Using the Nursing Process to Enhance Critical Thinking: A Qualitative Study

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Background and Significance

The Healthcare Arena

- Patient care is becoming more complex and dynamic
- Patient acuity is increasing and insurers are demanding decreasing length of stay
- The use of technology is increasing at the bedside

(Baron, 2017; Benner, 2010; Institute of Medicine, 2011)
Background and Significance

Critical Thinking and The Nursing Process

- Using the nursing process as a guide when using critical thinking in the classroom will stimulate optimal patient care
  - After providing students with a base of knowledge, students can focus on the patient problem using the nursing process (Ahdellah, 1969)

- The nursing process serves as a guide to nursing care using a systematic approach
  - Integrates critical thinking, goal orientated tasks, evidence-based practice, and nursing intuition (Toney-Butler & Thayer, 2018)
Objective

Discuss active learning teaching strategies that use the nursing process to develop the use of critical thinking in the classroom.
Methodology

- Convenience sample of accelerated second-degree undergraduate students (n=54) in their final medical-surgical course
  - In the second semester of a three-semester program
- Students were assigned online lectures to watch before attending class
- In-class exercises such as case studies, virtual simulation, NCLEX question review, in-class discussions, and patient prioritization exercises were used
In-Class Strategies

- Virtual Simulation
In-Class Strategies

- NCLEX Questions using Poll Everywhere

A 74-year-old man has recently been diagnosed with oral cancer. He has been undergoing both radiation and chemotherapy. While visiting his oncologist, he mentions to the nurse that he has lost all of his hair and that his mouth is very dry. He also states that he is certain he has a cavity, because one of his teeth is hurting. What nursing suggestion would be best to decrease the complication of dry mouth?

- Consume 8 glasses of water daily. A
- See the dentist immediately to get the tooth filled. B
- Brush with a combined mixture of baking soda and salt. C
- Increase dietary intake of grapefruits and oranges, which are high in vitamin C. D

Twenty minutes later after a careful assessment of the patient, the nurse notes that his SaO2 is in the 89% to 90% range and he has crackles scattered bilaterally. The oncologist decides to admit the patient to an acute care oncology unit, and within the hour, he is transported to a hospital unit. What is the nurse’s priority ordered intervention on admission?

- Start IV normal saline for rehydration. A
- Ask the oncologist for a dental consult. B
- Apply oxygen at 2 L per nasal cannula. C
- Perform frequent oral care with normal saline. D
In-Class Strategies

Case Studies

Case Study

You are working on an inpatient medical unit and you have been assigned to receive the following new admission:

A.H. is a 27-year old Asian-American who presented to the emergency department late last night complaining of difficulty walking, fever, and left-leg pain and swelling for the last two weeks. He does have diabetes and upon review you find his last HgA1c is 6.1% and his last point of care glucose is 125. He states his fever got as high as 101.9°F two days ago but got better after he took some Tylenol. He states the pain in the left knee caused ankle and it started when he fell and scratched his leg while playing soccer. It states the pain does travel up and down his leg. He describes the pain as 10/10, sharp and stabbing and gets worse when he walks. He decided to come to the emergency department when he took his left shoe off last night and found his ankle warm and red.

His vitals upon arrival to your unit are as follows: T 100.7°F; BP 131/84; HR 112; RR 18; SpO2 saturation 99% on room air.

- Medications: Multivitamin daily; Glucophage 500mg BID, Acetaminophen 650mg as needed
- Allergies: Denies
- Medical/Surgical history: Borderline diabetes
- Social history: Denies smoking, illicit drug use, drinking alcohol occasionally when out with friends, plays soccer 5-6 times per week, occupation is a physical education teacher at a local elementary school

1. What is the MAIN PROBLEM going on with the patient? Specifically, what diagnosis do you think this patient has? Explain your reasons for your conclusion(s) regarding your assessment of the patient’s condition. Report your answer following the Situation-Background-Assessment-Recommendation (SBAR) format for full credit.

2. What assessment findings based on the MAIN PROBLEM (other than what is listed above) do you expect for the diagnosis you choose? List at least 5. What is your rationale?

3. What are the clinical issues for this patient at this moment? These are things that may be part of your assessment or items in your patient’s medical history. For example, if a patient who has HIV is admitted with pneumonia and has a 1 pdp smoking history, your clinical issues would be his respiratory status, infection (fever, white count, etc), HIV, smoking, and perhaps coping. You need to learn how to prioritize the many issues your patient’s have as care can often be very complex.

4. List 3 priority medications you would anticipate giving this patient with rationale.

5. List 5 priority interventions with rationale (besides medications and/or ordering labs) that you would expect to implement for this patient with rationale. Prioritize your interventions and explain why you chose your order.

6. List 5 lab/radiology findings you would potentially need to be aware of and explain why. What would abnormal results indicate? Note: Hemoglobin and hematocrit count as one lab for the purpose of this assignment.

7. Give two nursing diagnoses with an expected outcome/goal for each. The nursing diagnoses should address priority problems with outcomes and goals that are achievable in the setting. Why did you choose these diagnoses?
## In-Class Strategies

### In-Class Discussion/Patient Prioritization Exercises

Fill in the following table.

<table>
<thead>
<tr>
<th>NAME OF DISEASE PROCESS/CAUSE</th>
<th>NURSING ASSESSMENT FINDINGS</th>
<th>DIAGNOSTICS</th>
<th>NURSING INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoporosis</td>
<td>May have no symptoms</td>
<td>X-ray and lab studies not diagnostic</td>
<td>Calcium&lt;br&gt;Vit D&lt;br&gt;Weight-bearing exercise&lt;br&gt;BUILD UP and maintain bone mass&lt;br&gt; Increase strength, coordination, balance (walking, hiking, weight training, stair climbing, tennis, dancing)&lt;br&gt;QUIT smoking, decrease alcohol intake.</td>
</tr>
<tr>
<td>CAUSE(S) Chronic, progressive metabolic bone disease; low bone mass and structural deterioration of bone tissue leading to increased bone fragility; bone resorption exceeds bone deposition, ACCESS: alcohol use, Corticoid use</td>
<td>Bone fractures&lt;br&gt;Loss of height</td>
<td>Bone mineral density (BMD) - determined by peak bone mass and amount of bone loss</td>
<td>Calcium&lt;br&gt;Vit D&lt;br&gt;Weight-bearing exercise&lt;br&gt;BUILD UP and maintain bone mass&lt;br&gt; Increase strength, coordination, balance (walking, hiking, weight training, stair climbing, tennis, dancing)&lt;br&gt;QUIT smoking, decrease alcohol intake.</td>
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<td>Osteomyelitis</td>
<td>Pain unrelieved by rest, fever, edema, elevated leucocyte count, fatigue, and general malaise.</td>
<td>Bone or soft tissue biopsy&lt;br&gt;Blood and/or wound cultures</td>
<td>Casts or braces&lt;br&gt;Negative-pressure wound therapy&lt;br&gt;Hyperbaric oxygen therapy&lt;br&gt;Removal of prosthetic devices&lt;br&gt;Muscle flap, skin grafting, bone grafts</td>
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<td>CAUSE(S) Severe infection of bone, bone marrow, and surrounding soft tissue</td>
<td>Bone or soft tissue biopsy&lt;br&gt;Blood and/or wound cultures</td>
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<td>Amputation Patients who have a lot of drainage with a white count but do not have a fever need to go into</td>
<td>X-ray&lt;br&gt;Bone scans</td>
<td>Casts or braces&lt;br&gt;Negative-pressure wound therapy&lt;br&gt;Hyperbaric oxygen therapy&lt;br&gt;Removal of prosthetic devices&lt;br&gt;Muscle flap, skin grafting, bone grafts</td>
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**Note:** The table provides a comprehensive overview of the strategies and interventions for in-class discussion and patient prioritization exercises. Each condition is detailed with specific symptoms and necessary medical procedures to address the conditions effectively. The strategies include hospital management, disease prevention, patient care, and overall health maintenance.
Results

- Overall, thematic analysis indicated the in-class exercises helped participants develop their critical thinking skills.
- Students also indicated an increase in their self-confidence when implementing the nursing process when providing patient care.

Please describe any insight you gained from participating in active learning activities during the course.

“Knowing what is priority in a situation. As a group, you get to hear different perspectives and that is very helpful.”

“The active learning activities allowed me to be put in a real-life situation and to learn how to critically think through it.”

“Case studies and virtual sims helped tremendously to navigate through real-world situations.”

“It challenged me to look back at my notes and really learn the interventions, medications, labs, and diagnostic studies that preferred for each type of diagnosis.”

“I think both the case studies and the simulations really helped me with my prioritizing and critical thinking abilities. The case studies especially really gave us an opportunity to discuss our rationale amongst ourselves and come up with a conclusion. I think it’s beneficial because that’s how collaborative care works.”
Students reported active learning strategies helped them prepare for future nursing practice.

List two things you learned from these courses that will help you in your future nursing practice and explain why.

“Enhanced understanding of body systems and nursing interventions.”

“Psychosocial aspect of patients. This is often missed as nurses and this class has stressed the importance of helping this aspect.”

“Understand the difference between textbook answer and real life scenarios; reinforcement of ABC and safety first for prioritization.”

“Learning to critically think and how to relate things to each other by labs/imaging and symptoms of the patient.”

“Complications and manifestations associated with different disease we covered in this course. I would know what course of action to take if my patient had that issue.”

“Analyzing the full picture because not everyone looks at all aspects of a patients health; critical thinking because something that appears to be the problem on the surface isn’t actually what’s going on.”
Conclusion

- Overall, students felt more comfortable in their ability using active learning strategies to critically think and apply the nursing process to patient scenarios.

- As universities become more corporate in their desire to deliver a good product and increase consumer satisfaction, the delivery of teaching methodologies and learning strategies is especially important.

- Quantitative correlation between active learning strategies and actual gains in this population would be warranted to continue to explore this population.
WHO SAYS NURSING IS STRESSFUL?

I'M 39 AND I FEEL GREAT!!


