



SCIENTIFIC WRITING

“Education for community development”

1st & 2nd March 2014

Dr. Faraj O. Alkizim

Objectives

- Types of publications
- Structure of a Scientific Paper
- Publishing process

Types of Publications

- Original Research
- Case Reports /Case Series
- Workshop reports
- Systematic Reviews
- Meta-analysis
- Short communications
- Commentaries
- Letters to the editor

Case Report

Case report

Malaria complicated by gangrene: a case presentation and review

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Review

Review

Childhood Diarrhoea: Failing Conventional Measures, what Next?

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Key words: Diarrhoea research, faecal biotherapy, Gastroenteritis, Infant mortality, MDG, Nonconventional treatment

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Original Research

Matheka et al. *Afr. J. Pharmacol. Ther.* 2012. 1(1): 30-34

African Journal of Pharmacology and Therapeutics Vol. 1 No. 1 Pages 30-34, 2012

Open Access to full text available at <http://www.uonbi.ac.ke/journals/kesobap/>

Research Article

Peculiar glycemimic patterns in alloxan-induced diabetes animal model



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Paper Title

- **3 common types:**
 - Question: *Can PF Correction Increase Profits?*
 - Summary: *Design and Testing of a Small Power Company*
 - 2-Part: *Power System Operation: How to Survive an
Emergency*

Paper Title 2

- How long is it?
- Ensure that it is appropriate after reading the paper.

Other components?

Journal of Diabetes and Endocrinology Vol. x (x), pp. xxx-xxx, May 2012
Available online at <http://www.academicjournals.org/JDE>
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Full Length Research Paper

Complementary and alternative medicine for type 2 diabetes mellitus: Role of medicinal herbs

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Accepted 7 August, 2012

Complementary and alternative medicine (CAM) with glucose-lowering effect is increasingly being



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Authors

- How many?
- Institutional affiliations?
- Significant contribution to the work

Journal

- Where was the work published?
 - Open access journals etc
 - Different impact factors

Abstract - structured

Background: Laboratory investigations on diabetes mellitus (DM) have employed various animal models. Alloxan, a β -cell toxin, has widely been used to induce DM in animals. The current study reports peculiar glycemc patterns during alloxan DM induction.

Method: Thirty eight, six-month old *Sprague Dawley* rats were assigned to two groups: control (n=14) and experimental (n=24). Alloxan (125 mg/kg) was administered intraperitoneally to the experimental group, and an equal volume of normal saline to the control. Using a glucometer, fasting blood glucose (FBG) levels were assessed on days 0, 3, 6, 13, 20 and 27.

Results: At day 3, FBG levels were higher in the experimental group (19.26 ± 1.77 vs. 3.21 ± 0.04 mmol/l, $p < 0.01$). Thereafter, FBG levels in the experimental group reduced gradually till day 27, though remaining higher than the control (7.59 ± 0.86 vs. 3.22 ± 0.13 mmol/l, $p < 0.01$). The FBG levels in the control oscillated between 3.14 ± 0.04 and 3.26 ± 0.05 mmol/l. Out of the 24 rats administered with alloxan, only 10 were diabetic at day 27.

Conclusion: Induction of diabetes in rats using alloxan (125mg/kg) leads to variability in glucose levels. A number of animals greater than required may be necessary to accommodate failed diabetes induction. Follow-up for at least one month is necessary before confirming induction.

Key words: animal model, alloxan, diabetes induction

Abstract is a summary of the entire paper.

Abstract

- Short (100-500 words)
- **Includes:**
 - Introduction (goals and objectives)
 - Methodology
 - Results
 - conclusions.
- Usually one of the last parts of the paper to be written

Original Research

Main Structure of a scientific paper

- **IMRAD**
 - Introduction
 - Methods
 - Results
 - Discussion

- **Introduction 1**

- **3 main purposes:**

- Background and motivation for your topic (review of current literature on the topic).
- Describes the focus and purpose of the paper you are writing
- Overview of what is contained in the paper's various sections.

Introduction – Ask your self?

- What is known in this area of study?
- What is the knowledge gap?
- Research question?

Methodology

- The goal is to give the reader sufficient information to be able to repeat your work if desired
- Sample calculations, diagrams and circuits, and descriptions of equipment.

Methodology

- How was it studied? Where? When? What?
- What was the study design?
- Are the methods new? ("standard techniques" can be simply referenced)
- Ethical considerations
- Statistical analysis

Results

- What was found? – Data! Data!
- Tables and Figures
- Description or guide to help reader recognize important points

Discussion

- Major findings of the study
- What do the findings mean? Are they of any practical importance?
- Relate the findings to those of a similar study (studies)
- Consider alternative explanations of the findings
- Clinical relevance of the findings
- Acknowledge study limitations
- Make suggestions for further research

Conclusion

- Take home message
- Major accomplishments of the work
- Interesting observations, new questions, and future work here.

References/ Bibliography

- References used in the work & writing the paper
- What system was used?
 - Vancouver
 - Havard system – XXX et al.,

Acknowledgements

- Who funded the research work etc
- Other contributions that don't qualify co-authorship

Take Away Message

- Title
- Abstract
- Introduction
- Methodology
- Results
- Discussion
- Conclusion
- References

Publication process

- Select target journal based on area of interest, impact factor, and accessibility.
- FOLLOW AUTHOR'S GUIDELINES!!!!
- PROOF READ!!! Yourself and colleagues.
- Submit only when ready: online system or as attachment depending on instructions.

Publication process



Questions?