Pain Management Education for Nurses: Simulation vs. Traditional Lecture
A Comparative Parallel-group Design Study

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Conflict of Interest Disclosure

E. Bernhofer
- Speaker’s Bureau for Mallinckrodt Pharmaceuticals - honorarium
- No Conflict of Interest

N. Kelsey

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Objectives

The participant will be able to:

1. Describe the process of developing a pain management education protocol for hospital nurses using standardized patients in simulation.
2. Discuss the challenges of pain education research in a hospital setting among licensed clinical nurses.
3. Review the outcomes of the study comparing simulation and traditional pain management education for licensed clinical nurses.

Background

Managing pain requires a unique skill set combining KNOWLEDGE and PSYCHO-SOCIAL SKILLS
Purpose
To compare SP Simulation (experimental) versus traditional lecture/power-point education (control) on nurses’ pain knowledge and patients’ pain experience, measuring differences between nurse groups on pain knowledge test scores and patients’ reported pain experience.

Kolb’s Experiential Learning Theory

Methods
• Design: Comparative mixed methods, parallel-group design
• Subjects: Clinical nurses (N=16, 1 male); patients (N=237; age M=71.42 years; range 21-96 years; gender=61% female)
• Setting: Two medical/surgical units; large community hospital
Procedure

Following IRB approval:

- **Pre-intervention**
  - APS-POQ-R (patients)

- **Intervention**
  - CPKT immediately after
  - SP feedback

- **Post-intervention**
  - CPKT + qualitative questions 4-6 weeks after
  - APS-POQ-R (patients)

**Control group**

- Traditional lecture (ppt with voice over)

**Experimental group**

- Simulation – Standardized patients

**Objectives**

- Participants will be able to:
  - Describe the role of the nurse in acute pain management
  - Differentiate between acute and chronic pain
  - Discuss the importance of pain assessment in patient care

**Final thoughts on pain treatments that work together**:
- The right medication, modality
- Non-pharmacological methods
- Psychological and physical therapy
- Addressing spiritual needs
- Addressing social needs (e.g., family/friends)
- Addressing practical needs
Results

Quantitative Results

Nurses
Clinical Pain Knowledge Test (CPKT)

- All nurse scores were low
  \( (M = 62\% \text{ correct initial} ; M = 58\% \text{ correct follow-up}) \).
- Initial nurse test scores (number of correct answers out of 23 questions) were significantly higher in the experimental group: \( (M = 15.75 ; SD = 1.67) \) than the control group: \( (M = 12.75 ; SD = 2.25) \), \( t(14) = -3.03 ; p < 0.00 \).
- No significant difference in follow-up test scores between groups.
### Quantitative Results

#### Patients

<table>
<thead>
<tr>
<th>APS-POQ-R Patient Question</th>
<th>Experimental (Simulation)</th>
<th>Control (PPT Lecture)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received information about your pain treatment</td>
<td>2.77 (1.36, 5.14)</td>
<td>3.20 (1.94, 6.21)</td>
<td>0.003</td>
</tr>
<tr>
<td>Yes, how helpful was the information</td>
<td>0.71 (0.30, 2.08)</td>
<td>1.26 (0.28, 5.72)</td>
<td>0.033</td>
</tr>
<tr>
<td>How often encouraged to use non-medicine methods</td>
<td>1.79 (0.36, 8.27)</td>
<td>0.89</td>
<td>0.32</td>
</tr>
</tbody>
</table>

No significance between experimental and control groups.

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### Qualitative Results

#### Control group

“How have you used this education to care for your patients?”

- I included the patients' views and emotional status as well as the actual pain the patient was experiencing. Pain meds alone are not enough to control pain. Emotional well-being is a huge key for success in controlling pain. I found my patients were better controlled when I incorporate emotional relief from pain with medication for patients.

- Creating a pain relief plan helps patients feel they are involved in helping relieve their pain.

- Opioids alone does not reduce or control pain. As a nurse, the whole patient should be addressed as emotional or spiritual views of the patient. If these are also addressed pain will be more controlled.
Qualitative Results
Control group
“What is one thing you learned from this education?”

I do not remember the education

I have not used anything from this education

Qualitative Results
Experimental group
“How have you used this education to care for your patients?”

Some people have a very high tolerance for pain medication due to previous use and we need to account for that when considering doses.

To consider the patient's medication history when judging their response to pain management.

Pain is perceived differently by different people

Qualitative Results
Experimental group
“What is one thing you learned from this education?”

It has helped me to be less "judgmental" when a person still states that they are in pain after I give them what I consider a high dose of pain medication.
Qualitative Results
Standardized Patients

"Would you like to have this nurse care for you again?"

The answers from all SPs was "Yes," except for 1 nurse.

Facilitator observations
Only nurse to request manager intervention when patient escalated

Discussion and Implications
Discussion

- Simulation
  - debriefing focused on knowledge
  - can be intimidating
- SP Qualitative themes:
  - Need to be understood
  - Need to be acknowledged
- Case example

Challenges and Limitations

- Limited sample size
- Research designation
  - no incentive except hourly salary
- Active practicing clinical nurses
- Fear of observation
- Cost and availability of SPs
  - Sample only from day-shift

Conclusion and Implications

“Unless the overarching influence of the caregiver’s own personal values and culture are addressed, the information imparted in pain management class will not translate into practice change!”
- E. Bernhofer

- Experimental groups CPKT scores were higher initially but after time, there was no significance
- Patients benefited from improved pain communication post-nurse education
- Future studies with larger nurse sample sizes are needed to determine if SP simulation education can affect nursing pain knowledge and sustained optimal patient pain experiences
- Future studies with simulation should be conducted focusing on the affective domain and not knowledge alone.
Thank you

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