and tutorials but are particularly stressed to pass tests and exams. Conversely, professors and doctors teaching in courses are fully aware that the scientific background of students needs to be educated but believe that this should not be taken into account so early. Yet, reading not writing a scientific paper is early proposed or more often recommended in the first years of basic learning, this would suggest that students have to be endowed with skills in reading a scientific paper. The main concern is that a scientific paper is not a textbook, therefore undergraduate students should be educated to the right approach to address scientific literature, and maybe English is not sufficient for the purpose. A paper should introduce to a scientific discussion in order to address concluding remarks that prompted readers to raise new questions and expand the debate with new suggestions, proposals and experimental projects. Students are used to face at medical topics with a scholar attitude, at least in the first years, so it is important to access them to scientific language as early as possible.

Some concerns yet remain

Even research quality ranking does not evaluate the ability of Academies or School of Medicine to forward new ideas on the basis of a highly dynamic debate in the scientific community and within the scheduled training with attending students. High Education Indexes (HEIs) are usually conceived as metrics containing end-of-point issues on the research production of the Academies, so science is an "economic" finalized product, not the result of the democratic participation of peer experts and attendants to the scientific debate where research is ongoing and asking continuous renewals. This should suggest for the urgent need to educate undergraduate students attending the School of Medicine to science and introduce them to address fundamental issues discussed in the scientific community. Future physicians, practitioners and clinicians should improve their skills and expertise by reading the scientific literature and be equipped with the ability even to write a scientific paper, when they address important concerns or issue during

their professional activity. Biomedical science should become a language much more familiar in the professional job if training courses on the issue are conceived and performed early in the education medical pathway, particularly because future physicians or surgeons are introduced to the fair habit to address any problem with the fine attitude of discussing complex things.

Wishing this is the next challenge to improve quality in our schools.

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Authors declare no conflict of interest.

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