Evidence-Based Review and Discussion Points

By Ruth Kleinpell, RN, PhD

Evidence-Based Review (EBR) is the journal club feature in the American Journal of Critical Care. In a journal club, attendees review and critique published research articles: an important first step toward integrating evidence-based practice into patient care. General and specific questions such as those outlined in the “Discussion Points” box aid journal club participants in probing the quality of the research study, the appropriateness of the study design and methods, the validity of the conclusions, and the implications of the article for clinical practice. When critically appraising this issue’s EBR article, found on pp 575-586, consider the questions and discussion points outlined in the “Discussion Points” box. Visit www.ajcconline.org to discuss the article online.

The purpose of this study was to assess the impact of a 12-minute animal-assisted therapy visit on hemodynamics, neurohormone levels, and anxiety levels in patients hospitalized with advanced heart failure compared with control and volunteer visits. Of the 76 patients randomized to animal-assisted therapy, volunteer visit, or a control group, those who received animal-assisted therapy with a therapy dog demonstrated significantly greater decreases in systolic pulmonary artery pressure, pulmonary capillary wedge pressure, epinephrine levels, norepinephrine levels, and state anxiety scores. The results of the study indicate that animal-assisted therapy can improve cardiopulmonary pressures, neurohormone levels, and anxiety in hospitalized heart failure patients.

Investigator Spotlight

This feature briefly describes the personal journey and background story of the EBR article’s lead investigators, discussing the circumstances that led them to undertake the line of inquiry represented in the research article featured in this issue.

Kathie Cole, a clinical nurse in the cardiac care unit at UCLA Medical Center, previously oversaw the center’s animal-assisted therapy program. “I was originally the director of the People-Animal Connection (PAC) Animal-Assisted Activity and Therapy Program,” she notes, “and I had worked in the cardiac care unit for 15 years prior to designing the research study. Therefore, I was keenly aware of these patients’ needs.

“I also was fully aware of PAC program protocol; that is, I understood what was needed in terms of the volunteer teams and registered nurses who would collect data. With a passion to complete the study and having been a cardiac care nurse myself, I was therefore in an ideal position to orchestrate work flow and to foresee challenges.”

One coauthor on the study was Anna Gawlinski, RN, DNSc, director of nursing research at UCLA Medical Center. Dr Gawlinski served as clinical adviser and interfaced with statisticians. Previously, she had served as the cardiac care clinical nurse specialist and acted as a liaison to obtain administrative and multidisciplinary program approval for the PAC program.

Cole’s team encountered several challenges during the study period. “Data collection required pulmonary artery catheter measurement expertise,” she says. “Critical care nurses with experience using this tool were required for data collection. The study budget allowed for the research assistant or RN to collect 10% of their salary; therefore, not every day was covered even when a patient was eligible. It was more problematic than the availability of a volunteer team. In fact, the program had a team in-house almost every day that was eligible to participate. But nurses were available only 4 days a week, so eligible patients were missed. Also, there was a time line to finish the study.”

Cole shares some valuable advice for others hoping to conduct research in their own hospitals. “Clear communication and collaboration about the study expectations with unit staff, multidisciplinary involvement, statistical support, detailed planning (verbal and written), and patience all are essential,” she notes. “Finally, real commitment to completing the study is paramount.”

Information From the Authors

Kathie Cole, RN, MS, CCRN, principal investigator on the study, notes that a specific animal-assisted program was developed at the University of California–Los Angeles (UCLA) Medical Center and that the study sought to assess the impact of the program on physiological and psychological parameters.

“What compelled me to pursue the research study itself was the attitude conveyed to me and several others before and during the current People-Animal Connection (PAC) program development at UCLA Medical Center. The concept of doing a ‘dog visit’ was considered ‘nice’ or ‘cute’ when in fact it was much more than a thoughtful gesture. I believed that it was important to establish scientific evidence to show specific psychological and physiological effects.”

Cole notes that although animal-assisted therapy has
been used since 1994 at the medical center, the study team sought to focus on patients with heart failure. “Patients waiting for a heart transplant while hospitalized were the impetus for the idea,” she says. “Nurses in our unit could see that once a patient’s emotional integrity had plummeted, that patient’s physiological deterioration was soon to follow. It was our responsibility to provide interventions to sustain emotional integrity.”

The animal-assisted therapy team used 14 dogs of various breeds for visits. Differences in responses based on the type of dog were not examined. “All therapy dog teams were required to be suitable and stable to be in the program,” Cole explains.

Members of the research team had no time to mingle with the dogs, but several were quite special to Cole. “Dixie, the Bernese mountain dog in the photo, is my new 4 year old. She was looking for a home that could appreciate all she had to offer. Gracie, my first Bernese mountain dog, transitioned last March. She provided comfort and joy to hundreds of presurgical patients as a volunteer, and her gentle, thoughtful, patient demeanor reminded me daily why this study was so important. Kiley (1986-1997), a golden retriever, was the messenger who started the PAC program. She taught us not to take this vital resource for granted. Her energy was telling and I could not disregard the importance of her message.”

Implications for Practice

Cole believes that the study has implications for critical care nursing. “Animal-assisted therapy with dogs is therapeutic both physiologically and psychologically,” she says. Patients experienced significant changes in cardiopulmonary physiological parameters including decreases in systolic pulmonary artery pressure and pulmonary capillary wedge pressure both during and after the animal-assisted therapy. In addition, there were significant changes in neurohormonal levels of epinephrine and norepinephrine during and after the animal-assisted therapy, and decreases in state anxiety levels.

Readers of the American Journal of Critical Care can use information from the study to increase their awareness of the impact of animal-assisted therapy and associated physiological and psychological benefits. “When the patient’s goal is to lower anxiety and neurohormone levels or cardiopulmonary pressures, animal-assisted therapy may be part of the prescription,” Cole explains.

Based on her experience working with heart failure patients, Cole acknowledges that hospitalization is an uncertain and difficult time. “Support and positive energy are vital for those long waiting periods,” she notes. “It is an adverse time and I find that dogs are most compassionate and loving during adversity. They provide positive energy and moments of comfort, hope, peace, and joy. Just look and you’ll see the gleam in there eye, the happiness in their smile, and the love in their hearts.”

Discussion Points

A. Description of the Study

- What was the purpose of the research?
- Why is the problem significant for those working in critical and high acuity care?

B. Literature Evaluation

- What previous research on animal-assisted therapy has been done?
- What does the literature indicate regarding risk of zoonotic infections with animal-assisted therapy?

C. Sample

- What were study inclusion and exclusion criteria?
- Why were 3 study groups used?

D. Methods and Design

- What measures were used to assess the physiological and psychological impact of animal-assisted therapy?
- How were the data collected?

E. Results

- What were the findings of the research?
- How did patients visited by the volunteer and dog team differ from patients in the control group?

F. Clinical Significance

- What are the implications of this study for clinical practice?
- How does the study extend the evidence base for the use of animal-assisted therapy in the intensive care unit?
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