Faultless impressive results: How can I do it?

ABSTRACT

The result section of the research presents your actual work. The results could be either support or invalidate the research hypothesis. Writing in a scientific, impressive and faultless way increases the chance of acceptance in high impact factors journal. The result would be in a descriptive style around 3-4 paragraphs. The first paragraph is normally an illustration of the studied population. Followed by the second paragraph, which is a description of the main results. Expressing the secondary outcome is usually the next paragraph. Additional results not directly related to the research question are mentioned in the last paragraph. Chosen the correct format for the data (Tables and Figures) is mentioned in this review.

Key words: Results, scientific writing, statistics

The result section is an integral part of your research project. In the introduction, you will inform the readers about the work of the other researchers, what is missing, and how your idea can complete the unanswered questions. In the next section of the research, you will state the method you used to perform this project and what was your statistical approach to deal with the collected raw data. The result is the representation of your actual work; you will inform the researchers and clinicians about your discovery and addition to the medical knowledge. If a reader is interested in your topic, the first thing he will want to know is your results. The results could be either positive and support your hypothesis or contrary and invalidate it. However, if written in an honest, scientific, impressive, and faultless way, it is more likely to be accepted for publication in a high-impact factor journal.

Writing the result should be in a descriptive style. It should often be around three to four paragraphs and not more than one manuscript page. Every effort should be made to report the data in a clear, organized, and straightforward technique.

It is of utmost importance to have a structured plan of your report; an outline draft of the project will facilitate the writing processes. It is advisable to follow the same format as the method section.[1,2]

The first paragraph should typically illustrate the studied patients' population. All demographic characteristics should be mentioned. The source of your sample as well as the duration of the study should be included. Any missing data, study continuation rate, and discrepancies from the protocol should all be reported in this paragraph.[3] It is recommended to give only an overview of the demographic, with a particular highlight on the essential points that serve the purpose of your research, that information which might be missed in a busy table. Details of patients' data, differences/similarities between groups, and statistical values should typically be in a table format. This technique will diminish redundancy and allow the readers to have a clearer vision of studied patients.

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The second paragraph should include the description of your main results based on the study hypothesis. The readers and reviewers expect you to start first with a brief overview of your primary outcome, followed by sufficient explanation within the contest of concise, straightforward report to defend your conclusion. For inferential statistics, the degree of freedom and P value should be mentioned for each variable. Reporting of the confidence interval is essential when you are comparing differences of mean, effect size, and estimate of parameters. Usually, confidence interval (upper and lower limits) should be reported as 95% or 99% throughout the manuscript.[4]

Stating the secondary outcome should typically form the next paragraph. You should report all the results that are directly correlated to the research question. Do not hide the data that are not in favor of your view as incomplete reporting is unethical.[4] Junior authors or researchers in the academic field, who have a deadline to meet for promotion, feel that omitting negative data will speed up and increase the chance of publication. In fact, this not true, and the opposite will happen. All reviewers/editors have vast experience in the field and will be able to detect directly or indirectly what is missing. They will send questions/requests that can significantly delay paper acceptance.

Additional results that are not directly related to the research question should be mentioned in the last paragraph. If there are many variables, it is worthwhile to write a short summary in the first few sentences of the paragraph, followed by a brief explanation of each variable.

It is of utmost importance to present the data in a correct format. Many articles had been published to serve as a guide for the authors in this domain.[5,6] For numerical descriptive statistics, if the data are normally distributed, the mean and standard deviation (SD) should be presented. Recent guidelines recommend that "±" symbol should be replaced by "()" because "±" has its mathematical meaning. On the other hand, if the data are not normally distributed, median and interquartile range should be reported. At present, all journals request for the actual P value instead of significant/nonsignificant results. It is recommended to be in italic capital P followed by three decimal values, for example, $P = 0.032$. One author suggests that if the result is highly significant, P value should not be written as "$P = 0.000$" but presented as "$P < 0.001$."[7] For any range, it is better to avoid using the dash "-" as it may be misinterpreted as a negative sign; instead, it should be presented as "between and," for example, BMI ranged between 25.1 and 34.9 kg/m^2.[6]
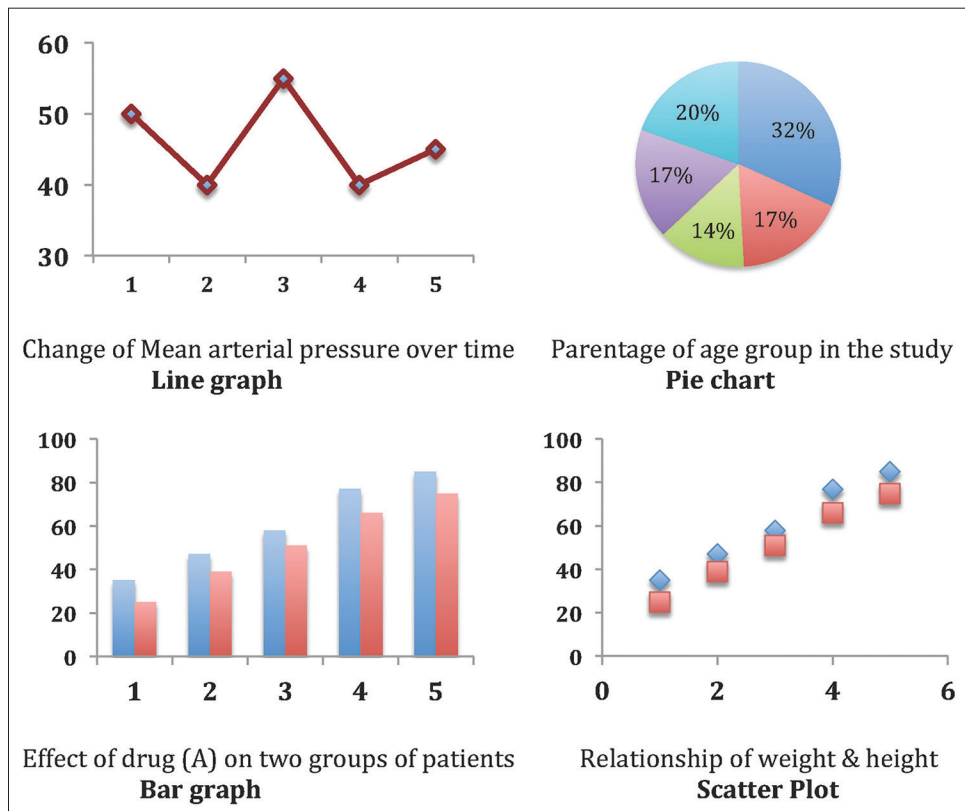

Figure 1: Demographic data

Tables and figures are the cornerstones of the result. They allow the reader to understand and interpret your research work quickly. As stated by the American Psychological Association (APA), tables allow the presentation of a large amount of numerical data in a small area, while figures have a significant visual impact and both serve as an independent source of information.[4]

The keypoints of each table should be mentioned in the result section followed by the number of the table. It is expected that when the readers go through the text and then to the concerned table, they will get extraexplanatory information with no duplication. The table should have a clear title and abbreviations should be explained in table footnote. Each value in the table should have the same decimal; usually, two decimals for all data except *P* value which has three decimals while the degree of freedom has 0 decimal. The origin of the table must be cited if you are not the author. Example of a table as seen from the *Saudi Journal of Anesthesia* is shown in Table 1.[8]

Figures give a visual impact of the data and effectively communicate your findings. Usually, figures are used to present the pattern or trend of relationship. Traditionally, it is the part of the results that you and others will use to present the work. It goes without saying that you should not include figures that will not add any value to the understanding of the research work. It is up to the author to choose the adequate type of figures that merely present the data. A poorly designed figure may lead to misinterpretation of the result.[1,4]

There are many formats of the figures that can be used to present your data that may include graphs, charts, maps, drawing, and photographs. The most common types of graphs/charts used in the literature are shown in Figure 1. Graphs/charts are used to show the relationship between two variables or between continuous variables or group of subjects. It may comprise the following:
(A) *Line graph*: it is usually taken as XY plane between dependent (*X*-axis) and independent variable (*Y*-axis)

(B) *Pie chart:* it is a circular graph which is divided into different parts. It is best used to present the percentage of categorical data
(c) *Bar graph*: it is another XY plane with horizontal or vertical bars. It is beneficial to compare noncontinuous variables
(D) *Scatter plots*: it is a Cartesian coordinate to represent how one variable affects the other one. The data appear as a collection of points; each has one value of variable position over the *X*-axis. Positive correlations are shown when *Y*- and *X*-axis variables are increasing simultaneously.

Before you submit to the selected journal, you should be aware of the authors' guidelines of that particular journal with regard to the number of tables and figures. It is preferable to ask a colleague to check for any inconsistency between the numbers in the text against the numbers in the table or figures.

The common mistakes present in the result section that may lead to rejection of your paper may involve (1) discussion or analysis of the results as this should be done in the discussion section; (2) reporting only the *P* value without the result of statistical test, for example, reporting "*t*-test was positive with a *P* value of 0.012," while the correct format is "*t*-test showed a mean of 14.21 (2.62) with a *P* value of 0.012;" and (3) not reporting the confidence interval whenever possible especially with estimate of parameters as the *P* value alone will not reflect the clinical importance of the finding. Furthermore, this should be accompanied by effect sizes to make the results more understandable.[7]

This article was designed as consisted but a complete guide of the result section for authors who wish to submit their work to the *Saudi Journal of Anesthesia*. In general, it is useful for other journals, however; there are always minor variations in the requirement of each journal. A basic understanding of statistics is mandatory for you to write this section correctly. Nevertheless, not all clinicians can perform statistical analysis, and it is not uncommon to ask the help of a statistician. An extensive explanation of the content of this article could be found in the book published by the American Psychological Association.

Conflicts of interest
There are no conflicts of interest.

Table 1: Patient demographic data

Variable	Data
Age (years)	32.3 (5.92)
Body mass index	32.9 (6.33)
ASA	
I	48 (51.1%)
II	43 (45.7%)
III	3. (3.2%)
Medical problems	
Diabetes mellitus	5 (5.3%)
Hypertension	3 (3.2%)

BMI: Body mass index; ASA: American Society of Anaesthesiologists physical status classification. Data expressed as mean (standard deviation) or number and percentage

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