

## REVIEW

# The Second Mediterranean Seminar on Science Writing, Editing and Publishing (SWEP - 2018), Sarajevo, December 8th, 2018

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### WHY SWEP 2018?

Title of Days of AMNuBiH 2018” and “SWEP 2018” is “Ethical Dilemmas in Science Editing and Publishing”. Why? If one wants to create a scientific work, must have on his mind that creating a scientific work requires creativity and openness, honesty, trust, and obeying the ethical principles for writing a scientific paper. While working on a biomedical research involving human subjects medical workers should have on mind that it is the duty of the physician to remain the protector of the life and health of that person on whom biomedical research is being carried out (1, 2).

The World Medical Association (WMA) has developed the Declaration of Helsinki as a statement of ethical principles to provide guidance to physicians and other participants in medical research involving human subjects (1) (Figure 1).

Medical research involving human subjects includes research on identifiable human material or identifiable data. It is the duty of the physician to promote and safeguard the health of the people. The physician's knowledge and conscience are dedicated to the fulfillment of this duty. The Declaration of Geneva of the World Medical Association binds the physician with the words, „The health of my patient will be my first consideration“ (Declaration of Geneva, Adopted by the 2nd General Assembly of the WMA, Geneva, Switzerland, September 1948) (1, 2), and the International Code of Medical Ethics declares that, „A physician shall act only in the patient's interest when providing medical care which might have the effect of weakening the physical and mental condi-

tion of the patient“ (2).

Medical progress is based on research which ultimately must rest in part on experimentation involving human subjects. In medical research on human subjects, considerations related to the wellbeing of the human subject should take precedence over the interests of science and society. The primary purpose of medical research involving human subjects is to improve prophylactic, diagnostic and therapeutic procedures and the understanding of the etiology and pathogenesis of disease. Even the best proven prophylactic, diagnostic and therapeutic methods must continuously be challenged through research for their effectiveness, efficiency, accessibility and quality. In current medical practice and in medical research, most prophylactic, diagnostic and therapeutic procedures involve risks and burdens. Medical research is subject to ethical standards that promote respect for all human beings and protect their health and rights. Some research populations are vulnerable and need special protection. The particular need of the economically and medically disadvantaged must be recognized. Special attention is also required for those who cannot give or refuse consent for themselves, for those who may be subject to giving consent under duress, for those who will not benefit personally from the research and for those for whom the research is combined with care (1).

Research investigators should be aware of the ethical, legal and regulatory requirements for research on human subjects in their own countries as well as applicable international requirements. No national ethical, legal or regulatory

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Figure 1. The Declaration of Helsinki. Retrieved from: New edition of Declaration of Helsinki Available: <http://www.hopitalmontfort.com/en/new-edition-declaration-helsinki>

requirement should be allowed to reduce or eliminate any of the protections for human subjects set forth in Helsinki Declaration. In any research on human beings, each potential subject must be adequately informed of the aims, methods, sources of funding, any possible conflicts of interest, institutional affiliations of the researcher, the anticipated benefits and potential risks of the study and the discomfort it may entail. The subject should be informed of the right to abstain from participation in the study or to withdraw consent to participate at any time without reprisal. After ensuring that the subject has understood the information, the physician should then obtain the subject's freely-given informed consent, preferably in writing. If the consent cannot be obtained in writing, the non-written consent must be formally documented and witnessed. Research on individuals from whom it is not possible to obtain consent, including proxy or advance consent, should be done only if the physical/mental condition that prevents obtaining informed consent is a necessary characteristic of the research population. The specific reasons for involving research subjects with a condition that renders them unable to give informed consent should be stated in the experimental protocol for consideration and approval of the review committee. The protocol should state that consent to remain in the research should be obtained as soon as possible from the individual or a legally authorized surrogate.

Both authors and publishers have ethical obligations. In publication of the results of research, the investigators are obliged to preserve the accuracy of the results. Negative as well as positive results should be published or otherwise publicly available. Sources of funding, institutional affiliations and any possible conflicts of interest should be declared in the publication.

The principles described above. Extracted from the document of Helsinki and other declarations, are rules for every author, editor and publisher who want that their results of research and investigation make visible for national or international academic community via scientific or professional journals or via on-line data bases (3). Unfortunately a lot of unethical behaviors today are very common and used in practice that COPE, ICMJE, EASE, WAME and other associations which try to avoid and prevent it have a lot of troubles to fight with it (4).

Title of the Second SWEP "Ethical dilemmas in Science Editing and Publishing" and presentations of authors at this conference tried, with their personal experiences, a to help

solve this great problem, at least in our environment. Good publication practices do not develop by chance, and will become established only if they are actively promoted. Good decisions and strong editorial processes designed to manage these interests will foster a sustainable and efficient publishing system, which will benefit academic societies, journal editors, authors, research funders, readers and publishers.

This conference followed our intention to spread out our tasks and conclusions established at SWEP 2016 described in "Sarajevo Declaration on Integrity and Visibility of Scholarly Journals", published in Croatian Medical Journal in December of 2016, a lot of biomedical journals accepted as official document and included in their Instructions for authors in journals which edited and printed (3, 4). This year, at SWEP 2018, active participation have taken by editors of the journals: Medical Archives, Acta Informatica Medica, Materia Socio-Medica, Croatian Medical Journal, Psychiatria Danubina, Macedonian Journal of Medical Sciences, Medicinski Glasnik, Acta Medica Saliniana, Medicinski Zurnal, Donald School Journal of Ultrasound in Obstetrics and Gynecology, etc. The Seminar SWEP 2018 gathered prominent editors of biomedical journals, and also, distinguished professors and scientists who are interesting in the field of Science editing and publishing (A-BT).

The aim of the meeting is to provide fundamental help to PhD students in their PhD thesis, because we all hope that their current topics in the field of scientific publishing will at least be a road sign, how to act, and what to avoid. Our desire is that these meetings become a tradition, and promote scientific excellence, as the only weapon in the hands of science in the modern world. The tendency towards scientific publication should be a universal idea, a way of communication, and the instillation of this tendency to young colleagues, should be the goal of every professor and academic person.

Even when many say that science does not pay off, that it is a hard-laboring job, which ultimately is in the end gets recognized, the obligation of this meeting is evidence to all participants, that it is quite worth it, because of personal satisfaction, what essentially cannot be bought, and what essentially does not have a price.

SWEP 2018 is one of the contributors to the development of science in Bosnia and Herzegovina, Croatia, Serbia, Macedonia, and both the region and the Europe.

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## ABSTRACTS OF THE SWEP 2018

### DIFFERENCES IN THE PHD PROGRAMS DURING A PERIOD OF 50 YEARS - PROGRESS OR NOT?

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#### ABSTRACT

**Introduction:** The PhD program represents the biggest step in the education and the PhD itself is the crown of the work of one scientist (1). Each PhD thesis represents the contribution of the author to the development of the area in which he/she is active, and must present something new, unknown or insufficiently explored until then, with direct implication for the practice. **Aim:** To present the difference between PhD program during 50 years period, with the presentation of the advantages that development and availability of science brought. **Results:** When different literature was not available in digital form, writing a PhD thesis after a postgraduate study and a long-term specialist work was the crown of the work of medical professional. Unfortunately, this process was sometimes difficult and was dependent on many parameters and subjective opinions, and was subject of numerous manipulations. In the present age, following the reform of education, and the implementation of Bologna Education System, the number of PhD students has increased and the study started to be held at all Universities in Bosnia and Herzegovina (2). All those who completed the six-year study are able to attend the PhD studies. The main obligation for student and requirement for obtaining PhD degree is article from PhD thesis published in the Current Contents database. This criterion was removed over time and the situation now is that obligation is article that is published in journal that is in the reference database (without clear definition in which databases). Quantity is achieved but we cannot say that for quality. During the year 2017, in Bosnia and Herzegovina, 11 original articles in the field of clinical medicine were published (indexed in the journals that are in the Current Contents Indexed Publications (journals that belong to CC, SCI and SCI-E base) (3,4). These 11 papers are from the field of gastroenterology, psychiatry and ophthalmology (2,3). If this is the scientific opus of already experienced scientist, the question remains what is expected from young researchers. **Conclusion:** Which system is better, on this question answer cannot be given, because both systems have shortcomings and advantages. The fact is that there is a gap between generations, which is unlikely to be resolved. It is also a fact that the Bologna system is not ideal, but it is currently our present (5, 6,7). A lot of students are enrolled, and the system must help them, in the process of successfully completing their PhD programs. This help cannot be achieved through the lowering of criteria (publications in science remain the only weapon in

evaluation). This step leads to decreasing of quality. Quality is what needs to be taught, quality is the only one that science needs. The results in 2017 for Bosnia and Herzegovina and even the worst experience in the past few years is the red alert and only together, both professors and students, can find a way out of one of the most difficult situations.

**Keywords:** Education, Science, Medicine.

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### ETHICS AND MOTIVATION FOR SCIENTIFIC PUBLISHING: THINKING AND NARRATIVE REVIEW OF AN EDITOR

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#### ABSTRACT

**Introduction:** The number of scientific publications in medicine has dramatically increased in recent decades. With the rising tide of publications it has been claimed that publication misconduct, paperism and scientism have become a silent epidemic in our post-truth age of entitlement (1). Many scholars and editors have argued that proper motivation is fundamental to a quality research and promotion of publishing culture. Dissertations and scientific papers became commodities



and mass products, the many of them offered little or nothing to scientific progress. Black market in academic papers and predatory publishing is a hot topic. Publishing ethics defines the ethical behavior in writing and submitting a scientific manuscript for publication (3-5). We need more convergence in our thinking on publishing ethics from the perspectives of professional, research, academic and medical ethics, business and political ethics in the light of universal versus particular ethics. **Aim:** The main goal of this presentation is to address the importance of educational and restorative approach in promoting publishing ethics in order to decrease need for retributive approach to the publication misconduct. The presentation is intended to be thought provoking how to promote epistemophilic publication culture. The method of De Bono's six thinking hats will be used in order to achieve a joint vision on publication ethics. **Results:** The scientific studies of motivation to publish are very rare. Motivation to publish may be very different: wish to inform scientific community about own work and get comments and suggestions for further research, to speed career advance, to get or improve funding, to boost own ego, to protect copy right, etc. Recent years have witnessed increased attention for publication misconduct (authorship criteria failure, gift or ghost authorship, duplicate submission, redundant publication, duplicate publication, plagiarism, falsification, and fabrication of data), but much less for motivation for publishing pseudoscientific papers. In general, the issue how to increase proper motivation for publication has been studied very rarely. The career pressure to publish or perish and financial gain and ideology, as a set of ideas that forms one's goals, expectations, and actions, seem to be strong incentives for publishing pseudoscientific papers. The erosion of the primary scientific interest in publishing by a secondary, commonly non-ethical interest has become a significant problem (5, 6). Publication pressure publish or perish may be associated with job-related burn-out in academic medicine. **Conclusion:** All clinicians have a professional ethical obligation to follow, understand and share the scientific evidence in a proper way. General purposes for making and publishing a paper should be informing or teaching others, and motivating others for cooperation or the mixture of some or all of these purposes. Common key words of good research and publishing are: integrity, motivation, capacity, understanding, knowledge, experience and creativity. Epistemophilia, the love of knowledge should be the impulse to investigate and publish. Publishing hodegetics and early education for epistemophilic publication culture and reinforcement of proper motivation for publishing is essential to stop falling into pitfall of publishing papers just to have papers to be published because of career and academic promotion and financial gains (4). Proper motivation is an integral component of assurance of scientific quality of published papers as well as scientific progress (6).

**Keywords:** ethics, pseudoscience, publishing, science.

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## ETHICAL ISSUES OF AUTHORSHIP IN SCIENTIFIC PUBLISHING – HOW TO AVOID IT?

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### ABSTRACT

**Introduction:** Ethical issues regarding authorship have been present since ancient times (1). Publication is the final affirmation of scholarly accomplishment. Academic advancement, "publish or perish," as well as prestige, are other important driving forces. Finally, there are many financial benefits (direct and indirect) in publishing such as promotion and further research funding. Many of these forces can lead to ethical lapses, and International Committee of Medical Journal Editors' (ICMJE) recommended guidelines for authorship are not reflected in current authorship practices within the domain of health sciences in both low- and high-impact-factor journals (1,2). **Aim:** To present some of ethical issues of authorship in medical scientific publishing. **Methods:** Article has an analytical character and review of literature. **Results and Discussion:** A number of studies have reported an increasing trend of papers with multiple authors in every scientific discipline within and across countries. „Significant contribution“ is an important criterion for authorship credit. Many journals currently adhere to the guidelines of the International Committee of Medical Journal Editors (ICMJE), which has established four criteria that each author of a paper should meet: Significant involvement in study conception/design, data collection, or data analysis/interpretation; Involvement in drafting or revising manuscript; Approval of final version of manuscript for publication; and Responsibility for accuracy and integrity of all aspects of research. However it is not enough for avoidance of non-ethical authorships. It has been described several of inappropriate types of authorship: a) guest authorship; b) honorary or gift authorship; c) ghost authorship; d) anonymous authorship; group authorship, etc. Honorary/gift authorship and ghost authorships are two extremes of scholarly malaise. In honorary/gift and ghost au-

thorship, the idea of „significant contribution“ is not reflected in the author list. Someone who has contributed little or nothing gets to be an author. Similarly, a ghost author gets no credit for his/her contribution, as he/she is not on the author list (3). In three peer-reviewed journals in 1996 Flanagin et al. (4) found evidence that 19% and 11% of these papers involved honorary and ghost authorship, respectively. Many others found a similar pattern of honorary and ghost authorships or even more frequency of it. In recent study within the total number of respondents (69 academic workers from medical field) 34.8% of them were added as coauthors, although they did not have any input in the writing process. Even 47.8% of the respondents were under psychological pressure, that they have to add their superiors to the list of authors, though they did not have any contribution at any stage of the article preparation, while 29% of the respondents had a tacit agreement about mutual adding to the author's list, and 36.2% added their superiors to the author's list, in order that the first author would get a permission to publish the article in a certain journal (5). There are several ways in which authorship issues, i.e., who should be on the paper as author and who should not and the order of authorship could be solved. For example, the lead or principal author may decide who should be on the author list or cited in the acknowledgment section and who should not be in any of these. However, one still needs to bear in mind that, no matter how articulate the rules and guidelines are, they cannot cover all the contingencies (3). **Conclusion:** The ethical issue of authorship, although simple at first glance, is an extremely complex issue, and many malversations and violations of ethical principles can be found. Knowledge about formal authorship criteria is highly variable and majority of scientist are not familiar with existing criteria or do not consider formal criteria necessary. Editors could play a more active role in addressing inappropriate authorship by providing clear and unambiguous policies that inform and define deserving authorship and promote research and authorship integrity.

**Keywords:** authorship, scientific publishing, ethical issues.

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## LANDSCAPES OF BIOMEDICAL KNOWLEDGE AND COCHRANE INITIATIVE

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### ABSTRACT

**Introduction:** The biomedical knowledge collection is important for every citizen in a search for health. The amount of published research gives the impression that the right answer for every question is just there. This motivated, together with medical professionals, every individual to get access to what is published and grasp the relevant knowledge needed (1). **Aim:** The aim of this study was to discuss the possible sources for medical knowledge produced by current research activities, and the value of the knowledge being openly available to public. **Results:** The understanding of the knowledge in the digital society developed with the help of interdisciplinary and international network, Navigating Knowledge Landscapes (2). The individuals, being lay people or medical professionals, approach the knowledge using the Internet, in a hope to find the latest innovative game-changing knowledge that would apply to the medical issue in question. The most recent medical knowledge is embodied in the academic publishing, which gradually turns to be Open Access, freely available to everyone. In May 2016, the European Union announced “all scientific articles in Europe must be freely accessible as of 2020”. In ideal words, using the digital technologies and Open Access, the knowledge would be available to anybody who wants it. The amount of published articles make the search for the relevant knowledge extremely tedious. Cochrane promotes evidence-informed health decision-making based on sound medical research. To make this research accessible, Cochrane produces up-to-date systematic reviews and other synthesized research evidence to inform health decision making. Subsequently, Cochrane aims to put Cochrane evidence at the heart of health decision-making all over the world (3). The strategies like Open Access and Cochrane in relation to knowledge, and in particular health-related knowledge are indeed very important and should be supported and welcomed. The discussion is opened about the general impact of these activities, and if the availability of the knowledge would be a solution to provide the knowledge to those who need them. Our argument is that the current state of knowledge measured by number of publication is highly over-estimated (4,5). The knowledge is tentative and it changes constantly. Having 11,000 members and over 35,000 supporters from more than 130 countries, and producing a bit less than 8000 systematic reviews, as Cochrane does, is notable, but how this relates to what we do not know is the point of the controversy. **Conclusion:** Believing in absolute knowledge and the quest to make it available to both professionals and lay public is in opposition to the pluralistic, individual, and incomplete knowledge. The perception of this controversy is a key in providing health-related knowledge to the nowadays society.

**Keywords:** Knowledge, Academic publishing, systematic reviews, person-centered care.

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## VERIFICATION OF THE TRANSLATIONAL PLAGIARISM

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## ABSTRACT

**Introduction:** Translation of parts or whole paper from one to another language with the identification of the author(s) is a simple *translation*, but if the author(s) are different it is called *translational plagiarism* (1). If the author translates his/her paper into another language and pledges it as another paper, it is called *translational self-plagiarism* (2). Some of the authors are using monolingual plagiarism, and multilingual plagiarism (3). *Back-translation* is a new approach using particular tools, when the text in English is taken and translated into another language, then “retranslated” again into the original language, thus hiding their plagiarism. **Aim:** This study aimed to present a method for verification of the translational plagiarism in the paper written in Macedonian and translated in a foreign language. **Methods:** Original document (written in Macedonian) was translated with Google Translator; suspected article (published in English pdf file) was converted into Word document and compared both documents with several programs for plagiarism detection (4). **Results:** It was found that both documents are identical in 71%, 78% and 82%, respectively, depending on the computer program used for plagiarism detection. It was obvious that the original paper was entirely plagiarized including six references from the original paper. System for plagiarism detection and analysis was developed and installed from the Ministry of Education and Science, the Republic of Macedonia. The students and researchers/scientists can easily upload their homework, bachelor’s thesis, master’s thesis, doctoral thesis (dissertation) and other published papers and documents. The system also

provides a mechanism for comparing the uploaded documents with all the other documents that are already present in the system and to measure their originality, i.e. to detect if any of the content is already published (5). Unfortunately, the system is robust, language restricted, and the closed database is limited to the documents deposited in the local website only. A very small number of countries uses multilingual plagiarism detection (3,6-8), restricting plagiarism check to one language comparison and presenting false results. **Conclusion:** Plagiarism of the original papers written in Macedonian and translated in other languages can be verified after computerized translation in other languages. Later on, original and translated documents can be compared with available software for plagiarism detection.

**Keywords:** Medical Science, Misconduct, Translational Plagiarism, Republic of Macedonia.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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## GHOSTWRITING

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## ABSTRACT

**Introduction:** Outsourcing is a business practice in which a company hires another company or an individual to perform tasks, handle operations or provide services that are either usually executed or had previously been done by the company's own employees. One way of outsourcing in academic and scientific community is ghostwriting. The word describes a process in which a person or team provide writing services and compilation of finished scientific papers that are officially credited to another person as the author (ordering person).

**Aim:** The aim of this lecture is to present available ghostwriting platforms, make clear distinction between ghost and guest authoring and discuss ethical aspects of ghostwriting.

**Results:** The research of available specialized companies and ghostwriter individuals has been done and specific enquires for production of scientific paper were sent. Offers have varied in price, time needed to compile and potential to fulfill criteria for intended use of scientific paper. Many writer organizations have they own rules for authorship and contribution which have been assessed and compared (1). Different types of ghostwriting have been analyzed (individual publishing, advancement in academic grading, medical and pharmaceutical industry) and ethical responses and criticism from various types of stakeholders (2,3,4). **Conclusion:** It is difficult to determine how frequently ghostwriting occurs due to its covert nature. It is also very difficult to detect and reveal scientific papers which are compiled by ghostwriters, because they are original piece of scientific work, only credited to another person. Results of research are still work in progress and final conclusions will be presented during the lecture.

**Keywords:** Ghostwriting, authorship, scientific outsourcing, guest authoring.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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## ETHICS IN PUBLISHING OF CLINICAL RESEARCH

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## ABSTRACT

**Introduction:** Publishing scientific papers of clinical research in peer-reviewed journals remain a major tool for distributing the medical results and informations to researchers and practitioners (1-3). The ethical issues in publishing of clinical research is always challenging and carries a great responsibility of submitting authors and editors for honesty and avoidance of misconduct as well (4). **Aim:** The objective of this paper is to explore the ethical principles in publishing of clinical research. **Results:** The objective of clinical research is to provide knowledge, truth and to avoid any mistake, deviations, unethical issues, fabrication, falsification and plagiarism (FFR). The author's self-reports contribute to 1,0% in research conduct, while other registered agencies that sponsor research count 0,01% in medical un-ethics. Detection of FFR in publishing still remains the significant issue and requires sometimes a time to discover it. Deviations in reporting the results may be even more difficult to unmask since some authors are not even aware that their action is un-ethical. This may be due to lack of knowledge or to self-motivation. The vast majority of FFR was found in presenting the abstracts at various medical conferences and symposium since there is no strict control of such reports. One of the most frequent unethics in this example is ghost authorship. The industry sponsored clinical trials contribute to ghost authorship in a significant manner. **Conclusion:** Concerning these and other issues in publishing of clinical trials, the peer-reviewing process requires the strict and careful process, the control of statistical analysis, anti-plagiarism software as well as honesty and responsibility of researchers and submitting authors.

**Keywords:** clinical research, un-ethical behavior.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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## CONFLICT OF INTEREST REPORTING BY AUTHORS INVOLVED OF PROMOTION OF DRUG – WHERE IS THE LINE?

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## ABSTRACT

**Introduction:** Relations between doctors in everyday clinical practice and pharmaceutical companies are permanent and numerous. If a clinician is involved in publishing, he or she publishes papers in professional journals, then a number of other relationships with pharmaceutical companies are opening up. Participation in clinical research is the third, even more important form of collaboration between clinicians and pharmaceutical companies. And as the fourth and perhaps most important for the pharmaceutical industry, is the involvement of clinicians in the development of clinical guidelines that have the most influential decision in the daily decision-making process in selecting appropriate pharmacotherapy. **Aim:** To present ethical issues about conflict of interest statement in journals by authors who are involved in promotion of drug. **Results:** Whether there is a significant conflict of interest, how to quantify it, and whether it needs to be limited. Is the “statement of conflict of interest” itself sufficient enough, which clinicians, and especially medical experts, point to the presentation of their exposure in public presentations? First of all, it is necessary to accept the universal definition of “conflict of interest” as position when it in a sufficiently usable and unavoidable fact in assessing whether it has it and how much it is. The definition of “conflict of interest” is given by the International Committee of Medical Journal Editors as “The state of the presence of a conflict of interest when a professional judgment of a primary interest may be under the influence of a securitized interest” (i.e. when the validation of the patient’s condition will be affected by the financial or other convenience of the judge) (1,2). The “Official Guideline on the Methodology of Conflict of Interest Estimates” is most comprehensive publication Conflict of Interest in Medical Research, Education and Practice, published by the Institute of Medicine, Academies Press, 2009. Is it possible to set up a “red line” enough, which will disable the influence of the situation with the “conflict of interest” on widely-accepted adopted recommendations affecting “decision making”? Is it possible for reviewers of the medical journals to recognize the “conflict of interest” in the text that is being prepared for publication? It is certainly very difficult, even if the authors correctly state the potential conflict of interest. The sponsorship of pharmaceutical companies can also be indirect and do not contain a financial dimension, but there is a significant conflict of interest in all. **Conclusion:** It is too late to “bring order” to the publishing of medical literature with the intention of reducing the conflict of interest to the minimal impact on making medical decisions. But the “red line” must stand in the process of forming clinical guidelines, which in no way should be sponsored, and should be based on numerous publications in well-controlled and open clinical studies.

**Keywords:** ethics, promotion, publishing, science.

- Financial support and sponsorship: None.
- Conflict of interest: There are no conflict of interest.

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## THE SCIENTIFIC RANKING AND EVALUATION OF SCIENTISTS AND SCIENTIFIC JOURNALS

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## ABSTRACT

**Introduction:** In the past decades, the publication of scientific research has been a very important factor in attracting public funding and support of scientific research. It is also the cornerstone of knowledge dissemination, as well as an essential criterion for academic and scientific evaluation. Hence the great interest in scientific ranking and evaluation of scientific journals, but also in scientific contribution of scientists. **Aim:** It is very difficult to apply right measures and scientific criteria that can objectively assess the scientific quality of the research and provide precise qualitative and quantitative data on which academic communities and funding agencies could base their decisions. Despite the evident shortcomings in the evaluation of scientific journals it is generally accepted that IF (Web of Science-WoS) and the total number of citations of all articles published in the journal represent a relevant measure of their value and scientific influence. However, the significance of scientists is much more complicated to establish since the relevance of the journals in which their articles are published does not directly reflect their scientific production. Therefore, evaluating the significance of scientists’ accomplishments justifiably involves the application of more sophisticated metric systems rather than just insight into their publication records. **Results:** A recent focus on scientific productivity leads to the competitive evaluation of scientists, creating incentives to maximize publication numbers, citation counts, and publications in high-impact journals. There are numerous bibliometric databases which are used in biomedical sciences. Most of them, such as Current Contents (section Clinical Medicine but also sections Life Sciences and Social & Behavioral Sciences) Journal Citation Reports (JCR), Index Medicus (Medline, PubMed) and Excerpta Medica (EMBASE), present and rank scientific journals only. Some of scientific databases such as Web of Sciences (including Science Citation Index (SCI), Social Science Citation Index (SSCI), Arts & Humanities Citation Index, and Emerging Sources Citation Index), H-index, Scopus and Scholar evaluate individual scientific contribution of a scientist. Zerem-score (Z-score) represents new criteria for the estimation of scientific merit of individual scientific effect of



scientists. According to these criteria the overall scientific score of an author named as Z-score is calculated as the sum of two scores (author score and author citation score). The author score is calculated as the scientific value of the journal in which an article is published and the authors' specific contribution in this article, whilst the author citation score is calculated as the total number of citations of all articles published by an author. **Conclusions:** Several authors consider that almost nothing in scientific institution can compare to the importance of publications issued in top scientific journals, claiming that they basically constitute the main source of recognizability. However, it is true that no single metric system is suitable for comprehensive evaluation of scientific research. Based on the long term experience, author is proposing the new criteria (named The Z-score) in order to estimate the scientific effect of scientists and institutions more objectively.

**Keywords:** scientific impact factor, number of citations, author contribution, science metric.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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### "YES" BIAS IN CLINICAL PRACTICE

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## ABSTRACT

**Introduction:** Approximately about 30% of US health care is inappropriate, or wasteful (overuse). Inly 55% of needed health services is delivered (underuse). Reasons for suboptimal care are the lack of high quality or failure to apply high quality evidence related to the effects of most health care interventions and suboptimal decision-making. Personal decisions are the leading cause of death and 80% of all health care expenditures are affected by physicians' decisions (1,2,3). Evidence-based clinical practical guidelines (CPGs) as a key approach to improving clinical decision-making (1). **Aim:** To display the meaning of "Yes" bias in clinical practice. Results: Research included 101 participant from American Society of Hematology (ASH). **Results:** Data was collected before the meeting of AHS, during and one week after the meeting. The positive, statistically significant relationship between certainty of evidence and strength of recommendations only when the panels voted "FOR" intervention; this association

disappeared when the panels voted "AGAINST" intervention (OR=3.6 (95%CI: 2.17 to 6.0; p<0.0001). The positive, statistically significant relationship between certainty of evidence and strength of recommendations only when the panels voted "FOR" intervention; this association disappeared when the panels voted "AGAINST" intervention (OR= 7.93 (95%CI: 1.43 to 43.8; p= 0.018 ). The positive, statistically significant relationship between certainty of evidence and strength of recommendations only when the panels voted "FOR" intervention; this association disappeared when the panels voted "AGAINST" intervention (OR= 4.06 (95%CI: 1.74 to 9.5= 0.001). Conclusion: Yes" ("for") responses tap into "feeling of rightness" heuristic that the answer is correct: is automatic, effortless (type 1 process), which is activated much faster than effortful (type 2 processes) associated with processing of "no" ("against") responses (4, 5, 6). Voting "against" an intervention is cognitively more challenging because people need to mentally simulate the consequences of two contradictory assessments. **Conclusion:** Particularly challenging when cognitive resources are depleted as when people are tired and decision-making occurs in time-constraint settings, which characterize most human engagements including guidelines development process. Psychological biases may affect normative structure of EBM. CPG recommendations are subsequently followed by thousands of practitioners whose decision making ultimately affect lives of thousands of patients.

**Keywords:** Medicine, Decision making, Bias.

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- Conflict of interest: Results were partly presented on "40th Annual Meeting of the Society for Medical Decision Making MeetingApp", October 2018, Montreal, Canada.
- Financial support and sponsorship: None.

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### CAN THE NEWLY APPOINTED AREA OF MEDICINE (ORAL PERINATOLOGY) INCREASE THE SCIENTIFIC RECOGNITION OF BOSNIA AND HERZEGOVINA?

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## ABSTRACT

**Introduction:** Perinatal Medicine is a medical subspecialty concerned with the maintenance of health and long-term development of the fetus, neonate, and infant, requiring special knowledge, skills and attitudes for the prevention, diagnosis and management of disorders of this patient population (1). Oral perinatology deals with the influence of poor oral health on the pregnancy outcomes and the fetus. **Methods:** The first time the term "oral perinatology", and "oral perinatologist" was mentioned in Khartoum in Sudan in 2016, by proposing member of "Ian Donald Inter-University" Dr. sc. Selma Porović into International Academy of Perinatal Medicine, due to many international lectures and writings in this field. **Results:** Pediatric dentist, and dentist in general became a member of IAPM in Bucharest in May, 2018. The unfair neglected significance of dentistry as a medical branch is back to the focus of the essence. Oral perinatology becomes a branch that connects many specialties that deal with pregnancy and fetal health, while focusing on oral health and the two-way relationship between poor oral health and the outcome of pregnancy. The analysis of Web of Science, Scopus and PubMed Central, found that Journal of Perinatal Medicine (Official Journal of the World Association of Perinatal Medicine) and The Donald School Journal of Ultrasound in Obstetrics and Gynecology are qualified to deal with this area. **Conclusion:** As a result of the newly designated field of medicine, we have already started several researches in front of the most prestigious Bosnian Herzegovinian institutions, which undoubtedly enhance the scientific identity of Bosnia and Herzegovina on the world map (2). **Keywords:** Perinatology, Dentistry, infant, Pediatrics, science.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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### THE MOST FREQUENT MISTAKES MADE BY PHD STUDENTS DURING STATISTICAL ANALYSIS

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## ABSTRACT

**Introduction:** Correct choice and administration of a statistical test are absolutely essential for meaningful interpreta-

tion of research data, yet mistakes are still frequent and could be easily found in published scientific papers or PhD theses (1). Although formally trained in statistics, PhD students are among those who make mistakes (2,3), and they need additional guidance by their mentors in order to avoid misuse of statistical methods and thereafter misinterpretation of the data collected (4, 5). **Aim:** The aim of this study was to analyze mistakes made by PhD students in statistical analysis of data collected during research within the framework of their thesis. **Results:** The study was designed as cross-sectional analysis of random sample (n=15) of PhD theses in pre-approval stage at Faculty of Medical Sciences, University of Kragujevac, Serbia. In total 7 (47%) theses had at least one mistake. The most frequent mistakes, found in more than 20% of theses were as the following: insufficient statistical power due to small sample size, non-random sample and use of a statistical test when standard conditions were not met (e.g. use of Chi-square test when one of the frequencies was zero, etc.). Other mistakes found in the sample were: inappropriate choice of non-parametric test for dependent groups, inappropriate validation of a questionnaire (no divergent criterion validation, lack of use of multi-trait, multi-method matrix, etc.) and lack of transparency (measures of variability not presented). **Conclusion:** Mistakes with statistical analysis made by PhD student are frequent, and lead to misinterpretation of the data. Training course in statistics during PhD studies should be re-evaluated, mentors should invest more effort to review the data and guide students through statistical analysis, and special statistical review board at Faculty or University level may improve the situation (3).

**Keywords:** data interpretation, statistical, data accuracy, scientific experimental error.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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### THE VISION OF DEVELOPMENT OF SCIENCE OF THE FUTURE

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## ABSTRACT

Science is changing the world at an ever-increasing pace. It is hard to imagine medicine, business, education, defense, government or society without revolutionizing achievements of science. It is safe to assume that this march of science will continue (1-4). But, where is it leading? What will the world look like in 10, 20, 50, or 100 years? How will it change lives of individual humans or whole societies? What are the anticipated benefits and challenges? This talk will attempt to answer some of these questions and raise new ones.

**Keywords:** world, science, development of sciences.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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## HOW TO WRITE THE "ABSTRACT"

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## ABSTRACT

**Introduction:** The part "Abstract" of article is the only part of the article that is published in conference proceedings, only part of the article that a potential referee sees when he is invited by an editor to review a manuscript and the only part of the article that readers see when they search through electronic databases such as PubMed (1). It represents a concise overview of the article, understandable and without reading the rest of the content, and can be published independently of it (2-4). **Aim:** To present the specifics of writing the "Abstract" in the scientific article. **Result:** There are three types of abstracts: descriptive, informative and structured. The descriptive abstract is specifically used for theoretical, methodological or review articles (150 words or less), informative abstract contains specific information given in the article (150 to 250 words in length) and the structured abstract is essentially an informative abstract with sections labeled with headings (250 to 300 words). A good "Abstract" shows the basic purpose, as well as the research aim, applied methodology, detailed results and important conclusions. It must be written in the language in which the article is written, in a third party and in a passive. Abstract cannot contain something that is not mentioned in the text itself. **Conclusion:** Abstract is the mirror of the work itself, and its writing requires big effort. It is recommended that each work begins with a temporary abstract and after completion of the full article, a concise abstract is formed. Abstract is the essence of what an author at-

tracts attention to and keeps it until the end of article.

**Keywords:** writing, science, publishing.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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## BOSNIAN AND HERZEGOVINIAN CARDIOLOGY IN CURRENT CONTENTS INDEXED PUBLICATIONS

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## ABSTRACT

**Introduction:** Current Contents Indexed Publications are publications that are indexed in the most prestigious journals (with the highest impact factors), and they are guide in the daily clinical work of a cardiologist (1). **Aim:** To present the number of articles from Bosnia and Herzegovina (B&H) in Current Contents database in the field of cardiology in the period 2011-2017. **Results:** During the seven-year period there are 14 papers in the field of cardiology in the Current Contents database. Out of this number, two are original articles (original research), one is a meta analysis and 11 represent the collaboration of member countries of the European Society of Cardiology (where the representatives of B&H are also), in the writing of guidelines or screening programs presentation. Also, two articles from pediatric cardiology (two original research) were published during mentioned period. **Conclusion:** Increase in the number of CC articles is an imperative for the new generation of cardiologists in B&H. For new generations of PhD students, the requirement for defending the PhD thesis is a publication of their thesis in the Current Contents Indexed journal. Is this requirement justified, in relation to the mentioned results, it is a question that requires much more analysis.

**Keywords:** Cardiology, science, publishing, Bosnia and Herzegovina.



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### SELECTING THE RIGHT JOURNAL FOR ARTICLE - FROM POINT OF PHD STUDENT

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#### ABSTRACT

**Introduction:** Selecting journal title to publish, considering duration of peer review process and the limited time for PhD thesis is a complex step for a young medical researcher. Journals provide information channels for scientific communications (1). The process of selecting a journal requires expertise, which all researchers do not have (2, 3). **Aim:** To provide a didactic step by step guide in selecting a scientific journal for paper publishing. **Results:** The first step is to determine aim and scope of the journal, which should match topic of article. Reading previous published journal issues helps in recognizing types of articles that can be published and technical normatives. Finding out Editor main research activity could be in favor to publish similar article. Author should determine what type of article is preferable in the journal of his interests. Journal indexation is very important for young researchers. Web of Science seems to be hard to reach for PhD students. Nevertheless we should try our best to publish in internationally recognized scientific databases (Web of Science, Scopus, Medline, PubMed). The aspiration of every young researcher should be Open Access journals, because that is only way to try to increase visibility of one's work. The style of writing of scientific information is a scientific style and it does not mean only grammatical and spelling accuracy, but also the way of shaping the contents and sense of article (4-6). Each article should be written in a clear manner and to be accessible not only for professionals but to general population too. Writing an article and publishing requires ethical principles, high English proficiency skills in conversation with Editor and reviewers, because the impression that will be made there could prevail in accepting of our paper. **Conclusion:** Writing an article requires a lot of time and determination. Getting familiar with aims and scope of targeted journal, technical prerequisites and the length of peer review process is very important.

**Keywords:** publishing, writing, science.

- Financial support and sponsorship: None.

- Conflicts of interest: There are no conflicts of interest.

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### PLATFORMS FOR KNOWLEDGE SHARING

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#### ABSTRACT

**Introduction:** The Open Access model of article publishing is regarded as an imperative in contemporary scientific publishing. This model essentially should be free. Open access means providing access to scientific literature to anyone with a computer and an Internet connection, at no charge to the user (1). Scientific authors who pay to publish their articles in open-access publication should be cordially honored for doing so (2). Payment of an open access module is sometimes extremely expensive, and certainly poor countries can rarely afford it (3). This practice puts in difficult position researchers from low-income countries. Journals that are in top quality level often charge enormous amounts for choosing option "Open Access". Without the Open Access model, every article is essentially meaningless, because every article should be open to readers, and be the basis for future research. Online libraries have great potential in terms of expanding knowledge, but they also present a major problem for many publishers because their rights can be violated (4). **Aim:** Presentation of online platforms for the archiving of scientific research papers and the presentation of their benefits. **Results:** Authors can individually manipulate with electronic forms of

articles through the platforms (ResearchGate, Academia.edu, Kudos, Mendeley, exoplatform.com, BiomedExperts) which allow the author to individually upload articles, share articles and increase their visibility. The tendency is that every scientist has profile on these online platforms. Which of these platforms is conditionally better, is something, which can be related to personal preferences. With the mentioned platforms authors can manipulate in many ways (ranking on platforms are often questionable). There are also ethical issues in the use of these platforms, because often articles that are not Open Access, if uploaded from an author, become available to the general public. This raises the question of who is the owner of the article, the author or the journal, who is entitled to copyright. There are lot of question, but in the essence everything depends on the ethical policy of the journal or the ethics of author. Regardless of all, the aforementioned platforms represent a great source of knowledge for researchers, as well as the location of the authors' promotion, as well as the place for creation of collaborations in scientific community. **Conclusion:** The digital era enabled easy access to knowledge. The fact is that in the future, the issue about these platforms will be getting bigger, and the boundary will have to be set. Which board will set that line is questionable. Until that moment, the mentioned platforms remain a great source of knowledge, for both students and professionals.

**Keywords:** education, science, information technology.

- Financial support and sponsorship: None.
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4. Masic I, Kujundzic E. Science Editing in Biomedicine and Humanities. Avicena. Sarajevo, 2013: 272 pp.

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### HOW TO WRITE PHD THESIS

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#### ABSTRACT

**Introduction:** PhD thesis is the final part of the study program and represents the independent and original work of the candidates in the appropriate field, which, for the sake of its originality, is worth publishing (1-3). **Aim:** The aim of this lecture is to show the peculiarities of writing a doctoral dissertation. **Results:** PhD thesis should provide evidence that the candidate successfully uses methods in professional

and scientific work, in exposing the results of the research, as well as being able to draw conclusions based on the previously set and realized research tasks. The dissertation is quite similar to a scientific article, but it is always more extensive for a number of reasons. For example, an article does not have to contain all the results of a particular research, but only those that are relevant, while the dissertation can also be the results of repetition of the same experiments to see the extent of the research itself. Quite supposedly, a dissertation should be considered and the dissertation should be written as a comprehensive review article with an inescapable description of your research results. It is important to give your personal comment, to reach its point of view, to give its judgment to the results so far, to be critical. As for the article, in the doctoral thesis we have to respect the previously established methodology and draw up a dissertation plan. It will be extremely important to be an Introduction and Discussion for judging the knowledge of the subjects of scientific thinking, while the Material and Methods, and the results will explain how the research was conducted and how the results of the research were presented (1-3). Since the doctoral thesis is a comprehensive scientific work, special attention should be paid to the Summary/abstract, because it will be read first and foremost. In the dissertation we also have an unavoidable chapter on the Rationale of the topic, in which we will clearly explain why we chose this theme and what we want to prove it is ultimately. Considering that the doctoral thesis is a scientific work with limited availability, it is highly desirable but acceptable that the results from the dissertation are published in the original article. Also, extensive dissertations can be the basis for more articles. **Conclusion:** The results presented in the doctoral dissertation should contribute to the systematization of scientific and professional tasks and existing solutions for a particular area, to solve the current scientific and professional task, set as the goal of work, the application of existing scientific and professional achievements in solving a complex scientific task.

**Keywords:** education, publishing, science, article.

- Financial support and sponsorship: None.
- Conflicts of interest: There are no conflicts of interest.

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### TITLE OF SCIENTIFIC WORK - THE MOST IMPORTANT ITEM OF WRITING

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**ABSTRACT**

**Introduction:** That title is the most visible and most readable part the entire paper (1). Title appears in original journal and in secondary publications and serves to classify the article in individual scientific disciplines (2). Perhaps the most common grammatical error in defective titles is faulty syntax. An indicative title is recommended, which should be clear; attractive, refer to the hypothesis; indicate the intervention if it is provided; state the structure of the study (3). What is a good title? Day R. define it as the fewest possible words that adequately describe the contents of the paper (1). **Aim:** The aim of this paper is to show importance of the title, length, abbreviations and jargon, importance of syntax. **Results:** Title purpose is to attract researchers interested in this field of study, therefore, all words in the title should be chosen with great care (1). Association words with one another must be carefully managed (2). The importance of the title cannot be overstated as it is a major determinant of whether the paper will be read (3). It is the only aspect of the article that appears in many of the databases used for literature searches (3). The title should indicate the content of the work and should contain enough relevant "keywords" to enable readers to find this paper when searching a relevant database (1). Indexing and abstracting services depend heavily on the accuracy of the title (2). There are two types of titles: 1. Descriptive titles, which states the focus of the study, 2. Conclusion titles, which provide the authors' main conclusion from their study (1). Descriptive title is prefer for research articles because it "lets the data speak for themselves" (1). In some Journal's Instructions to Authors will specify which style of title to use (2). Often authors are asked to provide a running title. Running title should be chosen with care (2). Titles who are too short, obviously was not very helpful, also long and nonspecific titles are often less meaningful than short ones (2). Most excessively long titles contain "waste" words, right at the start of the title, words such as "Studies on," "Investigations on," "Observations on," „Special approach ..." (3). This words should avoid because every scientific work is investigation, approach, observation (1). A general recommendation for title length is 5-10 words. Titles should almost never contain abbreviations, chemical formulas and jargon (1). Avoiding redundant and unnecessary words in the title will be best achieved if we analyze each written word in terms of assessing whether it is necessary as the key word, or is it the one that points to the essence of a problem without which the reader would not have the problem to be clear (3). **Conclusion:** What should be checked in the title: accurate, clear, complete, precise, concise, as short as possible? The qualities of good titles are: to be easy to remember, to provoke the reader to think, to attract attention, and to awaken interest. Title "sales" work! (1, 2, 3).

**Keywords:** science, writing, title.

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**ORAL PRESENTATION IN SCIENTIFIC COMMUNICATION**Venesa Skrijelj<sup>1,2</sup>

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**ABSTRACT**

**Introduction:** The most common mean of sharing results, dilemmas, controversies in field of science is oral presentation (1,2). Presenter is challenged to comprise complicated research in one well delivered speech (3). **Aim:** This abstract is of descriptive character and aims to present means for preparation of good oral presentation. **Results:** First step is to identify key message of presentation as a core for developing the logical flow in story. The presentation should contain brief introduction, main results and conclusions. Introduction initiates attention of the audience, but results will keep them interested. Introduce new terms early in presentation because once an audience gets lost in unfamiliar terminology, they stop following. Results should be discussed as they get presented, concisely, clearly and in accordance to the key message. In the conclusion give two or three take home messages of what is improved after this presentation. Presenter must be confident in his words, not speaking too quick nor incomprehensible, adapting words to the target audience. Making an eye contact with an audience gives comfort to the presenter and engages audience with the storyline. Keep the attention of the audience with anecdotes, humorous remarks or pauses between section transition, but don't digress from the story. Audience attention is the highest in the first 15 minutes. In addition to the oral presentation, there is usually visual aid used to emphasize ones words. Rehearse your presentation in timely manner, using bullet points, but never read from slides or cards. **Conclusion:** The thought of giving presentation is actually worse than doing it. Preparation and practice can strengthen ones confidence, but presenter-audience dynamic is unpredictable.

**Keywords:** oral presentation, speech, scientific communication.

- Financial support and sponsorship: None.
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### CONSOLATION PRIZE OR TRICK UP YOUR SLEEVE?

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## ABSTRACT

**Introduction:** Poster is a visual aid in presenting your research, often starting vibrant discussion and can facilitate collaboration between researchers in common scientific field (1,2). Even though posters are often considered as a consolation prize for rejected oral presentations, good posters can actually improve ones scientific credibility, reputation and are valued as a part of postgraduate scientific work (3,4). The aim of the poster is to grab the attention of the audience which in turn will generate interest in presented area of research. **Aim:** This abstract is of descriptive character and aims to show the methodology behind designing a memorable poster, including important features which insure high quality end result. **Results:** Poster should contain the same chapters as a written paper: abstract, introduction, methods, results, discussion, conclusion. Choosing the right format is a key component of successful poster. Guide the audience with arrows and numbers in logical flow. Never use less than 24 point font size, make sure that key components are at eye level and that the title is readable from 3 m distance. The title should be short, sharp and compelling, inviting audience to find out more. Content must be concise and informative, yet encourage the audience to engage in discussions. Graphic elements should be relevant to the subject matter, clear, to the point, and attractive, not less than 13 x 15 cm. **Conclusion:** In a vast sea of posters, you need to stand out. Most people are more likely to remember the presenter rather than the poster itself. Successful presentation is a soft skill that enables you to sell your work to interested parties in short time. Having handouts given to the audience can help distinguish yourself from others.

**Keywords:** poster, presentation, design.

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