Preparation of a Professional Abstract

Alice Fornari, EdD, RD
Director of Faculty Development,
NS-LIJ Health System
Associate Dean, Hofstra NS-LIJ School of Medicine

North Shore LIJ

HOFSTRA NORTH SHORE-LIJ
SCHOOL of MEDICINE
AT HOFSTRA UNIVERSITY

What is an Abstract?

- An **abstract** is a brief summary of a research article, thesis, review, conference proceeding or any in-depth analysis of a particular subject or discipline, and is often used to help the reader quickly ascertain the paper's purpose and outcomes.
- When used, an abstract always appears at the beginning of a manuscript, acting as the point-of-entry for any given scientific paper or to compete for conference acceptance/presentation.

Types of Abstracts

- Case Report
- Basic Science & Clinical Research
- Literature & Clinical Topic Reviews
- Educational Outcomes Research
  - Includes quality improvement projects
  - Teaching & learning innovations

Abstract Purpose

- An abstract is used by many organizations as the basis for selecting research that is proposed for presentation in the form of a poster, platform/oral presentation or workshop presentation at an academic conference.

Case Report

- Defined as a **research strategy**, an empirical inquiry that investigates a phenomenon within its real-life context. Case study research means single and multiple case studies, can include quantitative evidence, relies on multiple sources of evidence and benefits from the prior evidence.

Case Report

- Introduction/Background
  - cite literature if possible and include relevance of case
- Case Description-detailed sequence of events unique to clinical case
- Discussion
  - Link to evidence/literature
  - Include implications for clinical practice & future patient care outcomes
  - Conclude with a teaching point for the case

http://www.acponline.org/residents_fellows/competitions/abstract/prepare/cli .pdf

Basic Science & Clinical Research Abstract

- The first rule of writing abstracts is to know the rules.
  - **Text:**
    - **Title, Introduction, Methods/Intervention, Results, Conclusions**
  - **350 words or word count indicated in conference guidelines**
  - **Author listing**

Title Information

- The title should summarize the abstract and convince the reviewers that the topic is important, relevant, and innovative.
- To create a winning title, write out 6 to 10 key words found in the abstract and string them into various sentences.
- Once you have a sentence that adequately conveys the meaning of the work, try to condense the title to convey the essential message.

Introduction

- Several sentences outlining the question addressed by the research.
- Make the first sentence of the introduction as interesting and dramatic as possible.
  - **For example, "100,000 people each year die of…" is more interesting than "An important cause of mortality is…"**
- If space permits, provide a concise review of what is known about the problem addressed by the research, what remains unknown, **and how your research project fills the knowledge gaps.**
- The final sentence of the introduction describes the purpose of the study or the study's hypothesis.

Methods

- This is the most difficult section of the abstract to write.
- It must be scaled down sufficiently to allow the entire abstract to fit into the box, but at the same time it must be detailed enough to judge the validity of the work.
- For most clinical research abstracts, the following areas are specifically mentioned:
  - **research design; research setting; number of participants enrolled in the study and how they were selected**
- A description of the intervention (clinical or educational)
- A listing of the outcome variables and how they were measured.
- Finally, conclude with the statistical methods used to analyze the data are described.

Results

- This section begins with a description of the subjects that were included and excluded from the study.
  - **For those excluded, provide the reason for their exclusion.**
- Next, list the frequencies of the most important outcome variables. If possible, present comparisons of the outcome variables between various subgroups within the study (treated vs. untreated, young vs. old, male vs. female, and so forth).
  - **This type of data can be efficiently presented in a table, which is an excellent use of space.**
  - **Numerical results should include standard deviations or 95% confidence limits and the level of statistical significance.**
  - **If the results are not statistically significant, present the power of your study (beta-error rate) to detect a difference.**
- Educational outcomes with focus on change in knowledge, skills and/or attitudes of learners
  - **This can be reported by competency, if appropriate to the educational framework**

Discussion/Conclusion

- State concisely what can be concluded and its implications for practice, patient care or learning
- The conclusions must be supported by the data presented in the abstract
- Never include unsubstantiated personal opinion.
- If there is room, address the generalizability of the results to populations other than that studied and the limitations & assumptions of the study

Summary Points to Preparing an Abstract

- Although short in length, a good abstract typically takes several days to write. Take this into account to budget your time.
- Seek the help of an experienced mentor. Share the abstract with your mentor & make revisions based upon the feedback.
  - **Allow others to read your draft for clarity and to check for spelling and grammatical mistakes.**
  - ***Reading the abstract orally is an excellent way to catch grammatical errors and word omissions.***

Glossary of Common Research Terms

- http://www.acponline.org/residents_fellows/competitions/abstract/prepare/glossary.htm#intro

Literature & Clinical Topic Reviews

- Evalautes scholarly articles, books and other sources relevant to a particular issue, area of research, or theory
- Provides a description, summary, and critical appraisal of each work
- The purpose is to offer an overview of significant literature published on a topic
- The literature review itself, however, does **NOT** represent new primary scholarship.

Purpose of Literature & Clinical Topic Review

1. Place each work in the context of its contribution to the understanding of the subject under review
2. Place one's original work in the context of existing literature
3. Describe the relationship of each work to the others under consideration
4. Identify new ways to interpret, and shed light on any gaps in, previous research
5. Resolve conflicts amongst seemingly contradictory previous studies
6. Identify areas of prior scholarship to prevent duplication of effort
7. Direct the reader forward for further research

Components of a Literature & Clinical Topic Search

- Problem formulation—which topic or field is being examined and what are its component issues? **(Introduction)**
- Literature search—finding resources relevant to the subject being explored **(Methods)**
  - **Include how citations were gathered, inclusion & exclusion factors, limitations for selection**
- Data evaluation—determining which literature makes a significant contribution to the understanding of the topic **(Results)**
- Analysis and interpretation—discussing the findings and conclusions of pertinent literature; clinical implications **(Conclusions)**

Critical Appraisal of the Literature

- What are the **author's credentials**?
- Are the author's **arguments supported by evidence** (e.g. primary material, case studies, narratives, statistics, recent scientific findings)?
- **Objectivity**—Is the author's perspective unbiased?
  - **Is contrary data considered or is certain pertinent information ignored to prove the author's point?**
- **Persuasiveness**—Which of the author's theses are most/least convincing?
- **Value**—Are the author's arguments and conclusions convincing?
  - **Does the work ultimately contribute in any significant way to an understanding of the subject?**

Educational Outcomes Research

- *Ask* a question related to the education of others
- *Use* literature/evidence to inform intervention
- *Identify* setting, learners, training level
- Design, adopt or adapt an intervention
- *Select*, as part of methods, tools that are reliable and valid to collect data
- *Align* outcomes with milestones, EPAs, competencies, or quality standards

Note: This category includes quality improvement initiatives

Abstract: Educational Research Outcome

- **Purpose/Aim:** To identify the qualities and skills of exemplary and ideal pediatric hospitalist educators.

- **Method:** The authors conducted a prospective, multi-institutional qualitative study from November 2008 through January 2009 in which they interviewed pediatric hospitalists who were identified as exemplary educators at three academic pediatric residency programs. They then conducted focus groups with residents and medical students who had recently worked with these hospitalists. Qualitative analysis was used to identify themes.

- **Outcomes/Results:** All six hospitalists identified as exemplary participated. Among invited learners, 14/18 residents (78%) and 16/18 medical students (89%) participated. Together, the participants contributed 266 comments, which the authors categorized into 36 themes within the four domains of teaching skills, personal qualities, patient care skills, and role modeling. New qualities and skills-including self-reflection/insight, encouraging autonomy, time management, knowledge acquisition, and systems knowledge-and differences in perceptions among hospitalists, residents, and students were identified. Differences between the qualities and skills of actual exemplary hospitalist educators and perceptions of those of an ideal hospitalist educator were also identified.

- **Conclusions/Impact:** Pediatric hospitalists in academic residency programs have unique opportunities to significantly affect the education of medical students and residents. This study validates and expands on prior studies of the qualities and skills needed to be a successful hospitalist educator. Researchers and educators designing faculty development programs to train more successful hospitalist educators may wish to target these qualities and skills as well as the differences in medical student and resident needs.

Abstract: Basic Science & Clinical Research

Background/Context: Atrial fibrillation (AF) is common, yet there remains an unmet medical need for additional treatment options. Current pharmacological treatments have limited efficacy and significant adverse events. Limited data from small trials suggest omega-3 polyunsaturated fatty acids may provide a safe, effective treatment option for AF patients.

Objective/Research Question: To evaluate the safety and efficacy of prescription omega-3 fatty acids (prescription omega-3) for the prevention of recurrent symptomatic AF.

Research Design, Setting, and Participants: Prospective, randomized, double-blind, placebo-controlled, parallel-group multicenter trial involving 663 US outpatient participants with confirmed symptomatic paroxysmal (n = 542) or persistent (n = 121) AF, with no substantial structural heart disease, and in normal sinus rhythm at baseline were recruited from November 2006 to July 2009 (final follow-up was January 2010).

Intervention: Prescription omega-3 (8 g/d) or placebo for the first 7 days; prescription omega-3 (4 g/d) or placebo thereafter through week 24.

Main Outcome Measures: The primary end point was symptomatic recurrence of AF (first recurrence) in participants with paroxysmal AF. Secondary analyses included first recurrence in the persistent stratum and both strata combined. Participants were followed up for 6 months.

Results: At 24 weeks, in the paroxysmal AF stratum, 129 of 269 participants (48%) in the placebo group and 135 of 258 participants (52%) in the prescription group had a recurrent symptomatic AF or flutter event. In the persistent AF stratum, 18 participants (33%) in the placebo group and 32 (50%) in the prescription group had documented symptomatic AF or flutter events. There was no difference between treatment groups for recurrence of symptomatic AF in the paroxysmal stratum (hazard ratio [HR], 1.15; 95% confidence interval [CI], 0.90-1.46; *P* = .26), in the persistent stratum (HR, 1.64; 95% CI, 0.92-2.92; *P* = .09), and both strata combined (HR, 1.22; 95% CI, 0.98-1.52; *P* = .08). Other, secondary end points were supportive of the primary result. A total of 5% of those receiving placebo and 4% of those receiving prescription omega-3 discontinued due to adverse events. Eicosapentaenoic and docosahexaenoic acid blood levels were significantly higher in the prescription group than in the placebo group at weeks 4 and 24.

Conclusion: Among participants with paroxysmal AF, 24-week treatment with prescription omega-3 compared with placebo did not reduce recurrent AF over 6 months.

Abstract: Case Report
Kwashiorkor in a Stubborn Toddler

Introduction: Kwashiorkor is the term classically used to describe edematous malnutrition. It is a condition that is observed in developing regions of the world as a consequence of poor food availability and growing families with limited resources. In the United States, significant macronutrient malnutrition without a predisposing condition is a rare occurrence. When reported, kwashiorkor is usually found in infants who have been placed on a restrictive diet by their parents due to nutritional ignorance, misguided attempts to avoid a food allergen, or fad diets.

Case Description: We describe a case of kwashiorkor in a 3.5 year old Caucasian boy from suburban Long Island, New York. The child presented after a 3 month history of a worsening erythematous painful and pruritic rash, with weight loss, and swollen ankles. The child refused to eat or drink anything except for orange juice and banana puree. The diet was severely protein deficient. On physical exam, the child was irritable, and at the 3rd percentile for weight. He had a round face, protruberant abdomen with no hepatomegaly. His skin had an erythematous and crusting rash with erosive plaques over his arms, legs and torso. The child had bilateral pitting edema of his ankles, and swollen hands. Significant labs include albumin 2.9 g/dL, prealbumin 10 mg/dL. On further evaluation, he was found to have further macronutrient deficiencies including, essential fatty acids, zinc, and copper. The child was treated with a nutrition complete formula via nasogastric tube that was advanced gradually under careful clinical observation. There was rapid improvement in the child's dermatitis after the first day of appropriate feeds. The child was discharged after almost complete resolution of his dermatitis, edema, and irritability on nasogastric feeds with close outpatient follow up.

Discussion: Kwashiorkor is a diagnosis that is often delayed in American children due to unfamiliarity. We present the clinical manifestations and discuss the possible etiologies of severe malnutrition. We explore the differential diagnosis, and emphasize the need to include kwashiorkor, when faced with edema and dermatitis. The treatment of kwashiorkor is outlined with special attention to the caution required to prevent the development of refeeding syndrome and the need to assess for micronutrient deficiencies. Our goal is to enable health care providers to correctly recognize and treat kwashiorkor; as well as, identify the specific local factors that give rise to this very preventable malnutrition.

Summary Points

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- ***Reading the abstract orally is an excellent way to catch grammatical errors and word omissions.***

References

- Writing a Case Report
  - http://www.acponline.org/residents_fellows/competitions/abstract/prepare/clinvin_abs.htm
  - http://www.ajhp.org/content/63/19/1888.full.pdf
- Writing a Research Abstract
  - http://www.acponline.org/residents_fellows/competitions/abstract/prepare/res_abs.htm
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  - http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2691512
- Writing a Literature Review
  - http://library.ucsc.edu/ref/howto/literaturereview.html
- Writing a Scientific Paper
  - http://www.scidev.net/en/practical-guides/how-do-i-write-a-scientific-paper-.html
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  - http://www.pubfacts.com/detail/25120310/Ten-Tips-for-Authors-of-Scientific-Articles

Questions

CONTACT ALICE FORNARI

AFORNARI@NSHS.EDU

516-465-3079

NOTE: IF YOU WOULD LIKE ME TO REVIEW AN ABSTRACT, PLEASE SEND TO ME VIA EMAIL BEFORE DUE DATE