Think Tank: Strategic Report on the Scientific Biomedical Publication in Portugal

Think Tank: Relatório Estratégico sobre Publicação Científica Biomédica em Portugal

Rui Tato MARINHO[1,2], Helena DONATO[3,4], Fernando FERNANDEZ-LLIMOS[3,5], João MASSANO[3,6,7], José Manuel SILVA[8,9], Miguel ALMEIDA[3,10,] José CARONA CARVALHO[11], Tiago VILLANUEVA[3,12], João Eurico FONSECA[13,14]

Acta Med Port 2014 Jan-Feb;27(1):1-3

INTRODUCTION

"Without publication, science is dead". Scientific American, Gerard Piel.

Scientific activity is traditionally weighed by the number of articles published in peer-reviewed publications.

Publish or Perish – all of us have already heard or read these words. The number and quality of published manuscripts are relevant factors that may decide a scientific career. Authorship for a peer-reviewed scientific publication is a measure of success.

Learning how to design, submit and review a manuscript are abilities that should be developed in Medical Schools from an early stage. A bad manuscript will inevitable delay or prevent the publication of good scientific material.

Research which is not new, innovative or interesting will be certainly not published in a well-ranked scientific publication.

This manuscript aims to promote the publication of good scientific papers, stressing that there are different ways to avoid manuscript rejection even before peer-review submission.

Key points (*Top Ten Think Tank*)

1. "*Medical writing is a very important national and international key issue.*"
2. Semi-professional Editors-in-Chief (providing an employment contract, with financial compensation or flexitime working system).
3. Skill demand in Scientific Writing – Compulsory training in Schools of Medicine, allocating time for scientific writing in the internships, etc.
4. Multidisciplinary Editorial Teams.
5. Manuscript's electronic edition.
6. Improvement of scientific quality of manuscripts and publications.
7. Ethics: considers *Peer-Review* as a scientific citizenship duty, understanding the concept of modern scientific authorship.
8. Accept rejection.
9. Considers modern bibliometry (impact factor, electronic dissemination, web, downloads, etc.).
10. Promoting and enhancing internationalisation of Portuguese scientific publications (*Task Force*).

Biomedical scientific publication

- Medical scientific publication has personal (curricula, global training, communication, grants), institutional (Department, Faculty, Hospital), national and international relevance. Authorship assigns credit – it has major academic, social and financial implications.
- Biomedical scientific publication is crucial for society in general, contributing to the improvement of quality of medical practice and scientific advances.
- In Medicine, scientific publication is an extension of clinical practice.
- The training in scientific writing should be included in pre and postgraduate medical education's curricula, with enough hours to ensure quality training and allowing students and young physicians to directly enter the world of medical scientific publication.
- Scientific publishing should be compulsory in the curricula of all Portuguese Medical Schools, consisting of at least 12 hours of teaching.

1. Editor-Chefe. Acta Médica Portuguesa. Lisboa. Portugal.
2. Serviço de Gastrenterologia e Hepatologia. Hospital de Santa Maria. Faculdade de Medicina de Lisboa. Portugal.
3. Editor-Associado. Acta Médica Portuguesa. Lisboa. Portugal.
4. Serviço de Documentação. Centro Hospitalar e Universitário de Coimbra. Coimbra. Portugal.
5. Instituto de Investigação do Medicamento (iMed.ULisboa). Departamento de Sócio-Farmácia. Faculdade de Farmácia. Universidade de Lisboa. Lisboa. Portugal.
6. Departamento de Neurociências Clínicas e Saúde Mental. Faculdade de Medicina. Universidade do Porto. Portugal.
7. Serviço de Neurologia. Hospital Pedro Hispano. Unidade Local de Saúde de Matosinhos. Matosinhos. Portugal.
8. Co-Editor. Acta Médica Portuguesa. Lisboa. Portugal.
9. Serviço de Medicina Interna. Centro Hospitalar e Universitário de Coimbra. Coimbra. Portugal.
10. Aluno Faculdade de Medicina da Universidade de Lisboa. Lisboa. Portugal.
11. Consultor de Sistemas de Informação. Acta Médica Portuguesa. Lisboa. Portugal.
12. Editorial Registrar. British Medical Journal. Londres. Reino Unido.
13. Unidade de Investigação de Reumatologia. Instituto de Medicina Molecular. Faculdade de Medicina de Lisboa. Lisboa. Portugal.
14. Serviço de Reumatologia. Hospital de Santa Maria. Centro Hospitalar Lisboa Norte. Lisboa. Portugal.

Recebido: 21 de Janeiro de 2014 - Aceite: 21 de Janeiro de 2014 |

- Medical scientific societies should provide easier editions for their members (training in scientific writing, curricular requirement, national and international network).
- Working time should include hours for scientific production, allowing: 'Stop and think', plan, design studies and writing of scientific papers.
- When a scientific study/project is carried out, wherever possible a scientific manuscript should always be considered.
- Specialized support (in Epidemiology, Statistics, and Clinical Evidence) should be initially requested in order to allow for the correct planning of a scientific project intended for publication.
- It is mandatory to teach: scientific research, statistics, epidemiology, ethics, referencing appropriate citations, tables, articles review, etc.
- A task force should be established in order to promote medical original editions and publishing in Portugal and abroad.
- Peer review is a key issue in scientific edition.
- Rejection of manuscripts should be considered by the authors as a common process, currently and culturally accepted ('scientific citizenship').
- Portuguese scientific publications should be issued in international networks of scientific edition and publishing.
- Publications should look for indexation/inclusion in international platforms/databases [SCIELO, Medline, Thomson-Reuters, PubMedCentral, *Repositório Científico de Acesso Aberto de Portugal* - Portuguese Open-Access Scientific Repository (RCAAP)].

Editor-in-Chief

- The job of Editor-in-Chief is crucial for a scientific publication and should be considered of great importance and specificity. In the publications with some dimension, this job should get a financial compensation and/or a flexitime working system from the institution.
- Minimum working stability should be promoted, ideally for a three-year period, allowing for an assessment of the Editor´s work. For example, a minimum of three years is required for the assessment of impact factor evolution, considering that this evaluation is obtained based on citations from the two previous years.
- The editor-in-chief has full authority and independence to determine the editorial content; ensures the quality of the publication and that manuscripts are ethical, up-to-date and relevant for the readers; he ensures that all elements involved in peer-review should act according to the highest ethical patterns; decides what is rejected and what is accepted.
- The editor-in-chief is responsible for the editorial line and for complaints management.
- The editor-in-chief of a medical publication must be a physician.

The article and its Flow

- The flow of the scientific paper is a very complex process, with a high ethical demand, with deadlines to comply with, integrity, etc.
- The flow of scientific papers must follow technologic platforms like for instance the Open Journal System or other similar systems.
- Time ranging from the submission of a scientific paper to its publication should be as short as possible. Publications should reduce time ranging from the submission of the paper to a first decision, as well as the period of time ranging from manuscript acceptance to publication. Peer-review of the paper should not exceed 2 to 4 weeks.
- Scientific publications should seek for constant improvement and to enhance their scientific message by different ways like for example through communication agencies.
- The administrative team in the publications with some dimension should be experienced and trained in the area.
- Plagiarism and double publication should be systematically prosecuted using, if necessary, electronic systems of detection.
- Publications should be ruled by good standards of biomedical edition:
  - ○ Uniform Requirement for Manuscripts Submitted to Biomedical Journals - International Committee of Medical Journal Editors (ICMJE);
  - ○ Committee on Publication Ethics (COPE);
  - ○ EQUATOR Network.
- It is not clearly defined who the author should be - editors and researchers sometimes disagree. The IMCJE Uniform Requirements has set some rules, stating that each author should have significantly participated in the work in order to assume public responsibility for the content as well as authorship credit.
- The senior author of a scientific paper must be considered not on the basis of seniority in academic or scientific career, but rather according to coordination efforts leading to publication.
- The four authorship criteria must be met (ICMJE) through the following:
  - ○ Substantial and direct contribution for design and originality of the paper or participation in data analysis and interpretation;
  - ○ Writing the draft of the manuscript or critical review of its content;
  - ○ Approval of the final version to be published;
  - ○ The authors are responsible for accuracy and integrity of all the work performed.
- ICMJE also suggests that:
  - ○ All the authors should certify in the presentation letter (cover letter) that they have approved the final version of the manuscript;
  - ○ All those involved in the study or in the manuscript should be clearly mentioned as authors in the list of authors or as assistants in acknowledgements;
  - ○ The authors must meet authorship specific criteria and

the order of authors should follow ethical principles;
  ○ All assistants that not fit in the authorship criteria should be listed, upon providing written authorisation, in the acknowledgments.
- Many authors are not aware of these criteria, which should be largely recognized and used. Therefore, these should be systematically taught in medical school.
- The order of authors in the list of authorship is a collective decision of the group. The Uniform Requirements suggest that nothing should be inferred based on the order of authors, as there are different conventions between countries, specialties and groups.
- Publishing in Portuguese and/or in English. For a greater international disclosure and to increase the impact factor, it is advisable to publish in English, in bilingual versions or even in acceptance of the article also in English, which gradually induces more manuscripts in English.
- Brazil and the African Portuguese-speaking Countries (*Países Africanos de Língua Oficial Portuguesa [PALOPs]*) may and should be regarded as partners in dissemination of scientific publications (Portuguese language is the world seventh language, spoken by approximately 250 million people).
- Open Access should be favoured.
- Types of scientific papers - originals; reviews; meta-analysis; editorials; case reports; perspectives; medical imaging; guidelines; clinical trials, etc.
- Articles with good samples, multi-centric and prospective should be favoured.
- The culture of respecting deadlines together with the search of quality in reviewing should be improved.
- The rate of rejection should meet as a general rule 40% or above.
- A wide dissemination, training and information regarding the mechanisms for indexation and improvement of the Impact Factor (citations) must be present.
- There is an urgent need to improve criteria under which scientific production is assessed by financial agencies, academic institutions and others. A manuscript should be assessed for its own merit which should not be based on the journal where it is published.
- Metrics should be provided in order to promote changing towards an evaluation based on the content of the scientific paper, instead of metrics based only on the journal where it has been published.
- Alternative metrics: a strong commitment on impact alternative measurement – new metrics based on the Web Social to evaluate scientific production (Facebook, Linkedin, Twitter, Altmetrics).
- Validation of these metrics, expanding and enriching the concept of impact and use of the manuscript.
- A strong commitment should exist in new information technologies and networks (Web 2.0, Facebook, Twitter, RSS, repositories, media).
- The five Portuguese scientific publications indexed in Medline have made available almost 8,000 scientific papers: *Revista Portuguesa de Cardiologia (3019), Acta Médica Portuguesa (2983), Revista Portuguesa de Cirurgia Cardiotorácica e Vascular (817), Revista Portuguesa de Pneumologia (647), Acta Reumatológica Portuguesa (497)*.

CONCLUSION

Scientific publishing is a central and crucial activity in Medical practice.

It should be a complement and an extension of Medical practice from basic, clinical or translational research.

Portugal should work towards being more competitive in this area.

The entire process in peer-reviewed publications is a very specific activity.

Medical publishing should be taught from an early stage at Medical Schools. All physicians, especially those in training, should have time dedicated to medical writing and its entire process, together with clinical activity.

"*Writing is thinking. To write well is to think clearly. That's why it's so hard*". David McCullough (1933-).
"*A great university has a dual function, to teach and to think*". Sir William Osler (1849-1919).
"Avoid writing too much or too little". Sir William Osler.
"*Revision is hard*". Sir William Osler.
"*There is no job description for the Editor*". Richard Smith (Editor-in-Chief of the British Medical Journal - 1979-2004).

ACKNOWLEDGMENTS

We wish to acknowledge Jorge Crespo and Ivo Furtado.

Rui Tato MARINHO, Helena DONATO, Fernando FERNANDEZ-LLIMOS, João MASSANO, José Manuel SILVA, Miguel ALMEIDA, José CARONA CARVALHO, Tiago VILLANUEVA, João Eurico FONSECA

Think Tank: Strategic Report on the Scientific Biomedical Publication in Portugal

Acta Med Port 2014:27:1-3

Publicado pela **Acta Médica Portuguesa**, a Revista Científica da Ordem dos Médicos

Av. Almirante Gago Coutinho, 151
1749-084 Lisboa, Portugal.
Tel: +351 218 428 215
E-mail: submissao@actamedicaportuguesa.com
www.actamedicaportuguesa.com
ISSN:0870-399X | e-ISSN: 1646-0758