HOW TO INCORPORATE CLINICAL SIMULATION INTO GRADUATE MSN/DNP CURRICULUM

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Disclosures

- Dr. Stephanie Burgess - none
- Dr. Sheryl Mitchell - none
Purpose of this Presentation

- To articulate the role of clinical simulation in graduate nursing education in assessing NP Competencies in Clinical Courses.
Objectives

- Identify the role of clinical simulation in NP education.
- Develop evidence based scenarios for clinical NP student simulation.
- Develop evaluation tools to assess NP student clinical competency.
Role of simulation in NP education

- Allows direct observation by faculty of student’s clinical skills.
- Safe environment.
- Patient disease states can be replicated.
- Assess individual critical thinking skills.
- Assists with determining gaps in student’s learning.
Role of simulation in NP education

- Students have time to reflect on their experience.
- Foster confidence.
- Reduce errors.
Why we pursued simulation

- Time constraints
  - One semester, we had 140 check offs just in one course. More than we could manage

- Improve competency check off
  - Get a better idea of student’s performance when we could directly watch everything they are doing without distractions
Assess the student’s ability to assess and manage a patient in the clinical simulation lab.

Assess the student’s ability to recognize normal and abnormal diagnostic findings.

Assess the student’s ability recognize normal and abnormal physical exam findings.
Assess the student’s ability to examine the patient and formulate an appropriate assessment and plan for the patient.

Assess the student’s ability to write an appropriate progress note that includes the SOAP format with the plan, medication, education, referral, and follow-up.

Assess the student’s ability to perform an assessment in a timely manner.
GAPs

- NP simulation scenarios that measure NP competencies.
- Scant research involving FNP students.
Faculty Challenges

- Check offs: 2 at least per clinical course per student: 5 NP Faculty for FNP and AGACNP courses
- Maintaining productive patient quotas while checking off students
- Limited resources (space, clinical sites)
- Increased student enrollments
Simulation Pilot

- Used as one of the check offs in 5 NP courses for check off purposes. The other check off was done in a real clinical setting with us.
How we built Simulation into our Curriculum?

- Developed scenarios, CASE study models
  - Patient presents with problem, chief complaint
    - VS
    - Diagnostics
Developed faculty scripts that follow the patient scenario

- History
- Physical exam
- Faculty scripts also have the patient’s vital signs and all diagnostics.
How we built Simulation into our Curriculum?

- Incorporate NONPF competencies
- Incorporated the International Nursing Association for Clinical Simulation & Learning Standards of Best Practice for Simulation
  - Standard I – Terminology
  - Standard II – Professional Integrity of Participants
  - Standard III – Participant Objectives
How we built Simulation into our Curriculum?

- Standard IV – Facilitation
- Standard V - Facilitator
- Standard VI – Debriefing Process Standard VII - Participant Assessment and Evaluation
Developed an online introductory module
- To help students acclimate to the Simulation Lab
- Posted the link in the Course Website
- Included a demonstration on how to assess the manikin using a patient scenario
  - History
  - Physical exam
How we built Simulation into our Curriculum?

- Used high fidelity manikins
  - Collaborated with the Technician and Sim Lab Guru to program the manikins to have physical findings
    - Lung sounds
    - Heart sounds
    - Findings that could not be programmed, the student had to ask about
  - Technician also was with us while running the scenario student check offs
How we built Simulation into our Curriculum?

- Developed 6 Cases, all for FNP and 5 for AGACNP
  - Contraception
  - Severe Dyspepsia (STEMI)
  - Head Injury
  - DM, CRF, and HTN
  - DM, Substance Abuse, Seizure
  - CVA
How we built Simulation into our Curriculum?

- Student has 45 minutes top to bottom
  - Conducting additional History
  - Doing the Physical exam
  - Reviewing VS and LABs
  - Formulating Diagnoses
  - Formulating Plan
    - Meds, Ed, Ref, F/U
  - Write up
  - Debrief
Simulation day

- Students are not given any information prior to simulation other than general orientation information.
  - Video
  - Optional orientation day
- Must arrive 15 minutes prior to their scheduled time.
- Pick their case without knowledge of the case.
Simulation Day

- Five minutes to review the case prior to entering the room.
- 15 minutes to assess the patient.
  - >15 minutes, time deducted from write up.
- 20 minutes to write
Student Case

- Patient’s name: Justin Jones
- Identifying Data: 38 YO, male presented to your office. New Patient
- S:
- CC: new onset seizure and SOB this morning x 30 minutes. No other seizures. Feeling of something in his throat, constant clearing throat with no relief
- HPI: Wife witnessed intermittent seizure activity this AM, Heavy ETOH consumption and marijuana use last nite. Compliant with meds
PMH: CKD stage 3, HTN, DM, CHF with EF of 35% dx. 2013
PSH: renal bx. r/o Reiters Syndrome neg, 7/2013
SH: Disabled, lives with wife. +ETOH, +marijuana use. NKDA
FH: Mom: CHF, HTN, DM
Medications: Lasix 80mg daily, Isosorbide Dinitrato 20mg 3x/d, Lisinopril 5mg/d, Metoprolol XL Lipitor 20mg, Calcitrol 0.25mcg/d
Simulation Day–Student Ex.

- PE
- Labs Today at your Office:
  - troponin 0.08
  - CPK - 908
  - TSH - 2.11
  - BNP - 978
  - Urine drug screen - Positive Cannabis
  - Sodium 139, Potassium 5.1, Chloride 26, Bicarb 21, BUN 39, Creatinine 2.2, Glc 77
How we built Simulation into our Curriculum?

- After the Simulation was conducted by the student, they wrote up findings SOAP Note.
  - They could use books, references
  - No phones though (had a student text another student)
Simulation Day–Student Ex.
How much did you drink last night? 4-5 12 oz beers

How often do you usually drink? Daily

Do you use any other drugs besides marijuana? No

How much marijuana do you use? A dime bag every other day

Have you ever tried to stop drinking or using drugs? No
Have you ever had withdrawal symptoms? No

How long have you noticed the shortness of breath? A little on yesterday, but primarily this am.

How many pillows do you sleep on at night? One

Have you increased the number of pillows recently? Yes, I am using 2 now.

Do you weigh yourself at least three times per week? No
# Simulation Day—Sample Script

<table>
<thead>
<tr>
<th>Condition</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTN</td>
<td>Yes, 2012</td>
</tr>
<tr>
<td>DM</td>
<td>Yes, 2012</td>
</tr>
<tr>
<td>CHF</td>
<td>Yes, EF 35% 2013</td>
</tr>
<tr>
<td>CKD</td>
<td>Yes, stage 3, 2013</td>
</tr>
<tr>
<td>CAD</td>
<td>No</td>
</tr>
</tbody>
</table>

Debrief

- Individual debriefs, one on one
- Review strengths
- Review Gaps
- Suggest opportunities for growth, improvements
Debrief

- What do you think you did well?
- What areas could you have improved on?
- What would you do differently next time?
After Debrief

- Graded Scenarios and emailed the student Pass or Fail within 2 days.
  - If fail, tell them why and what they missed or did wrong.
  - Most of them knew (internally) anyways after the debrief
<table>
<thead>
<tr>
<th>Physical</th>
<th>HEENT (total of 2 pts; each is worth 0.67 pt)</th>
<th>NCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PERRLA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fundi: cotton wool exudate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neck (total of 2 pts; each is worth 1 pt)</td>
<td>JVD Positive</td>
</tr>
<tr>
<td></td>
<td>No adenopathy, supple</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lungs (2 pts)</td>
<td>Bilateral rales</td>
</tr>
<tr>
<td></td>
<td>CV (2 pts)</td>
<td>Irregular rate, S3</td>
</tr>
</tbody>
</table>
For one faculty person

- Can run about 12 a day
- 45 minutes each
Findings

- N = 37
- 84% agreed that Simulation was realistic
- 97% agreed that Simulation scenarios were appropriate to their level of learning
Findings

- 94% agreed that the objective of Simulation was clearly stated
- 84% agreed that improved their confidence
- 91% agreed that de-briefing helped them learn
Findings

- 62% agreed that Simulation should be offered in beginning of semester
  - Now we offer an optional on-campus session to practice Simulation one week prior to the semester onset
- 75% agreed that Simulation should be offered several times during semester
88% agreed that they were prepared for Simulation scenarios through clinical and course work.

54% agreed that Simulation was enjoyable.

85% agreed that the Demonstration module was helpful and eased their comfort in Simulation (five students said no, probably those that failed more than twice, took an incomplete).
Lessons Learned

- IT WORKED .......................................................  
- Ensuring the Scenarios are scripted tightly  
- Ensuring the Scenarios are competency based  
- Managing student anxiety  
- Managing student failures  
- Scheduling repeaters  
  - 7 repeaters  
  - 5 took Incompletes
What is next?

- Simulation check offs in 5 NP Clinical Courses
- Develop more Scenarios
- Continue to refine the Process and Scenarios
- Continue to collect data
Questions