

**N**URSING RESEARCH provides the foundation for evidence-based practice. Yet one of the frequently cited barriers to using research findings in practice is that nurses do not know how to read a research article.<sup>1</sup> In fact, the idea of reading research sets off panic in many bedside nurses. In thinking about this article, I randomly asked 100 of my neonatal nurse colleagues two questions: "What nursing journals do you regularly read?" and "When there is a new procedure or piece of equipment at work, where do you go for information?" Seventy-three percent of these neonatal nurses admitted to not regularly reading a nursing journal. About half of the respondents indicated they subscribed to a journal or had access to a journal at work, but they "flipped through it" or only read the sections about clinical topics or case studies. When they needed knowledge about a new procedure or equipment, they asked a physician, another nurse, or the unit pharmacist for medication information; Googled it; or used a clinical application on their phone or the information the company provides about the equipment. Unfortunately, going to the nursing research literature did not make the list. In fact, no one mentioned finding an article in a professional nursing journal in the responses. To many nurses, reading a research article is frustrating and something to avoid at all costs. However, learning how to read and evaluate research is an important skill to be developed and practiced until it becomes learned behavior.

#### TYPES OF ARTICLES

Some journals such as *Nursing Research*, *Journal of Nursing Scholarship*, *Applied Nursing Research*, or *Research in Nursing and Health* are designated as research journals and publish primarily research articles. Clinical journals such as *Neonatal Network* have a broader scope and publish different types of articles to appeal to larger audiences. The types of articles published in clinical journals include literature reviews, clinical topics or theory, and original research.

A literature review article is a summary of important literature on a topic. In addition to a summary, a literature review article analyzes the literature, articulates the relationship between studies, and identifies gaps in what is known about a topic. The literature summarized in this type of article often includes reports of original research.

A theory or principles article discusses a specific topic, supported by evidence from various sources, including personal experience. These articles may discuss the application of knowledge to practice, such as the implementation of a new program, but the articles do not identify gaps in the literature or present data from a new study by the authors.

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## Reading Research Articles

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A research article reports on a single study designed and carried out by the author to investigate a particular question or problem of concern to the discipline of nursing.

These articles describe how the

research was conducted, how the data were collected and analyzed, how the data answered the research question, and how the findings impact nursing practice and the need for future research. Original research generates or produces new knowledge for the discipline or the evidence that can be evaluated for application in the practice setting. It is this type of article that nurses need to read and critique in the process of bringing evidence to the practice setting in the search for the best practices for quality patient outcomes. The remainder of this column will focus on the structure of research articles and strategies for reading and understanding these types of articles.

#### THE RESEARCH ARTICLE

A research article is usually presented in a systematic way. Understanding the purpose and focus of each component of the article helps the reader to become an informed consumer and enhances the reader's ability to evaluate the validity of the work for use in practice. When reading a research article, it is important to get into the habit of asking questions about the quality of the research and the appropriateness of using the evidence it generates in practice. In this process, the reader looks for the merits and shortcomings of the research study. The parts of a research article, the purpose of each component, and questions to consider as you are reading a research article are outlined in Table 1.

#### Strategies for Reading a Research Article

A plan of attack will help you to read and understand a research article. Accept that it usually takes more than one read-through to completely understand and evaluate the content of research articles. Having a peer who is also reading the same article provides a person with whom to discuss the article, to clarify your understanding, and to reflect on the meaning of the content.

The first step is to begin at the beginning and read the article from beginning to end. Read quickly and do not get stuck trying to figure things out. Make notes or mark unfamiliar words or terms, including statistical tests. The next step is to put the article aside and look up the words and terms you identified. Trying to read the article without having a general understanding of

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**TABLE 1 ■ Parts of a Research Article**

Section	Purpose	Questions to Consider as You Read This Section
Title	Conveys the focus and content of the research report	<ul style="list-style-type: none"> <li>• Is the title clear, concise, and accurate in describing the research?</li> </ul>
Abstract	A concise summary of the key points such as the problem, research question or hypothesis, methods, and findings; the length is usually limited to between 100 and 200 words. Do not rely on the abstract alone to draw conclusions about the study.	<ul style="list-style-type: none"> <li>• Are the focus and process of this research clearly summarized?</li> </ul>
Introduction	Presents the background for the study, a context for the study, and the research question or hypothesis; this section shows how the research fits within the knowledge of the discipline and the significance of this study to contribute to the discipline's knowledge.	<ul style="list-style-type: none"> <li>• Is the purpose of the research clear?</li> <li>• How does the research fit into the area of practice?</li> <li>• Do you agree with the rationale for studying this question and that it is significant to nursing?</li> </ul>
Literature review	A description, critique, and synthesis of previous studies related to the research conducted; this section discusses what is known and gaps in knowledge, and it establishes the significance of the study within the current body of knowledge.	<ul style="list-style-type: none"> <li>• Are references to primary sources presented?</li> <li>• Are all the major variables of the study explored in the literature?</li> <li>• Is the literature presented current and relevant?</li> <li>• Is the discussion unbiased?</li> </ul>
Methods	A detailed description of the process used to conduct the research; subsections include design, sample, instruments, procedures, and data analysis.	<ul style="list-style-type: none"> <li>• Were the measurements appropriate for the questions the research was studying?</li> <li>• Were the measures appropriate for the variables being studied?</li> <li>• Was the sample representative of the population being studied?</li> <li>• Were the procedures of the research process clear and reproducible?</li> <li>• Was the research ethical and safe for participants?</li> </ul>
Results	The collected data are summarized, and the relationships among variables and differences among groups are reported. The analysis should directly reflect the research question or hypothesis stated in the introduction. This section is focused on statistics and numbers as the outcome of the data analysis.	<ul style="list-style-type: none"> <li>• What is the one major finding?</li> <li>• Did the author present enough of the data and data analysis for you to make an informed judgment about the quality of the research?</li> <li>• Was the research question answered or the hypothesis tested?</li> <li>• Do the figures or tables convey a clear message?</li> <li>• Is the presentation of the data analysis understandable?</li> </ul>
Discussion	A narrative statement of the findings; this section is written to coincide with the research question or hypothesis and the previous studies to demonstrate how the newly generated knowledge fits with the existing knowledge of the discipline.	<ul style="list-style-type: none"> <li>• Do you agree with the conclusions drawn from the data?</li> <li>• Are there other factors that could have influenced or caused the findings?</li> <li>• Did the author reflect on the findings of this research and its meaning in relation to other findings in nursing?</li> </ul>
Conclusions/implications	A discussion of what the findings of this study mean to nursing practice or education and the identification of areas for future research	<ul style="list-style-type: none"> <li>• Are the recommendations for practice based on the research question or hypothesis and the analysis of the collected data?</li> <li>• Are the conclusions and implications logically related to the results?</li> <li>• Is the overall merit of the study evident?</li> </ul>
References	A list of all the sources used to support concepts and ideas in the paper	<ul style="list-style-type: none"> <li>• Are the entries complete and accurate?</li> </ul>

these terms will only lead to frustration. At this point, you do not need an in-depth understanding of the statistical terms, just an understanding of whether the test is measuring similarities within a group, change over time, or something else.

Once you have looked up all the terms, it is time to read the article again. This time, read each section of the article carefully and use the questions to consider in Table 1 to guide your understanding and evaluation of the article.

Some people find it useful to read the discussion section to understand the findings of the study first. Once the outcome is known, return to the beginning to understand how the research leads to that finding. Consider making a graphic representation of the study to show the relationship among variables and the sequencing of the research process. After you have diagrammed the research and answered most of the questions in Table 1, take some time to think about the

content and findings. One last reading will give you an overview of the entire article and may reveal some surprises that you missed in your earlier readings.

## CONCLUSION

Nurses need to develop skill to critically read research articles. Research articles share the evidence generated by researchers. Through purposeful reading, the nurse will find research reports contain many implications that apply to practice in the neonatal unit. Because nursing is a practice profession, it is important that clinical practice be based on scientific knowledge.<sup>2</sup> Evidence generated by research provides support for the quality and cost-effective interventions that lead to the best practices for patients.

## REFERENCES

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