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EDITORIAL

What is the purpose of launching *World Journal of Meta-Analysis*?

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Abstract

The exponential growth of scientific evidence (*i.e.*, primary research) and the ongoing development of methods to summarize such evidence, such as meta-analyses and mixed treatment comparisons (*i.e.*, secondary research), make the worldwide dissemination of high-quality meta-analyses and pertinent articles a key scientific priority. The *World Journal of Meta-Analysis* will apply an electronic open access publishing approach combined with a timely and thorough peer-review of submitted manuscripts, weighing more on quality than priority, in order to improve the dissemination of systematic reviews and meta-analyses, as well as novelties and advancements in methods related to them, focusing on clinical medicine, but spanning all biomedical, epidemiological, and psychological research fields.

Key words: Evidence-based medicine; Meta-analysis; Meta-regression; Review; Systematic review

Core tip: The exponential growth of scientific evidence and the ongoing development of meta-analyses make the worldwide dissemination of the latter study type a key scientific priority. The *World Journal of Meta-Analysis* will apply an electronic open access publishing approach, in order to improve the dissemination of systematic reviews and meta-analyses, focusing on clinical medicine, but spanning all biomedical, epidemiological, and psychological research fields.

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INTRODUCTION

The scientific literature includes thousands of journals on a extremely wide variety of topics, stemming from scientific methods (*e.g.*, *Bayesian Analysis*) or techniques (*e.g.*, *Magnetic Resonance Imaging*) to specific clinical topics (*e.g.*, *Stroke*). In an era dominated by online bibliometric resources and fast dissemination and accrual of scientific evidence, it is becoming increasingly difficult to remain abreast of the most recent scholarly developments. This is one of the main reasons for the success of secondary research, *i.e.*, any form of scholarly activity which aims to appraise and summarize specific research publications (*i.e.*, primary research)[1,2].

Within the context of secondary research, qualitative reviews, defined as viewpoints summarizing the evidence base on a specific scientific topic, conducted without any explicit or validated method, are commonplace. Conversely, systematic reviews are based on explicit and, when possible, validated means to search, select, appraise and summarize the evidence base on a specific scientific topic. Meta-analysis is the method by which primary data, given appropriate methodological approaches, can be summarized, and it is best undertaken in the context of a sys-

tematic retrieval of the literature[3]. Finally, more advanced types of secondary research endeavors include meta-regression analyses, cumulative meta-analyses, individual patient-level meta-analyses, overview of systematic reviews, and mixed treatment comparisons. The latter study type, also known as network meta-analyses, appears very promising and, despite obvious methodological limitations which still require ample research, capable of powerful evidence synthesis[4-8].

The success of reviews, systematic reviews, and meta-analyses is well testified by the fact that this research design has grown exponentially in recent decades, outpacing, at least in relative terms, all other research designs, and it is the most likely to be quoted once published[9-11]. Despite such ongoing success and impact among both researchers and readers, until recently journals devoted specifically to publishing systematic reviews and meta-analyses were lacking. However, with the creation of *Systematic Reviews* in February 2012[12], and the birth of the *World Journal of Meta-Analysis* (*World J Meta-Anal*, *WJMA*, ISSN 2308-3840, DOI: 10.13105) today, accessibility and retrieval of important, and peer-reviewed meta-analyses are set to improve. The *WJMA* Editorial Board has now been established and consists of 402 distinguished experts from 41 countries.

It is not casual that both journals are seeing their light within the electronic open access publication framework. This novel approach, unheard of just a decade ago, is revolutionizing the way evidence is created and disseminated, by putting increasing emphasis on readers downloading, using and commenting on articles, in addition to other researchers later studying and quoting them, rather than on peer-reviewers and editors, who are used to appraise them before full publication. This paradigm shift is well exemplified by the ongoing success of *PLOS ONE*, an open access journal published without any editorial regard for priority. In such scenario, we strongly believe that meta-analyses and similar scholarly efforts to summarize scientific evidence will become more and more important, and thus merit a specific and protected scholarly haven. This is what we, as Editors-in-Chief of the *WJMA*, strive to do.

Among the key advantages of meta-analyses are the cost-effectiveness, ability to maximize statistical power, bolster external validity, appraise clinical and statistical consistency, and explore effect modifiers or moderators, including small study effects (*e.g.*, publication bias) and important patient or study features[13,14]. Despite such important pros, meta-analyses have been criticized as well, citing among the potential disadvantages the inability to correct flaws already present in the original studies, the risks of ecological fallacy and spurious precision, and the fact that an average effect estimate may not be easily applicable to the individual case which is faced in real-world practice[15]. Despite these important drawbacks, it is clear that researchers and readers worldwide trust meta-analyses as a reasonably sound and rigorous research design, and the ongoing accumulation of new methods and refinements in the underlying statistical methods will improve them further, bolstering our optimism concerning their current and future scholarly role.

AIM AND SCOPE

WJMA is a peer-reviewed open access academic journal that aims to guide clinical practice and improve diagnostic and therapeutic skills of clinicians, with a specific focus on meta-analysis, systematic review, mixed-treatment comparison, meta-regression, and overview of reviews.

The primary task of *WJMA* is to rapidly publish high-quality basic research, clinical studies, methodology or scientific theory in diverse areas of biomedical sciences, Editorial, Frontier, Field of Vision, Minireviews, Review, Topic Highlight, Medical Ethics, and Meta-Analysis. *WJMA* covers a variety of clinical medical fields including allergy, anesthesiology, cardiac medicine, clinical genetics, clinical neurology, critical care, dentistry, dermatology, emergency medicine, endocrinology, family medicine, gastroenterology and hepatology, geriatrics and gerontology, hematology, immunology, infectious diseases, internal medicine, obstetrics and gynecology, oncology, ophthalmology, orthopedics, otolaryngology, pathology, pediatrics, peripheral vascular disease, psychiatry, radiology, rehabilitation, respiratory medicine, rheumatology, surgery, toxicology, transplantation, and urology and nephrology, while maintaining its unique dedication to systematic reviews and meta-analyses.

WJMA is dedicated to become an influential and prestigious journal in meta-analysis, to promote the development of the above disciplines, and to improve the diagnostic and therapeutic skills and expertise of clinicians.

WJMA is edited and published by Baishideng Publishing Group (BPG). BPG has a strong professional editorial team composed of science editors, language editors and electronic editors. BPG currently publishes 42 open access clinical medical journals, and is one of the leading medical publishers, with first-class editing and publishing capacity and production.

CONTENTS OF PEER REVIEW

In order to guarantee the quality of articles published in the journal, *WJMA* usually invites three experts to comment on the submitted papers. The contents of peer review include: (1) whether the contents of the manuscript are of great importance and novelty; (2) whether the study is complete and described clearly; (3) whether the discussion and conclusion are justified; (4) whether the citations of references are necessary and reasonable; and (5) whether the presentation and use of tables and figures are correct and complete.

COLUMNS

The columns in the issues of *WJMA* will include: (1) Editorial: The editorial board members are invited to make

comments on an important topic in their field in terms of its current research status and future directions to lead the development of this discipline; (2) Frontier: The editorial board members are invited to select a highly cited cutting-edge original paper of his/her own to summarize major findings, the problems that have been resolved and remain to be resolved, and future research directions to help readers understand his/her important academic point of view and future research directions in the field; (3) Field of Vision: The editorial board members are invited to write commentaries on classic articles, hot topic articles, or latest articles to keep readers at the forefront of research and increase their levels of clinical research. Classic articles refer to papers that are included in Web of Knowledge and have received a large number of citations (ranking in the top 1%) after being published for more than 2 years, reflecting the quality and impact of papers. Hot topic articles refer to papers that are included in Web of Knowledge and have received a large number of citations after being published for no more than 2 years, reflecting cutting-edge trends in scientific research. Latest articles refer to the latest published high-quality papers that are included in PubMed, reflecting the latest research trends. These commentary articles should focus on the status quo of research, the most important research topics, the problems that have now been resolved and remain to be resolved, and future research directions. Basic information about the article to be commented will be provided as well (including authors, article title, journal name, year, volume, and inclusive page numbers; (4) Minireviews: The editorial board members are invited to write short reviews on recent advances and trends in research to provide readers; (5) Review: To make a systematic review to focus on the status quo of research, the most important research topics, the problems that have now been resolved and remain to be resolved, and future research directions; (6) Topic Highlight: The editorial board members are invited to write a series of articles (7-10 articles) to comment and discuss a hot topic; (7) Meta-Analysis: Covers the systematic review, mixedtreatment comparison, meta-regression, and overview of reviews, in order to summarize a given quantitative effect, *e.g.*, the clinical effectiveness and safety of clinical treatments by combining data from two or more randomized controlled trials, thereby providing more precise and externally valid estimates than those which would stem from each individual dataset if analyzed separately from the others; (8) Medical Ethics: The editorial board members are invited to write articles about medical ethics to increase readers' knowledge of medical ethics. The topic covers international ethics guidelines, animal studies, clinical trials, organ transplantation, *etc.*; (9) Letters to the Editor: To discuss and make reply to the contributions published in *WJMA*, or to introduce and comment on a controversial issue of general interest; (10) Book Reviews: To introduce and comment on quality monographs; and (11) Autobiography: The editorial board members are invited to write their autobiography to provide readers with stories of success or failure in their scientific research career. The topic covers their basic personal information and information about when they started doing research work, where and how they did research work, what they have achieved, and their lessons from success or failure.

THE CASE FOR THE *WJMA*

So, who would benefit from submitting a manuscript to the *WJMA* and who should read it? Anyone reporting a meta-analysis, systematic review, mixed-treatment comparison, meta-regression, overview of reviews, or network meta-analysis in any medical-related field is invited to submit his or her work to the *WJMA*. This holds also true for anyone wishing to publish the protocol of any of the above studies, but also for all authors who want to discuss meta-analyses published elsewhere, or exploit meta-analytic methods to appraise other important scientific issues, such as is done in meta-epidemiologic enquiries. Manuscripts focusing on meta-analytic methods are also welcome as developments and improvements in the way meta-analyses are conducted and reported occur with increasing frequency. Indeed, our mission is also to make presentation of results of meta-analyses more easily understandable by the reader. This goal might be achieved by explicitly publishing technical papers, which could also be in the form of simple and clear education papers. While the Editors-in-Chief are skilled and practice routinely clinical medicine and epidemiology, the *WJMA* aims for a broader scope, which build upon its key interest in clinical medicine to include also all biomedical, epidemiological, and psychological research fields.

Accordingly, anyone interested in meta-analyses or important novelties or advancements related to them within the context of clinical medicine, as well as biomedical, epidemiological, and psychological topics, should read regularly the *WJMA*. Moreover, this journal will prove useful also for anyone wanting a high-quality synthesis of information, such that they do not need to trawl the literature themselves as it will already be summarized for them. As Editors-in-Chief, we will surely enjoy our involvement in this exciting editorial effort, and make a formal oath that thorough yet timely external peer-review will be the rule to all manuscripts received, and that quality will always have the upper hand on priority in shaping the editorial decision.

CONCLUSION

In conclusion, the *WJMA* aims to provide for both authors and readers a friendly yet authoritative scholarly framework for the dissemination of meta-analyses and important scientific advancements related to them within the field of medicine, as well as all ancillary disciplines, in keeping with the comprehensive effort of improving dissemination of high-quality science by BPG.

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