



The Results and Discussion an A Scientific Article: A Vision on its Structural Organization, Short Communication

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Abstract

The purpose is to describe the most relevant aspects of the logical structure of the sections of the results and discussion in a scientific article. Structural aspects such as data organization, subheadings in the results section, and statistical reports were among other aspects considered in this short communication.

Keywords: Scientific article; results section; discussion section

Introduction

All scientific research work must be written and structured logically, with clarity, and concreteness [1]. However, its capacity for synthesis does not justify that it is telegraphic. There is a group of critical points that must be considered in the results section. Among these points is the group of variables that were not reported in the study. Therefore, it is questioned whether the objectives were achieved during the investigative process.

Developing a section of the decision coherently is more difficult than defining the content of other sections of the scientific article [2]. In the same way, the discussion allows explaining the meaning of the findings obtained in the results of the study and the contribution of these results to the scientific world [3]. The structure of the discussion helps the reader to find the specific information required and the most important topics that have been covered in the Study [4]. If the questions of the study have been partially answered, in the discussion section it is possible to explain which aspects were covered or not and why? [3]. In the same way, in the discussion section it is possible to explain the theoretical and practical implications of the findings that have been previously presented in the results of the study and that allow to focus the direction of new research for the future [5].

In the same way, the reporting of data that are not accurate or the overvaluation of the results speak for themselves about the scientific quality of the work. That is, in this section, it is only possible to report the findings of the research; there is no room for speculation and inferences.

In the results section, the most important function is to report research findings. This is a descriptive section where the authors only point out that it was found in the study. There is no room for interpretations, conjectures or trying to prove that what was found is true.

Methodology and research results are considered the most

important parts of a manuscript [6]. The results obtained should be recorded in chronological order, and without any comments [7]. Results can only confirm or reject the research hypothesis. However, a scientific research is not only performed to confirm a hypothesis. Not only positive and significant results are worth writing. Therefore, all findings obtained during research should be included in the 'Results' section [8].

In the results section, the data obtained must be presented in such a way that they are easily understood. These reported data constitute the support to build the conclusions of the work.

The purpose of these brief notes was to present the most relevant aspects in the elaboration of the structure of the sections of the results and the discussion in a scientific article.

Results

Structure of the data organization

The results must be presented giving sequential response to the protocol presented in materials and methods. This structured organization of the presentation of the findings allows the reviewer and subsequently the reader to evaluate the coherence between concrete variables, objectives, methodological procedures and findings.

The logical and chronological order of the presentation of the results does not generate conflict with the presentation of the data obtained according to their importance.

Structure of the results

After beginning with a brief introduction where the purpose of the study is discussed, we proceed to present the findings following the sequence in which the methodology of the study was presented. It is possible to include elements such as tables and figures; and photos among others. We proceed to the description of the results taking into account the most important or relevant data of the findings obtained.

Subheadings used in the results section



They are organized in such a way that they respond to the same sequence as they were elaborated in materials and methods. The presentation of tables or figures are listed following an order of presentation of each finding, placing their respective numbering and legend that presents a synthesis of that reported finding.

Tables and figures in the results section

Tables and figures synthesize great information content. Each table should be accompanied by a short title and a brief description of what the table shows. Some important details can also be included as footnotes in the table.

Concerning the figures, they must have a high resolution, with quality of details, and that allows the reviewer to meticulously evaluate the reported finding.

Statistical report

The methods section should include a description of the statistical tests that are used in the research. Similarly, in the section of the results are presented the most representative statistical values that indicate the value of P of significance or non-significance, the value F or the value T as well as the respective degrees of freedom.

Discussion section

It is a critical and analytical section in a scientific article. In the beginning it should be mentioned what was the problem of the study, without repeating what was stated in the introduction of the manuscript. It is then mentioned how the research question was answered and highlights the importance of the study and the significant contribution to science. It is important to mention the system or planning used to solve the research question. In the same way, it is necessary to describe what the approach was and the fundamental similarities and differences with other research that has been published must also be reported.

Structure of the discussion section

Every section of the discussion begins by presenting the most important findings in a very specific way. The elements presented in its structure respond to the interpretation of the results. It usually ends up presenting a broader approach. That is, the findings are taken to a general context [9]. From the beginning, it is necessary to discuss the findings in an organized manner, listing and describing the main results obtained during the research. In the same way, the findings must be contrasted with the results obtained by other researchers in similar studies, pointing out the coincidences and differences. If the authors consider that there were limitations in the study, it is necessary to expand the sample; or even use complementary techniques to further clarify the subject studied, and then it is possible to suggest the need for further research.

Discussion section overview

Authors should understand that in addition to comparing the results obtained in the research with those of other authors, the main function of the discussion is to answer the research question using the results of the study [6].

In the discussion section, authors should give importance or value to their results. If the possible applications of the study are mentioned, a benefit will be given to the results obtained. If the degrees of statistical significance are reported in an investigation, this contributes to increasing the scientific value of the results

Generally, the discussion begins with the presentation of the main findings of the research, pointing out the innovative aspects as well as how the solution to the problem of the study is proposed [10].

The authors must point out those aspects that are considered limitations in the study, elements that may affect the conclusion of the research, factors that can be considered as limitations of the data obtained in the results, sample size, and any factor that is a restriction to infer or generalize the results and conclusions of the study.

Aspects that conclude the discussion section

To conclude the section of the discussion, the findings must have been clarified and the relevance of the results obtained, a theoretical contribution must be given to the subject of study, being able to interpret the results and even make inferences on the subject. In the same way, this section allows clarifying the limitations of the research and the need to carry out new studies.

Important aspects to consider in the results and discussion

sections in a scientific article

Both the results and the discussion must be presented in a logical, successive, and, coherent order with the findings and the order in which they have been presented. Without pretending to assume a telegraphic position, the authors should only delimit and link the data presented with the objectives or hypotheses of the study even when the results are negative. This delimitation of the findings will allow the reader to maintain a clear idea of the sequence of the narrative and not feel lost in the context due to the lack of coherence between the data presented and the objectives of the research. Regarding the discussion, the interpretation of the results should only be carried out according to the objectives that gave rise to the study. Moreover, the judgment expressed by the authors should only be presented in relation to the findings obtained. Similarly, the interactive nature of the discussion section should only be related to those published research papers that have objectives similar to the objectives of the topic under study. This investigative position does not compromise the originality of the article, on the contrary, it allows the authors to clarify which findings are significant or not and which coincide or refute the positions of other authors.

Conclusion

The discussion section is one of the most difficult to structure and organize. Among the critical factors to consider, it is possible to mention that the authors can give relevance to their findings and the novelty of the problem investigated. The more novel the research and its results, the more difficult it will be to compare with the results of similar research. All these factors mentioned above are the great limitations that the review articles have. These articles are usually repetitive and where a compilation of the visions or results of several authors are often presented. But, in these reviews, the novel contributions are limited as well as the possibility of comparing the vision of the author of the review with the position of the various authors who were the subject of the review is very limited. Among the critical aspects to consider in the results and discussion sections is the need to present in a logical, sequential and coherent way the findings that have been presented. Similarly, in the discussion section, the exposition on the importance of the findings and the interactive nature of this section should be presented in the same sequential and logical way in which it was presented in the results of the study.

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