Role of an Abstract in Research Paper With Examples

Author
Shrutika Sirisilla

Post Url
https://www.enago.com/academy/abstract-in-research-paper/

Why does one write an abstract? What is so intriguing about writing an **abstract in research paper** after writing a full length research paper? How do research paper abstracts or summaries help a researcher during research publishing? These are the most common and frequently pondered upon questions that early career researchers search answers for over the internet!

What does Abstract mean in Research?

In Research, abstract is “a well-developed single paragraph which is approximately 250 words in length”. Furthermore, it is single-spaced single spaced. Abstract outlines all the parts of the paper briefly. Although the abstract is placed in the beginning of the research paper immediately after research title, the abstract is the last thing a researcher writes.

Why Is an Abstract Necessary in Research Paper?

Abstract is a concise academic text that –

- Helps the potential reader get the relevance of your research study for their own research
- Communicates your key findings for those who have time constraints in reading your paper
- And helps rank the article on search engines based on the keywords on academic databases.

Purpose of Writing an Abstract in Research

Abstracts are required for –

1. Submission of articles to journals
2. Application for research grants
3. Completion and submission of thesis
4. Submission of proposals for conference papers.

Aspects Included in an Abstract

The format of your abstract depends on the field of research, in which you are working. However, all abstracts broadly cover the following sections:

Reason for Writing

One can start with the importance of conducting their research study. Furthermore, you could start with a broader research question and address why would the reader be interested in that particular research question.

Research Problem

You could mention what problem the research study chooses to address. Moreover, you could elaborate about the scope of the project, the main argument, brief about thesis objective or what the study claims.

Methodology

Furthermore, you could mention a line or two about what approach and specific models the research study uses in the scientific work. Some research studies may discuss the evidences in throughout the paper, so instead of writing about methodologies you could mention the types of evidence used in the research.

Results

The scientific research aims to get the specific data that indicates the results of the project. Therefore, you could mention the results and discuss the findings in a broader and general way.

Inference

Finally, you could discuss how the research work contributes to the scientific society and adds knowledge on the topic. Also, you could specify if your findings or inferences could help future research and researchers.

Types of Abstracts

Based on the abstract content —

1. Descriptive

This **abstract in research paper** is usually short (50-100 words). These abstracts have common sections, such as –

- Background
- Purpose
- Focus of research
- Overview of the study.

This type of research does not include detailed presentation of results and only mention results through a phrase without contributing numerical or statistical data. Descriptive abstracts guide readers on the nature of contents of the article.

2. Informative

This abstract gives the essence of what the report is about and it is usually about 200 words. These abstracts have common sections, such as –

- Background
- Aim or purpose
- Methodology
- Results
- Conclusion

This abstract provides an accurate data on the contents of the work, especially on the results section.

Based on the writing format —

1. Structured

This type of abstract has a paragraph for each section: Introduction, Materials and Methods, Results, and Conclusion. Also, structured abstracts are often required for informative abstracts.

2. Semi-structured

A semi-structured abstract is written in only one paragraph, wherein each sentence corresponds to a section. Furthermore, all the sections mentioned in the structured abstract are present in the semi-structured abstract.

3. Non-structured

In a non-structured abstract there are no divisions between each section. The sentences are included in a single paragraph. This type of presentation is ideal for descriptive abstracts.

Examples of Abstracts

Abstract Example 1: Clinical Research

Neutralization of Omicron BA.1, BA.2, and BA.3 SARS-CoV-2 by 3 doses of BNT162b2 vaccine

Abstract: The newly emerged Omicron SARS-CoV-2 has several distinct sublineages including BA.1, BA.2, and BA.3. BA.1 accounts for the initial surge and is being replaced by BA.2, whereas BA.3 is at a low prevalence at this time. Here we report the neutralization of BNT162b2-vaccinated sera (collected 1 month after dose 3) against the three Omicron sublineages. To facilitate the neutralization testing, we have engineered the complete BA.1, BA.2, or BA.3 spike into an mNeonGreen USA-WA1/2020 SARS-CoV-2. All BNT162b2-vaccinated sera neutralize USA-WA1/2020, BA.1-, BA.2-, and BA.3-spike SARS-CoV-2s with titers of >20; the neutralization geometric mean titers (GMTs) against the four viruses are 1211, 336, 300, and 190, respectively. Thus, the BA.1-, BA.2-, and BA.3-spike SARS-CoV-2s are 3.6-, 4.0-, and 6.4-fold less efficiently neutralized than the USA-WA1/2020, respectively. Our data have implications in vaccine strategy and understanding the biology of Omicron sublineages.

Type of Abstract: Informative and non-structured

Abstract Example 2: Material Science and Chemistry

Breaking the nanoparticle's dispersible limit via rotatable surface ligands

Abstract: Achieving versatile dispersion of nanoparticles in a broad range of solvents (e.g., water, oil, and biofluids) without repeatedly recourse to chemical modifications are desirable in optoelectronic devices, self-assembly, sensing, and biomedical fields. However, such a target is limited by the strategies used to decorate nanoparticle's surface properties, leading to a narrow range of solvents for existing nanoparticles. Here we report a concept to break the nanoparticle's dispersible limit via electrochemically anchoring surface ligands capable of sensing the surrounding liquid medium and

rotating to adapt to it, immediately forming stable dispersions in a wide range of solvents (polar and nonpolar, biofluids, etc.). Moreover, the smart nanoparticles can be continuously electrodeposited in the electrolyte, overcoming the electrode surface-confined low throughput limitation of conventional electrodeposition methods. The anomalous dispersive property of the smart Ag nanoparticles enables them to resist bacteria secreted species-induced aggregation and the structural similarity of the surface ligands to that of the bacterial membrane assists them to enter the bacteria, leading to high antibacterial activity. The simple but massive fabrication process and the enhanced dispersion properties offer great application opportunities to the smart nanoparticles in diverse fields.

Type of Abstract: Descriptive and non-structured

Abstract Example 3: Clinical Toxicology

Evaluation of dexmedetomidine therapy for sedation in patients with toxicological events at an academic medical center

Abstract:

Introduction: Although clinical use of dexmedetomidine (DEX), an alpha2-adrenergic receptor agonist, has increased, its role in patients admitted to intensive care units secondary to toxicological sequelae has not been well established.

Objectives: The primary objective of this study was to describe clinical and adverse effects observed in poisoned patients receiving DEX for sedation.

Methods: This was an observational case series with retrospective chart review of poisoned patients who received DEX for sedation at an academic medical center. The primary endpoint was incidence of adverse effects of DEX therapy including bradycardia, hypotension, seizures, and arrhythmias. For comparison, vital signs were collected hourly for the 5 h preceding the DEX therapy and every hour during DEX therapy until the therapy ended. Additional endpoints included therapy duration; time within target Richmond Agitation Sedation Score (RASS); and concomitant sedation, analgesia, and vasopressor requirements.

Results: Twenty-two patients were included. Median initial and median DEX infusion rates were similar to the commonly used rates for sedation. Median heart rate was lower during the therapy (82 vs. 93 beats/minute, $p < 0.05$). Median systolic blood pressure before and during therapy was similar (111 vs. 109 mmHg, $p = 0.745$). Five patients experienced an adverse effect per study definitions during therapy. No additional adverse effects were noted. Median time within target RASS and duration of therapy was 6.5 and 44.5 h, respectively. Seventeen patients (77%) had concomitant use of other sedation and/or analgesia with four (23%) of these patients requiring additional agents after DEX initiation. Seven patients (32%) had concomitant vasopressor support with four (57%) of these patients requiring vasopressor support after DEX initiation.

Conclusion: Common adverse effects of DEX were noted in this study. The requirement for vasopressor support during therapy warrants further investigation into the safety of DEX in poisoned patients. Larger, comparative studies need to be performed before the use of DEX can be routinely recommended in poisoned patients.

Keywords: Adverse effects; Alpha2-adrenergic receptor agonist; Overdose; Safety.

Type of Abstract: Informative and structured.

How was your experience writing an abstract? What type of abstracts have you written? Do write to us or leave a comment below.

Cite this article

Shrutika Sirisilla, Role of an Abstract in Research Paper With Examples. Enago Academy. 2022/09/02. https://www.enago.com/academy/abstract-in-research-paper/