COMPETENCY-BASED SIMULATION ASSESSMENT: THE USE OF SIMULATED PATIENT FOR INTEGRATED LEARNING AND ASSESSMENT

Presenters:
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Other team members:
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Background
The utilisation of Simulated Patients (SPs) - learners’ interaction with a patient while performing a skill.

Shifting the focus essentially from sole concentration on assessment of a skill to the assessment of caring for a person with a condition or with needs to be met.

Use of SPs can enhance learners’ satisfaction and ensure greater objectivity of the assessment process.
Purpose of the Study

- develop and test a simulation-based assessment tool
- examine the use of simulation-based scenario in an assessment; and
- explore the learning, if any, for senior student nurses who were trained to act as simulated patients
Develop and test an assessment tool
Examine the use of simulation-based scenario in an assessment
Simulation-based Assessment Tool (SAT)

Phase 1
- Items development

Phase 2
- Psychometric testing
- Content validity
- Reliability

Phase 3
- Pilot study
Phase 1 – Item development

- Core Competencies development
  - Singapore Nursing Board Guidelines
  - Literature review
  - Validated tools
  - Educational frameworks
Core competencies of a Registered Nurse (RN)

- Technical Skills
- Critical Thinking
- Safe Practice
- Management of care
- Professionalism & Ethical Practice
- Communication
Items development

- Critical Thinking
- Communication
- Technical Skills
- Management of Care
- Safe Practice
- Professionalism and Ethical Practice
Phase 1

- 39-item checklist was conceptualised
Phase 2 – Content validity

1. Experts
External experts

- 10 nurse educators

Criteria

- 1 = not relevant
- 2 = item need some revision
- 3 = relevant but need minor revision
- 4 = very relevant

Code = 0

Code = 1
Content validity index (CVI)
- I-CVI = 0.80 – 1.0
- S-CVI = 0.97
Experts’ comments on each item
Phase 2

1. Experts
2. Video of Staff
3. 39-item checklist rating
Reliability

- Assessors’ training
  - Assessors watched students’ performance video of 2 levels of performance and rated them
39-Item Checklist → Global Rating Scale
**Instruction:** Circle the appropriate rating for each of the six core competencies

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<th>Competency</th>
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*Note: For second attempt, the maximum mark awarded is 27/54*
Phase 3 – Pilot study

- Anatomy and Physiology
- Professional Issues and Practice
- Effective Communication for Health Professionals
- Fundamentals of Nursing
Fundamentals of Nursing

- Revision with SPs
- Role-Playing
- Skills Practice
- Tutorial
- Lecture

Assessment with Standardised Patients (SPs)
Method

- IRB approval
- Students informed in advance
- Recruited after simulation-based assessment skill test involving a simulated patient role-played by senior undergraduate student nurses
- Informed consent
- All Year 1 student nurses – 89
- 2 assessors in each room when testing students
# Inter-rater reliability

## During pilot study

<table>
<thead>
<tr>
<th>ITEM</th>
<th>ICC</th>
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<tr>
<td>Technical Skills</td>
<td>0.929</td>
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<td>Critical Thinking</td>
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<td>Management of Care</td>
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<td>Safe Practice</td>
<td>0.799</td>
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<tr>
<td>Professionalism &amp; Ethical Practice</td>
<td>0.719</td>
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<tr>
<td>OVERALL</td>
<td>0.900</td>
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</table>
Reliability of SPs

- SPs tested on each other with different approaches
- Students’ assessment of SP authenticity  (Adapted from Maastricht Assessment of Simulated Patient (MaSP), Wind, 2004)
### SPs Authenticity

**Item**  
(n= 89; 100% response rate)

<table>
<thead>
<tr>
<th>Item</th>
<th>Complete Disagreement</th>
<th>Moderate Disagreement</th>
<th>Moderate Agreement</th>
<th>Complete Agreement</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. SP appears <em>authentic</em></td>
<td>-</td>
<td>4.5%</td>
<td><strong>57.3%</strong></td>
<td><strong>38.2%</strong></td>
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<tr>
<td>Q2. SP might be a <em>real patient</em></td>
<td>3.4%</td>
<td>16.9%</td>
<td><strong>42.7%</strong></td>
<td><strong>20.2%</strong></td>
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<tr>
<td>Q8. SP's appearance fits the role</td>
<td>-</td>
<td>9.0%</td>
<td><strong>60.7%</strong></td>
<td><strong>30.3%</strong></td>
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<tr>
<td>Q5. SP <em>stays in his/her role all the time</em></td>
<td>-</td>
<td>3.4%</td>
<td><strong>52.8%</strong></td>
<td><strong>43.8%</strong></td>
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<tr>
<td>Q9. SP answers questions in a <em>natural manner</em></td>
<td>1.1%</td>
<td>4.5%</td>
<td><strong>50.6%</strong></td>
<td><strong>43.8%</strong></td>
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<td>Q6. SP <em>is challenging/testing the student</em></td>
<td>3.4%</td>
<td>20.2%</td>
<td><strong>58.4%</strong></td>
<td><strong>18.0%</strong></td>
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<td>Q3. SP is clearly <em>role-playing</em></td>
<td>2.2%</td>
<td>19.1%</td>
<td><strong>50.6%</strong></td>
<td><strong>28.1%</strong></td>
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<td>Q7. SP simulates physical <em>complaints unrealistically</em></td>
<td><strong>27.8%</strong></td>
<td><strong>51.9%</strong></td>
<td>19.0%</td>
<td>1.3%</td>
<td>10 pax</td>
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<td>Q4. SP appears to <em>withhold information unnecessarily</em></td>
<td>14.6%</td>
<td><strong>59.6%</strong></td>
<td>21.3%</td>
<td>4.5%</td>
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</table>
Authentic

“Having worked in the hospital ... comparing the SPs and the real patients, it is rather similar ...”
“... really resembles a patient.”

That helps with learning

“... the way she presents the problem (sore throat) makes me feel that this is a real patient and that I need to think fast in order to help my patient”
“You did a good job on non-verbal cues that helped me to critically think and act on the spot. Though I may not be very proficient in my skills, this to me, is considered one good clinical experience that I will remember.”
Acceptability

- Simulation-based assessment evaluation using a questionnaire adapted from Pierre et al (2004) OSCE evaluation questionnaire
  - 2/3 “very stressful” and “needed more time”
  - 3/4 “tasks asked to perform were fair”
  - 4/5 “scenario is logical and appropriate”
  - 85% “provided opportunities to learn”

“I have realised that it is much more stressful to work with a real patient and the circumstance I am in is different and unexpected everyday. Thus it is not enough to just remember the procedure of the skills step by step. Indeed, critical thinking and quick reaction and communication are also very imperative. I think I will only be able to deliver care effectively and efficiently to my patient, if I am to master and incorporate all these mentioned skills.”

“"I want to do it again!”

Simulation-based Assessment Tool (SAT)

Phase 1
- Items development

Phase 2
- Psychometric testing
- Content validity
- Reliability

Phase 3
- Pilot study
Explore the learning, if any, for senior student nurses who were trained to act as simulated patients
Method

- IRB approval
- The exploration of senior student experience in the SP role was conducted using focus group interviews
- Two groups of 7 and 8 students
- Informed consent
- From verbatim stories shared by the senior students, the meaning of their lived experience revealed distinct themes, the core messages of which were discerned by two researchers, and interpreted in terms of the value to the senior nurses’ own learning.
Trigger questions

- Please describe your experiences of being a simulated patient.
- What benefits, if any, did the role offer for your own learning?
- What, if any, unfavourable aspects were there to the experience?
- Please suggest how the experience of being a simulated patient might be improved to better facilitate your learning.
Themes & Sub-Themes

1. Seeing the nurse through the eyes of the patient
2. Using observation skills
3. Using reflection
4. Evaluation
When I was the patient, some students just came up and started checking my vital signs... I felt like my privacy is invaded. So I think as a nurse, the learning point I want to take is to ensure that I explain to my patients what I’m going to do to them before like coming and closing their curtains and all that.
1.2: Knowing what the patient is feeling

Student SPs described feeling sad when the nurse paid more attention to their equipment than to the patient, being made to feel that they were just ‘thing’ to the nurse and feeling vulnerable and embarrassed at having their bodies exposed.
1.3: New perspective

Now we know how the patient would feel if the nurses act in a similar way; so next time I should be more aware of how the patient will view us. I think it’s very important to appear calm and confident of what you are doing and you must always explain what you are doing to the patients.
1. Seeing the nurse through the eyes of the patient

2. Using observation skills

3. Using reflection

4. Evaluation
This girl came in, I thought she was good because she was the only one who remembered to check my surrounding. She checked whether the bed was locked, and whether the cot side was up and those sort (of things).
On the basis of their observations and interactions as an SP, the participants made comparisons between the student’s performance they observed and what they perceived to be their own level of procedural skill at the same stage of their educational preparation.

Having the opportunity to observe and critique the skills that they had been taught being performed by these more junior student nurses caused participants to reflect on their own learning and the quality of their own procedural skills.
1. Seeing the nurse through the eyes of the patient

2. Using observation skills

3: Using reflection

4: Evaluation
3.1: Did I do that?

I would say as an observer, you tend to see more things and you tend to pick up things that we always do, but we don’t really realize it ourselves. For example, you see Year One students touching their fringe or pushing up their spectacles, that kind of thing. When I’m in their shoes, I know I would tend to do the same thing.
3.2: The right way to do it

Makes us more mindful of our own actions. Those actions that were done, we were also guilty of doing it. So it’s sort of motivation for us to actually brush up our own skills.
Themes & Sub-Themes

1. Seeing the nurse through the eyes of the patient
2. Using observation skills
3. Using reflection
4. Evaluation
4.1: We learn from them

I think I have learnt from the experience, and from the observation of the skills of the students and all that, I think I have learnt from them. Some good parts that they did well, I can learn from them and some parts that they made mistakes, I also can learn from them because I might make the same mistake too, and in future can look out for that.
Actually it did spark my interest in becoming a nurse educator. Somehow from a third person point of view you see things clearer and you feel like pointing out every mistake they do and you can correct them because they will be future nurses anyway.
Discussion

- Student SPs found the experience enriching.
- Student SPs felt they would be more effectively employed in the formative phase of skill development rather than for summative assessments.
- Using senior undergraduate nursing students as SPs for first year nursing students’ simulation-based assessment has benefits for both parties. Learning takes place not only for the examinees, but particularly for the student SPs as the experience serves as a strategy for them to revise and reflect on their own practice.
NUR1114 Fundamentals of Nursing
NUR1110 Effective Communication for Health Professionals
NUR1115 Maternal & Child health Nursing
NUR2114 Medical-Surgical Nursing
NUR2115 Comprehensive Health Assessment
NUR3114 Medical Surgical Nursing III
NUR3103 Clinical Decision Making
NUR3115 Issues in Contemporary Nursing

44 SAT Application & SP Utilisation
Translating to clinical practice

A structured practice

Using simulation learning and assessment across our undergraduate nursing programme

Clinical practicum


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