**CHECKLIST**

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**Purpose:** To help the reader identify some of the essential elements to be considered when reading a scientific research article.

**Description:** This tool presents a simplified version of the Score Sheet. Here, the reader can use a list of key considerations for each of the components of a research article as a base structure to guide their reading and analysis process.

**How to use this tool?**

1. After reading each structural component of the research article (title, abstract, introduction, etc.), pause and mark the “Yes” or “No” boxes to indicate whether it satisfies the listed criteria.
2. Once completed, you can use this tool as a starting point for the preparation of other assignments, such as scientific articles’ discussions, presentations, or reports.

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| 1**. TITLE** | YES | NO |
| Compelling: Captures the reader’s attention. |  |  |
| Informative: Sufficiently clear, specific, and concise. |  |  |
| Accurate: Indicates what the scientific paper is about. |  |  |
| Includes abbreviations and unnecessary information. |  |  |

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| 2**. ABSTRACT** | | YES | NO |
| Persuades the reader to read further and learn more. | |  |  |
| Presents a clear and brief description of the research outcomes being reported. | |  |  |
| Understandable by non-specialists. | |  |  |
| All the information in this section matches that provided throughout the paper. | |  |  |
| Includes: | Introductory statement. |  |  |
| Justification of the study. |  |  |
| Objective(s). |  |  |
| Hypothesis. |  |  |
| Overall description of the experimental design and methodological approach. |  |  |
| Main findings. |  |  |
| Brief statement about the study’s impact and potential implications. |  |  |

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| 3**. INTRODUCTION** | | YES | NO |
| Briefly situates the reader in context and clearly indicates the problem to be addressed and its importance. | |  |  |
| Provides: | A rationale: What is the need? |  |  |
| A rationale: What is the importance of the study? |  |  |
| A rationale: Who will be benefited from it? |  |  |
| Up to date background information related to the objective(s) pursued. |  |  |
| A hypothesis. |  |  |
| Research proposal to fill the gap. |  |  |
| The main goal of the research. |  |  |
| Helps the reader to understand: | Gap in knowledge. |  |  |
| Deficiencies/limitations of previous and current approaches. |  |  |
| What is the research question. |  |  |
| What is the (potential) relation between the different variables considered. |  |  |

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| 4**. METHODS** | | YES | NO |
| Describes how the study objectives were approached and data obtained and evaluated. | |  |  |
| Clearly indicates: | Study design. |  |  |
| Analyzed variables. |  |  |
| All the assays and experiments conducted for obtaining each of the results. |  |  |
| Briefly indicates the purpose of each method and technique used. |  |  |
| Presented in a concise way but with sufficient level of detail to allow reproducibility by others. |  |  |
| Main experimental conditions are clearly described. |  |  |
| Methods and techniques selected are suitable for the type of samples and variables  analyzed. |  |  |
| Potential sources of bias were avoided or otherwise indicated. |  |  |
| Controls and reference groups were considered. |  |  |
| A description of their conditions was included. |  |  |
| Indicates sample size. |  |  |
| Includes the source of drugs, reagents, materials, instruments and animal models. |  |  |
| Indicates the statistical methods utilized for data processing. |  |  |
| Statistical analysis was appropriate for the type of sample and experiment developed. |  |  |
| If animal testing was conducted, the following must be specified: | Species. |  |  |
| Strain. |  |  |
| Age. |  |  |
| Weight. |  |  |
| Housing conditions. |  |  |
| The ethics committee that approved the methodology was indicated. |  |  |

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| 5**. RESULTS** | | YES | NO |
| Are presented in a clear, concise and unbiased fashion, highlighting the key findings and main differences observed between the groups of study. | |  |  |
| Follows the same order as in the methods section. | |  |  |
| Unexpected results were also described. | |  |  |
| Overuse of “Data not shown” legend. | |  |  |
| Figures and tables: | Are self-explanatory. |  |  |
| Clearly and properly labeled, including appropriate units. |  |  |
| Concise and with sufficient level of detail. |  |  |
| Easily legible. |  |  |
| Visually engaging. |  |  |
| Figure legends and table headings clearly describe what is being presented. |  |  |
| Include measures of uncertainty (e.g. standard error, confidence interval) and sample size. |  |  |
| Figures and tables present the same information. |  |  |

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| 6**. DISCUSSION** | YES | NO |
| Focuses on whether or not the objectives of the study were achieved. |  |  |
| Provides an interpretation and potential explanations for the obtained results. |  |  |
| Results were further compared to previously reported studies. |  |  |
| Potential explanations to discrepancies and/or similarities with previous reports were provided. |  |  |
| Practical implications of the results obtained are mentioned. |  |  |
| Importance of the findings was appointed but no overstated. |  |  |
| Limitations of the study and methodology were stated. |  |  |
| Potential improvements were proposed. |  |  |
| Indicates what further research questions have been derived from the study. |  |  |

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| 7**. CONCLUSION** | YES | NO |
| Briefly states the main contributions of the research study. |  |  |
| Drawn from the results obtained and discussed in the research study conducted. |  |  |
| Indicates relevance and potential future impact in the research field. |  |  |
| States implications. |  |  |

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| 8**. REFERENCES** | YES | NO |
| Recent and relevant to the study. |  |  |
| Original research papers are preferred sources of reference over review papers. |  |  |
| Cited where necessary. |  |  |
| Includes research from several different groups rather than a few. |  |  |
| All references cited in the article were included in the reference list. |  |  |