
How to Develop an Outstanding Conference Research Abstract

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Presenting a research abstract at a conference is an effective method of disseminating new information and experiences with colleagues. Adequate preparation and attention to detail increases the chance that the abstract will be accepted. Abstracts provide the reader with a first impression of your work. If well written, readers are motivated to learn more about your full work. Preparing and writing a high-quality, professional abstract requires clear thinking, careful planning, and concise and efficient communication (Pierson, 2004).

There are several types of abstracts, including research, evidence-based practice, quality improvement, case study, clinical, leadership/management, and general education. This article provides practical guidelines for writing an outstanding research abstract.

What Is a Research Abstract?

A research abstract is a brief summary of the main components of the research project (Brockopp & Hastings-Tolsma, 2003). A research abstract consists primarily of answering the questions, "Why did you start?" "What did you do?" "What did you find?" and "What does it mean?" (Pierson, 2004).

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Sharing the results of research is one of the best ways to contribute to the advancement of the nursing profession and the care of patients. This article provides clear and practical suggestions for writing and submitting a research abstract for presentation at a conference. The characteristics of an outstanding research abstract are described, including abstract length, introduction, background, purpose/goal, methods, results, discussion, and implications for practice. The use of tables and figures is also discussed.

Key Words: Research abstract, conference presentation.

What Are the Characteristics of an Outstanding Research Abstract?

A number of characteristics and elements make an outstanding research abstract, and addressing these will increase the likelihood of producing a high-quality abstract that is accepted for presentation. Ickes and Gambescia (2011) refer to these characteristics and elements as the 4 Cs: complete, concise, clear, and cohesive.

An abstract must be complete and should cover the major components of the research project. The classic format usually includes an introduction or background, purpose/goal, methods, results, discussion, and implications for practice. Each conference organization publishes guidelines that provide a framework for writing a research abstract for their specific conference. Many organizations will also provide you with the criteria on which the research abstracts will be evaluated. The current American Nephrology Nurses' Association (ANNA) criteria for evaluating research abstracts are shown as an example in Table 1 (ANNA, 2012). Abstracts must be

concise, containing no excess words or unnecessary information. This applies to all elements included in the abstract. Each sentence should provide important information, and no sentence should be redundant with another. The abstract must be clearly written, readable, and well organized. Use of jargon should be avoided. Avoid using too many abbreviations, and do not use unfamiliar ones. Finally, abstracts must be cohesive, flowing smoothly between parts. The reader should be able to logically and smoothly follow the main points of the abstract from beginning to end.

What Are Characteristics Of Less-Than Outstanding Research Abstracts?

Inattention to abstract development details, such as spelling and grammar, indicate to reviewers that the author or authors may not have given proper attention to all other important research project quality details. Common errors include incorrect font type or font size, incorrect abstract length (either too short or too long), and not following the organization's research abstract

Table 1
Sample Criteria for Evaluating a Research Abstract

A blind review of the abstracts will be rated using the following criteria:
1. Is the problem/purpose clearly and concisely described?
2. Is the sample characteristic adequate?
3. Is the design/method/technique appropriate?
4. Are the results described accurately from the data?
5. Are implications/relevance clearly stated or realistic?
6. Is there consistency between findings and conclusions?
7. Overall appearance.

Source: ANNA, 2012.

guidelines. Spelling errors do not necessarily rule out acceptance; however, there is evidence that reviewers are biased in favor of well-written abstracts, particularly if only a limited number are to be accepted (Cartwright Tikkinen, Vierhout, & Koebl, 2010). Another pitfall is a poor fit between the abstract title, aim, and conclusion. The conclusion must be clearly supported by the results. It is also a major error to claim that an intervention tested is “safe and effective” if it is based on one center, one clinician, or only one case history. A vague and unfocused abstract misses the intended audience and/or may attract the wrong audience.

For research abstracts, most organizations require that the study be completed; the results section cannot state, “Results will be presented.” If your study is not yet completed, focus your efforts on completing the study instead of submitting an abstract for a study that is not completed. A poorly prepared and written research abstract is likely to result in rejection by reviewers.

Where Should I Begin?

The first step in preparing a successful abstract is to determine the conference for which you are interested in submitting the abstract. Most scientific and professional meetings have specific guidelines for preparing a research abstract for presentation.

Locate the conference abstract guidelines, which are usually available in the symposium brochure or online at the conference Web site under “Call for Abstracts” or “Abstract Guidelines.” For example, the abstract guidelines for the ANNA conferences are located prominently on the ANNA Web site (www.annanurse.org) (ANNA, 2012). Begin by reading the guidelines carefully. Many of these guidelines pertain to technical aspects, such as the length/word count, font size, content/sections, key words, and use of tables and figures. Abstract examples are usually provided, so review these as well. You may want to print the guidelines and check off the sections as you write them.

Writing a research abstract can be a time-consuming process, and therefore, should not be put off until the day before the submission deadline. Start writing your abstract as early as possible. Those writing abstracts for the first time will benefit from several revisions and input from a colleague with abstract experience before the completed work is submitted.

How Long Should My Research Abstract Be?

The conference abstract guidelines will specifically instruct you on the length of your abstract. Usually a word or character length, which may or may not include spaces, is specified. In some cases, the abstract will

need to fit into a specific space requirement. Either way, the most convenient and effective method of submitting an abstract is to first type it in a word processing program and then cut and paste the abstract body into the submission site template. Most word processing programs have an option where you can highlight the document and then perform a word or character count, which will report the number of words or characters with and without spaces.

What Should I Title My Research Abstract?

The title for a research abstract should include the study variables and target population. In addition, it is helpful to include an indication of the design of the study (such as descriptive, correlational, randomized controlled clinical trial). For example, “A Descriptive Study of the Medication Taking Beliefs of Younger and Older Adult Kidney Transplant Recipients” contains all the necessary components – study variable (medication taking beliefs), the population of interest (younger and older adult kidney transplant recipients), and the study design (descriptive). An example of the title of a research abstract that includes independent and dependent variables would be “A Pilot Randomized Controlled Trial Using a Continuous Self-Improvement Intervention on Medication Adherence in Adult Kidney Transplant Recipients.” Again, the necessary components are present – independent variable (continuous self-improvement intervention), dependent variable (medication adherence), the population of interest (adult kidney transplant recipients), and the study design (randomized controlled trial).

Some examples of poor titles for a research abstract include: “Which Way Did They Go? A Look at Challenging Leadership Situations,” “CMV in ABO1 Using CSI OKT-3,” “Work Arounds in Dialysis Units,” “The ABCs of Hemodialysis Care,” “Hemodialysis 101,” and “Educating Patients in Dialysis.”

What Should I Place in the Introduction or Background Section?

The first research abstract sentence should describe the importance of your work and capture the reader's attention. The background section explains the issue examined in the research study and demonstrates that you have a good understanding of the literature related to the topic. The context and significance of the problem should be explained, illustrating your research contributes to the existing body of knowledge. This section should flow logically and clearly.

The following paragraph illustrates a typical background section for a research abstract:

Over 200,000 individuals are currently diagnosed with end stage renal disease, with 50% over 65 years of age. Renal transplantation provides superior treatment outcomes, including improving quality of life and reducing costs. As such, the age of those receiving renal transplantation continues to rise. Complications from transplantation, such as infection and rejection, may result in failure of the transplanted kidney and patient death. These complications are impacted by immunosuppressive medication noncompliance, with rates of noncompliance at 20% to 50%. Prior to developing medication compliance intervention studies, it is imperative that we understand age-related, medication-taking beliefs in the adult renal transplant population.

How Should I State the Purpose Or Goals?

The purpose section lets the reader know the general direction of the study and summarizes the overall study goal (Polit & Beck, 2012). The word "purpose" is usually contained in the purpose sentence (Polit & Beck, 2012). The following sentence illustrates a purpose statement: "The purpose of the study was to describe medication-taking beliefs of younger and older adult renal transplant recip-

ients." The purpose or goals section is usually very brief, consisting of one or two sentences.

What Should I Include In the Methods Section?

The methods section describes the details of how the study was carried out. The important subcomponents of this section include sample, procedure, and instruments. The sample answers the questions of who, where, and how many. The population from which the sample was gathered and the setting for the research are described. The following sentence is an example of the sample section: "A qualitative, descriptive design was used to study 16 adult renal transplant recipients, eight older and eight younger, recruited from a renal transplant program in the Midwest." You will notice that the design is also identified in this statement.

The procedure subcomponent of the methods section includes a brief summary of how the study was completed. The following sentence is an example of this subcomponent: "A semi-structured interview was conducted with the participants based upon the theory of planned behavior." Since a semi-structured interview procedure is a fairly well-known process involving specific questions as well as more open-ended questions, the researcher does not need to provide much more detail about the procedure.

The instruments subcomponent of the methods section describes the instruments used in the study. The following is an example of a description of a psycho-social instrument: "Parents completed a 50-item Child Health Questionnaire (CHQ-50) that includes 14 health concepts assessing physical functioning, limitations, pain, behavior, mental health, self-esteem, and psychological functioning." An example of a description of a physiological instrument is "ultrasound to determine vessel size or a Doppler to determine blood flow."

What Should I Include in the Results and Discussion Section?

The results section summarizes the outcomes of the study analyses. In a quantitative study, the descriptive statistics are usually presented first. These statistics describe the sample characteristics. The following sentences illustrate the descriptive statistics of the results section: "The average age was 48.38 years (range 21 to 64); male (50%) and female (50%); type of renal transplant was cadaveric 11 (69%), living-related 3 (19%), and living-unrelated 2 (12%); average months since transplant were 16.9 months (range 2 to 47)."

If any inferential statistics (statistics that allow us to make judgments about or to generalize the population from our sample) have been completed in the study, they are included next. The following sentence illustrates the inferential statistics of the results section: "A statistically significant difference seen was in physical functioning between the two groups using the paired *t*-test ($p = 0.0081$)."

The discussion section should include an interpretation of the meaning and significance of the findings from the results section. This section should not repeat the results. A few sentences should summarize the most important points the author has inferred from the results.

What Should I Place in the Implications for Practice Section?

The final section is implications for practice. This section should clearly and specifically state how the results of the study can be used in practice. It is tempting to make broad, non-specific statements here; however, remain focused on the purpose of the research. No new information should be introduced at this point. Specifically, state how the findings will impact practice. The following example illustrates this section: "This research expands our understanding of the similarities and differences between older and younger adult renal transplant recipients and their

medication-taking beliefs. The results will guide development of patient education materials addressing medication-taking problems and proposed solutions. In a subsequent study, this material will be used as an intervention to assist this group with managing complex immunosuppressive medication regimens and improving renal transplant outcomes.”

Should I Include Tables and Figures?

Include a table or figure only if it can clearly and quickly communicate key information and is easily readable. The table or figure should be appropriately sized for a small space and should be numbered with captions, usually at the top of a table. You should use a key for abbreviations. Place the table or figure where it falls in the text and include a reference to the table in the text. For example, “Information about [topic] is shown in Table 1,” or “Figure 1 is an illustration of [topic].”

What Final Preparations Should I Consider?

A critical component to writing an outstanding research abstract is to start early and revise often, especially if you are writing a research abstract for the first time. Despite good intentions, there is often a rush to complete the research abstract and make the deadline for submission. Proofreading should eliminate most grammatical errors, misspelled words, and typographical errors. Do not rely on software autocorrect programs to correct your errors. When revising, delete all unnecessary words and incorporate meaningful and powerful words. The goal is to be as clear and complete as possible in the shortest possible amount of space. It is usually helpful to have someone unconnected with the study review comment on your work before submission, and every listed author must read and approve the abstract.

Most organizations also ask you to sign a statement when you submit

your research abstract concerning consents, permissions, accuracy, and a release for publication/recording. The ANNA (2012) release statement says, “I certify that all requested information is accurate. I certify that the material contained in the abstract has the consent of all authors and that clearance to present the materials has been obtained, if necessary. I am aware that if the abstract is selected for presentation, it may be published

in an ANNA publication. Verbal presentations will be recorded.” You will also generally be asked your preference for your research abstract presentation, with the options of verbal, poster, or no preference.

How Do I Submit My Research Abstract?

Review the instructions again before placing the final draft onto the

Table 2
Exemplar Abstract

Title: A Randomized Prospective Evaluation of Three Procedures for Peritoneal Dialysis Catheter Exit Site Care

Introduction or Background: Exit site infection is a frequent complication of continuous ambulatory peritoneal dialysis (CAPD), leading to morbidity, hospitalization, and transfer to hemodialysis.

Purpose or Goals: The goal of this study was to evaluate the effectiveness of three peritoneal dialysis (PD) catheter exit site care procedures in preventing catheter exit site infections in patients on PD.

Methods: Patients on PD with well-healed, noninflamed exit sites were recruited and randomized to one of three exit site care procedures: 1) soap and water only, 2) soap and water with povidone iodine paint, and 3) hydrogen peroxide, povidone iodine ointment, and sterile dressings. The protocol for patient education was standardized, and supplies (except soap) were provided by the dialysis unit. Patients were followed at least quarterly and exit site condition recorded in detail on an exit site assessment form. Exit site infection was defined as redness and exudate.

Results and Discussion: Patient characteristics are shown in Table 1.

Table 1.

Procedure	Gender (M/F)	Mean Age (Years)	Mean Time on CAPD (Months)	Mean Catheter Age (Months)
1	3/5	56	19.0	18.5
2	6/3	47	11.2	7.1
3	7/1	59	11.6	10.9

Note: CAPD = continuous ambulatory peritoneal dialysis.

Findings are summarized in Table 2.

Table 2.

Procedure	# Weeks Experience	# Exit Site Infections	Infection Rate	% Dropout Due to Exit Site Problems
1	460	2	1/230.0 week	0
2	373	7	1/61.1 week	11
3	234	4	1/58.5 week	50

The authors conclude that routine cleansing with soap and water alone is most effective minimizing irritation and preventing infection of healed PD catheter exit sites.

Implications for Practice: Based on the results of this study, this single center has developed an exit site care protocol using soap and water as standard care. Additional studies on a multicenter level showing similar results will be helpful for CAPD facilities that are trying to develop standard procedures and protocols on exit site care.

Table 3
Example of Poor Abstract

Title: Patient Education Affects Outcomes

Background or Introduction: Long-term effects of uncontrolled phosphorus levels can cause serious complications in the patient on dialysis. Members of our peritoneal dialysis (PD) team felt that many of our patients had uncontrolled phosphorus levels.

Methods: We did a retrospective review of phosphorus levels in our patients on peritoneal dialysis in our center from January 2001 to December 2004. We developed a teaching tool consisting of a flip chart and an accompanying pamphlet that included information about phosphorus, its metabolism and body distribution, sources, and the effects of long-term phosphorus and calcium imbalance. We implemented the patient education program using the flipchart, and later, patients were given a pamphlet containing similar information to the flipchart to take home. During monthly clinic visits, a discussion of phosphorus levels was done by a dietitian, followed by a review of information, if needed.

Results and Discussion: 35 patient records were reviewed, and phosphorus levels were recorded, 15 (43%) males and 20 (57%) females. 26% of all patients had a decrease in phosphorus levels by 3 points or more after patient education program implementation.

Implication for Practice: We felt our patient education program was successful, and we recommend a similar program to be implemented by other facilities to decrease phosphorus levels in their patient population.

submission form. Confirm that you have followed all instructions. Strict adherence to published requirements and constraints, as well as careful proofreading, will increase the likelihood of producing a high-quality research abstract that is accepted for presentation. You will likely submit your abstract via e-mail to a Web site or to the organization's program chairperson. Few organizations use regular mail for abstract submissions. If you submit online, you may need to enter a user name and password, which you need to keep so that you can access your abstract in the future. Revisions and modifications are usually allowed until you submit the final version of your abstract. Remember to keep an electronic or printed copy of your abstract so that when it is accepted, you can develop your presentation (Happell, 2008).

How Will I Be Notified of the Acceptance or Rejection of My Research Abstract?

The abstract submission guidelines will contain information about

how and when you will be notified of the organization's decision on your abstract. If you do not hear from the organization by the published date, contact the organization to determine the status of your abstract.

Examples of Exemplar and Poor Research Abstracts

Reviewing examples of exemplar and poor research abstracts is an effective approach to improve abstract writing skills. An exemplar research abstract (see Table 2) and a poor research abstract example (see Table 3) are provided. The exemplar research abstract delineates all key points of an outstanding research abstract.

In the poor research abstract example, the title does not provide a complete picture of the project. The introduction or background section is vague and does not clearly show how long-term phosphorus and calcium imbalance can be harmful (for example, what specific serious complications can high phosphorus lead to?) The presentation of the problem is not convincing because it is not sup-

ported by objective information, such as the prevalence of high phosphorus in this patient population. The review of literature was not exhaustive enough to indicate the extent of the problem; phosphorus control is a multi-factorial issue, and lack of education is one of many possible causes. The method section is not clearly stated. There is no clear definition of what was considered uncontrolled phosphorus levels. The setting and sample were not clearly described, and the reader is not told the answers to questions (such as "In what type of setting did the study take place?" "Were these adult or pediatric patients or both?" "Were all consecutive patients enrolled?" "How was phosphorus level determined [average over several months]?" "When was phosphorus level collected [before and after the intervention or just after]?" "How long was the intervention implemented?"). The results and discussion sections are incomplete and do not include important demographic information, such as age and diagnosis. The research abstract also fails to mention important statistics such as ranges and standard deviations. If data were collected before and after the intervention, the appropriate inferential statistics were not complete. The section on implications for practice does not flow clearly from the results. The decrease in phosphorus levels might be a study effect rather than the effect of the education program. The title of the research abstract does not match the conclusion. Finally, the author's recommendation is too strong given that this was a single observation. Instead, it would have been of interest to the readers how these results influenced clinical practice in this specific center, and a more prudent recommendation is to suggest additional studies before any practice changes can be recommended.

Summary

A research abstract provides highlights of your work's value, inno-

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vation, and excitement. Remember to begin early with the development of your research abstract. Prepare your research abstract using the organization's research abstract guidelines. Writing an outstanding research abstract is hard work, but it is rewarding when it is accepted for presentation. Make sure all components of an outstanding research abstract are included in the first one you write.

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Additional Reading

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