Writing the Discussion and Conclusions

Prof Upreet Dhaliwal

MEU, UCMS and GTBH, Delhi

Keeping the aim and objectives in mind, use your results to tell a good story in the Discussion. Make it interesting, coherent and plausible.

The objectives of the Discussion are to:

1. ***Explain*** your findings

2. ***Compare*** your findings with research done by other scientists on the same topic

3. Explain ***differences***, if any

Explain your findings: *essential elements*

Describe relationships, trends and generalizations, exceptions to these generalizations; elaborate likely causes. In other word, r**eason out** each finding of your study. There may be multiple hypotheses, several possible explanations for your findings. Consider them all, *fairly,* rather than push your favorite. Eliminate, logically, as many as you can. Indicate future work that may lead to discrimination between the hypotheses. Discuss the clinical relevance of the findings.

Compare your findings: *essential elements*

Discuss agreement or disagreement with other studies. This section should be rich in references, *but not verbose.*

Explain differences: *essential elements*

Differences between the results of your study and others could be based on sample size, time frame of the study, geographic location, genetics, methodology, or statistics. Discuss them so that the reader understands your results better.

Other *essential elements*

Limitations: Identify any limitations that your study suffers from and acknowledge them, so that the reader gets a fair idea of why you got certain results. For example, the short time period available for thesis research may impact follow up findings; you may have included a hospital based population that could impact the global applicability of your results.

Recommendations: Include when appropriate. Suggest remedial action to solve the problem; further research to fill in gaps in our understanding; directions for future investigations;

Things to avoid in the Discussion

Repeating the results verbatim

Unwarranted speculation, inflating the importance of your findings

Tangential issues that have nothing to do with your outcome measures

Conclusions that are not supported by the data

Bullying, rudely criticizing other studies

"Take-home message"; save this for the conclusions

How to write the Discussion

Sequence it as per objectives; follow the same order as the results. Use sub headings to break it up into logical segments. Subheadings are like flags to the reader, they mark out the path to be taken, and keep interest alive.

The First paragraph should be short and should summarize the most important results (the answer to the research question). Use subsequent paragraphs to organize topics from most to least important. Start with topics most closely related to the research answer.

The paragraph: How to write

The first line should be a discussion of your findings, NOT a repetition of results. Subsequent lines should compare, and draw inference. The last line may make a recommendation.

For example, when the following result is to be discussed:

Result: Thirteen out of 60 (21%) premature babies developed retinopathy of prematurity (ROP).

The pertinent paragraph in the Discussion could read:

Line one: At 21%, the incidence of ROP in this study was lower than that described in the literature. Lines 2-3: Other studies from India have reported incidences as high as 37-41%.[2,3,6,9] These studies, conducted in well established NICUs, include babies that are smaller and younger than those seen in our nursery. Last line: Thus, every nursery could conduct audits, and establish their own screening criteria for early diagnosis of ROP.

Watchwords while writing the Discussion

Clarity; Precision; Brevity

Cut, cut, cut; delete material that does not contribute to any of the *essential elements*

Things to remember

Discussion should not become rhetoric; write only those inferences that are based on your results. Don't pull assumptions and interpretations out of thin air.

Writing the Conclusion: *Move from specific (your research) back to general.*

Give a summary of the following:

- What was learned based on the aim and objectives

- What remains to be learned

- Limitations of what was done

- Benefits, advantages, applications of the research, and recommendations

For example:

Thesis title: Masters theses from a University Medical College: publication in indexed scientific journals

The Conclusions could be written as follows:

Publication rates of theses related research conducted in a University medical college, and factors promoting publication, were studied. Only thirty percent of theses were published in indexed, peer reviewed journals. None of the factors that we studied had a significant role in encouraging publication. This study was performed in the local setting of one medical college in India. Though each institution is unique, the malaise is global. Thus, the findings might be useful when considering interventions in PG training. Perhaps institutional endorsement, and reward for published work may help.