CLINICAL INSTRUCTORS' CULTIVATION OF PRE-LICENSURE NURSING STUDENTS' PHARMACOLOGY KNOWLEDGE, SKILLS, AND ATTITUDES

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DISCLOSURE

• **Rieneke Holman, PhD, RN; Weber State University**
• **Lori Candela, EdD, MS, BSN, RN, APRN, FNP-BC, CNE; University of Nevada, Las Vegas**
• **Learner Objectives:**
  • 1. **The participant will describe the significance of pharmacology education in the clinical setting.**
  • 2. **The participant will describe how pharmacology KSAs are taught and evaluated in the clinical setting.**
  • 3. **The participant will describe strategies to improve pharmacology education in the clinical setting.**
• **The authors declare no conflict of interest**
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INTRODUCTION, PROBLEM & SIGNIFICANCE

- My background
- Medication errors are a significant patient safety issue
- Medication errors are linked to nurse incompetence
- Nurse medication incompetence is linked to inadequate nursing education
- IOM called for reform of healthcare education
- We don’t know how pharmacology KSAs are taught/evaluated in the clinical setting
LITERATURE REVIEW

• Much literature on pharmacology in didactic setting
• Some literature on pharmacology in lab/sim setting
• Very little literature on pharmacology in clinical setting
• *No studies found on how pharmacology KSAs taught in the clinical setting
PURPOSE AND RESEARCH QUESTIONS

• Two-pronged purpose
  • 1. To explore how clinical nursing instructors cultivate and evaluate pre-licensure students’ pharmacology KSAs

• Research Questions
  • 1. How do clinical nursing instructors cultivate pharm KSAs in their students?
  • 2. How do clinical nursing instructors evaluate pharm KSAs in their students?
CONCEPTUAL FRAMEWORK

- **Theory-Practice Gap**
- **The Holman Nursing Pharmacology Competence Bridge model**
METHODOLOGY

• **Exploratory Multiple Case Study design with use of CARMA**

• **Definition of cases**

• **Study Sample: n=6**

• **Data Collection**
  - Participant interviews
  - Participant course documents

<table>
<thead>
<tr>
<th>Age ranges</th>
<th>Educational preparation</th>
<th>Years experience in nursing academia</th>
<th>Number of semesters teaching nursing clinicals</th>
<th>Areas of clinical teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-60</td>
<td>MS, MSN, DNP</td>
<td>2.5-17</td>
<td>7-33</td>
<td>Med-surg, OB, Peds, Psych</td>
</tr>
</tbody>
</table>
METHODOLOGY

• **Data Analysis**
  - Qualitative analysis
    - Word tables, categories
  - Cross-case analysis
    - Cross-case componential analysis tables
  - CARMA analysis
    - CARMA tool

• **Trustworthiness**
  - Credibility
    - Member checking and peer debriefing
  - Dependability
    - Expert committee review and data triangulation
  - Confirmability
    - Participant quotes and audit trail
  - Transferability
    - N/A
FINDINGS

• Case Study Findings

• Organization of Individual Case Content

<table>
<thead>
<tr>
<th>• Cultivation</th>
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</thead>
<tbody>
<tr>
<td>o Expectations</td>
</tr>
<tr>
<td>▪ Knowledge</td>
</tr>
<tr>
<td>▪ Skills</td>
</tr>
<tr>
<td>▪ Attitudes</td>
</tr>
<tr>
<td>o Teaching Strategies</td>
</tr>
<tr>
<td>▪ One-to-one</td>
</tr>
<tr>
<td>▪ Group</td>
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</tbody>
</table>

• Evaluation

| o Formative |
| o Summative |
FINDINGS

• “You know what you know and you have no idea what you don’t know, so go as far as you know and then ask, ask, ask, ask, ask, ask.”

• “I tell them over and over and over it’s so important to know what you’re giving and not to give something that you don’t know.”

• “And so I tell them that I want them to teach each other as much as they can about those experiences and the medications that are given in those floors, in those areas, just so that everyone can learn from what they’re experiencing.”

• “I love making them call pharmacy. You know they’re so nervous to talk to other people about anything.”

• “We are always evaluating, as an instructor you are always evaluating their knowledge and where they are lacking.”

• “In the clinical setting I do not grade them on their medication knowledge. It is done, but not in the clinical setting.”
## FINDINGS

<table>
<thead>
<tr>
<th>Expected Pharm KSAs in clinical</th>
<th>Program A</th>
<th>Program B</th>
<th>Program C</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Know basic info about common meds</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Have a healthy respect for the potential danger of med administration</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Safe practice</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Apply knowledge and skills to practice</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Nursing care associated with meds</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Have confidence in their practice</td>
<td></td>
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</tbody>
</table>

### Sample of Componential Analysis Table
FINDINGS

- Conceptual Theme: Inconsistency
  - Instructors' focus on Pharm in Clinicals is inconsistent
  - Instructors' expectations of students are inconsistent
  - Interactions with students related to Pharm are inconsistent
  - Teaching methods of Pharm are inconsistent
  - Evaluation methods of Pharm are inconsistent
  - Application of QSEN to Pharm KSAs is inconsistent
  - QSEN language used is inconsistent
RECOMMENDATIONS

- Cultivation
- Evaluation
- Three-part model of clinical pharmacology education curriculum development
LIMITATIONS

• May not be representative (not purpose of the study)

• Response bias
  • Respondents don’t remember all ways they cultivate and evaluate pharmacology KSAs
  • Respondents’ discomfort with answering questions
  • Course documents
  • Participants from investigator’s program
  • Inexperience of the investigator and making inferences
FUTURE RESEARCH

• **Revitalize research on clinical pharmacology education**
• **Studies that show relationship between educational interventions and patient safety (student medication errors)**
• **Longitudinal studies on evidence-based teaching strategies and evaluation methods**
• **Conduct national survey of instructor’s cultivation and evaluation of pharmacology KSAs**
REFERENCES


