

# Editorial

## Level of Evidence

In Brazil, scientific publishing has evolved a great deal and, at every moment, new criteria are being considered. This search for improved editorial quality is related to the Coordination for the Improvement of Higher Education Personnel (CAPES, *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*) that, in order to grade scientific production, demanded ever-higher levels of quality from journals. Currently, these criteria are being discussed in the Brazilian Medical Association (AMB, *Associação Médica Brasileira*), which is meeting and studying demands of CAPES with the editors of all of the scientific journals in Brazil. Although there are excesses by the CAPES, in our view, there has been an incentive to improve the quality of Brazilian journals.

A quality criterion widely used in modern scientific journals is the level of evidence. Journals with international standards use five levels of evidence. The lowest level of scientific evidence is the report of cases and the highest is the meta-analysis or works with perfect randomization and follow-up. There is a tendency to believe that these levels can be used to classify scientific work as better or worse. We believe that these parameters are more a tool for critical analysis of the work and do not represent a quality criterion.

In order to understand this form of work qualification, we simulate the use of levels of evidence for a travel project. Suppose we have vacation days available, would like to take a trip for a specified period, and that we would research what would be the best destination by using levels of evidence as the method of selection.

The opinion of a friend about a new tourist destination that is different from various common places would be, in our comparison with the analysis of a scientific work, the case report or description of a new technique, which is the worst level of evidence.

Several people's story about the same destination with a percentage of positive reviews and another percentage of negative reviews would be comparable to our report of a series of cases that, by not having a comparative criterion, has a value slightly higher than that of the case report, but is still negligible in the analysis of a scientific work or, in our example, a travel destination.

To achieve a reasonable level of acceptance, we would have to consider a group of people who went to two different destinations at similar times of the year that reported various aspects such as cost, restaurants, tours, etc. in a comparative way. One of the destinations to be considered in the comparison should be a place of traditional tourism. In our comparison, these are the comparative studies of average quality, because high quality ones would require that people travel to the two places during the same period, which is impossible. The same eligibility criterion is required in comparative studies, because we need to operate on patients with two different techniques at the same time, although we consider that the proposed technique is superior when compared to the one that was obviously made in the past. It is interesting that one of the techniques is a gold standard in the treatment of the pathology being studied. We can not compare data obtained in the past with the present data in this kind of level of evidence.

Ideally, our informants traveled after formulating the question, since the opinion would be prospective and not retrospective, a fact which somewhat disqualifies the level of evidence of the information.

Finally, to make a trip that would be considered ideal, we would have two options:

- The first would be to use a large number of publications (the largest possible) made with common criteria for all trips, which would be a systematic review or a meta-analysis of a topic;
- The second would be to organize a group of travelers who would go to two unknown, randomly selected destinations, and at the end of the trip express their opinions on the same items.

That would be the highest level of evidence for our choice of a trip.

I believe that within the limitations of this comparison, it is easy to understand that there are not, according to these criteria, better or worse travels/scientific works. What there is, indeed, is a sort of travel/scientific work chosen with a higher degree of reliability. The degree of reliability is one of the quality criteria.

The case report/description of a technique should be considered useful for new and unusual situations. It is undeniable that these situations occur and should be disclosed.

The case series brings an experience that is very valuable, if it is considered with acceptable criteria of the results. The identification of authors and the source of the work bring reliability to the work. That is how most of the treatments used in our practice have been introduced.

The comparative criterion is without a doubt very important, but is not always possible or ethical. When it is, it brings greater reliability to the scientific work.

Meta-analysis is a picture of the greater consensus of the situation at the time, made in a technical way, without any involvement of the author/authors with the evaluated technique. The randomized, double-blind study with follow-up for more than 80% of the subjects is the study that most profoundly analyzes a research.

We would like to introduce, initially for the free information of the authors, the level of evidence of the work submitted for publication in RBO.

At the end of the text we propose a criterion for the level of evidence for works studying therapeutic outcomes. These criteria will not be used to qualify studies, they will merely be information for the reader.

For there to be progress, challenges, and a search for new directions, we must use all kinds of evidence, according to the project we want to complete, regardless of whether one is better or worse than the other. If this is not the case, nobody would ever go to Petra and Miami could not support the influx of tourism.

The following are the levels of evidence considered for works that study therapeutic outcomes.

#### LEVELS OF EVIDENCE FOR PUBLICATION IN RBO

Level I – Randomized works with proper technique, with follow-up of at least 80% of cases and statistical study, or meta-analysis with proper technique and results consistent with Level I works.

Level II – Randomized works with partial randomization or done with imperfect technique or with follow-up of less than 80% of cases or a flawed statistical study. Comparative prospective study.

Meta-analysis of Level II works or meta-analysis of Level I works with inconsistent results.

Level III – Comparative retrospective case study or meta-analysis of Level III works.

Level IV – Description of a series of cases with analysis of results and no comparative study.

Level V – Description of cases, description of a surgical technique, or expert opinion.

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