

Nursing image: What research tells us about patients' opinions

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WELCOME TO *Research Corner*, a new department in *Nursing2011*. Its purpose is to give nurses practical skills and knowledge and to bring research to the bedside in a meaningful way. Evidence-based practice (EBP) is an umbrella concept, with research probably being the most feared and least understood part. Through the articles presented in this department, you'll begin to see that real-life issues you deal with every day can be the subject of a research study—and that much of research and EBP is logical. We've included a *Glossary of research terms* to aid your understanding.

A formula or step-by-step approach to research can help you successfully navigate through a study whether you're conducting your own or reading someone else's. (See *Steps to research*.) This installment of *Research Corner* will discuss these steps, using the issue of color-based dress codes for nurses as an example.

Identifying a problem

The first step in any research study is to identify a problem. At our medical center, we discussed the professional image of our nurses, including whether patients could readily identify them. We wondered whether we should establish a specific color-based dress code to make nurses more easily identifiable to patients. Because we'd recently embarked on shared governance and the Magnet® journey, it was only fitting that we bring the issue to our nursing practice council to be investigated.

Glossary of research terms

Cohort study	A group or sample of individuals who share common characteristics, exposure, or risk of certain diseases
Convenience sampling	Obtaining a sample by using the participants who are easiest to access; no attempt is made to ensure that the sample is truly representative of the target population
Control group	Subjects who don't receive the intervention
Descriptive study	Research that focuses on describing what's occurring
Interventional study	Research that tests responses to an intervention or change
Mann-Whitney <i>U</i>	A test that compares differences between two groups
Mean	Mathematical average
N	Sample size
<i>P</i>	Statistic indicating significance— $P < 0.05$ means the results are significant; the smaller the number, the less likely that the results occurred due to chance
Random sampling	A method of selecting a sample of participants from a larger target population; its purpose is to obtain an unbiased selection of participants
Standard deviation (SD)	Variance or range—the larger the SD, the larger the range of responses

Reviewing the literature

When you're writing research questions, you'll need to review the literature to find out what research has already been done on the topic. If other researchers have completed well-designed studies and you determine their sample is representative of your patient population, you can implement their findings. If you identify gaps in the research, you can design your own study to fill those gaps.

We reviewed the literature using the EBSCO search engines to comb through CINAHL, Medline, and Psychology and Behavioral Sciences databases. To ensure that we reviewed

studies relevant to current society, we limited the search to the years 1990 to 2010. We used the key terms *nurse and uniforms*, *nurse and image*, and *nurse and dress code*.

Many authors have expressed their opinions in articles, and many researchers have studied the effect of uniforms on pediatric and psychiatric patients. Eight original research studies delved into the perceptions of adult inpatients in acute care hospitals. Of those studies, only three had sample sizes of 300 or more patients. Most used convenience sampling, and only one study described randomization procedures in sample selection.¹

Six of the studies were done in the United States.¹⁻⁶

Only one study had a large sample size (N = 1,180 patients) with data collected from multiple acute care hospitals across the United States. The researchers concluded that patients' perceptions of the image of nurses was highest when they wore a white uniform and lowest when they wore colored scrubs or white pants with colored tops, but this study is now more than 10 years old.² Studies following this research have provided mixed results and we wondered whether public perception had changed as culture evolved.

We've gleaned our knowledge about patients' perceptions of nurses' dress and the image of nursing largely from the lowest level in the hierarchy of evidence: that of expert opinion and small sample cohort studies.⁷ Because of this, we decided to do our own research on the subject.

Research questions

Our research explored these questions:

- Will a large-print name badge with RN in bold white letters on a contrasting background improve patients' ability to identify the nurse? Trying out such a name badge was the interventional part of our study.
- What are patients' preferences for the color of nurses' uniforms? This is the descriptive part of our study.

Steps to research

1. Identify a problem.
2. Evaluate the background and significance of the problem.
3. Review the literature.
4. Write the research questions.
5. Design the study, including sample and methodology.
6. Collect and analyze data.
7. Disseminate findings and conclusions.

- How do patients prefer to be addressed by nurses? We included this question, also part of the descriptive study, because how nurses address a patient impacts the patient's image of nurses.

Designing the study

We undertook our two-part descriptive and interventional study using survey methodology. It was a follow-up to the first study (or the control group), which surveyed 430 acute care inpatients in a community hospital in 2006.¹

Patients were asked to answer the survey questions with a numerical rating scale of 1 (strongly disagree) to 10 (strongly agree). We used identical questions for the first and follow-up studies about the preference for color of uniform, ability to identify the nurse, and image of the nurse. (See *Survey questions, 2009* for the specific questions we asked.)

The follow-up study used a sample of 503 inpatients in the same hospital in 2009 because we wanted to look at a larger sample group. To maximize the chance that our sample population would adequately represent the typical patient population in the hospital, both samples were obtained using randomization methods over 3 months from mid-September to mid-December. In both studies, patients who were deemed by their primary nurses to be too ill to participate were excluded. Despite our attempts to represent our average patient population, we found that our samples differed by race, age, and gender.

Both surveys, which were conducted anonymously and voluntarily, had a very good response rate. In the first study, 430 of 460 surveys (93%) were returned, and 503 of 520 (97%) were returned by the follow-up group. Patients seemed to be very engaged and pleased to be asked their opinions.

In the 2009 follow-up study, we added questions about patients' perceptions of professionalism with cartoon- and holiday-decorated uniforms and patients' preferences for verbal address by nurses.

After the follow-up study began, we became concerned that having nurses collect the data introduced bias. To eliminate this bias, we recruited two volunteers who had nothing to do with nursing to collect the data in the interventional phase. A secretary entered all data.

Data analysis: findings

The first study informed us that the patients rated our nurses highly on image (mean 8.8, SD = 1.6), but they had some difficulty identifying the nurse (mean 5.6, SD = 3.1).¹ The patients tended to choose a large-print "RN" on the name badge as the preferred way of identifying the nurse. After implementing the large-print "RN" name badge, we found that it significantly improved patients' ability to identify the nurse (question 1) with a mean of 5.6 (SD = 3.1) for the control group and an increase to 7.9 (SD = 2.7) for the interventional group (Mann-Whitney U, N = 920, P < 0.001).

In both the first and follow-up groups (N = 910), most patients preferred to see nurses wearing different colors of uniforms (mean 6.6, SD = 3.4) rather than all-white ones (mean 3.7, SD = 3.4).

Patients didn't agree that wearing scrubs with cartoons (mean 3.11, SD = 3.2) or holiday decorations (2.72, SD = 2.9) appeared less professional. Although opinions differed by age-group, even the older patients tended to prefer multiple uniform colors.

Will "Honey" do?

We were also interested in knowing how our patients felt about how we

addressed them. We found that, in general, most patients in this sample preferred to be called by their first name. This remained true when we

Survey questions, 2009

Patients were asked to rate each statement on a scale of 1 to 10, where 1 is strongly disagree and 10 is strongly agree.

Nurse image survey

1. I was able to identify the RN responsible for my care during this hospital stay.
2. My RN was dressed in a manner that helped me feel confident in his or her ability to care for me.
3. In this hospital, it's easy to identify the RN.
4. In this hospital, the RN appears to be skilled.
5. In this hospital, the RN appears professional.
6. In this hospital, the nurse wasn't as neat as he or she should be.

Patient preference survey

1. I'd like to see all nurses in white uniforms.
2. I'd like to see all nurses wearing different colors of uniforms.
3. I'd like to see all nurses wearing the same color of uniform.
4. Nurses who wear uniforms with cartoon characters appear to be less professional (less skilled, knowledgeable, and caring) than those without cartoons on their uniforms.
5. Nurses wearing holiday-decorated uniforms appear to be less professional (less skilled, knowledgeable, and caring) than those without holiday decorations on their uniforms.
6. I prefer to be called by my formal (last) name (that is, Mr. or Mrs.) by healthcare professionals caring for me.
7. I prefer to be called by my first name (such as Sue or Tom) by healthcare professionals caring for me.
8. Is it okay for healthcare professionals to call me by a pet name (such as Honey or Sweetie)?

analyzed preferences by age-group. Because some patients have strong preferences for how they're addressed and it's easy to adjust this from patient to patient, we suggest asking patients what they prefer when you introduce yourself.

Do patients think it's okay for nurses to call them by pet names such as Honey and Sweetie? The mean score was 5.9 (SD = 3.4) with 1 meaning strongly disagree and 10 meaning strongly agree.

Limitations of the study

Some of the patients said that they couldn't easily identify the nurse but most rated the image of the nurse highly. This led us to wonder who they were rating as having a high image. Because the subjects were inpatients, we were concerned that they may have felt pressured to positively rate the type of uniform most of their nurses were wearing (colored scrubs).

We attempted to decrease this potential bias by having a nonnurse volunteer to distribute and collect the surveys anonymously, but we have no way of knowing whether this successfully limited bias. The samples in both the first and follow-up studies weren't statistically the same and may not represent the population of all inpatients in the institution.

Conclusions and recommendations

As researchers, we're looking for truth. This study demonstrates the wide variety of opinions about nurses' uniforms among a group of patients in one part of the country. Although the mean scores seem to support nurses wearing different colors, some patients still feel strongly that nurses should wear all white or all nurses should wear the same color. It remains unclear what factors truly influence the image of profes-

sionalism and the nurse-patient therapeutic relationship. Is it the color of uniform or a myriad of attributes including cleanliness, neatness, posture, tone of voice, affect, knowledge, skill, and caring behaviors? It would be easier to change the color of the uniform.

We note that although using a large-print RN name badge significantly improved patients' ability to identify the nurse, many patients still have problems with identification. We wonder whether having nurses wear a common uniform color would eliminate this problem completely.

This study also didn't address what nurses believe about the effect of appearance on their professional image. As nurses, we're very important drivers in healthcare and it's up to us to take control of our own professional image. The best way to do this is to use evidence from research to develop sound and dispassionate arguments. ■

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