



FINE Conference “Nursing Education for a Sustainable Future: Challenges and Opportunities”

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**Safe medication management
competence in clinical simulation in
nursing students: Results and
permanence in one year**

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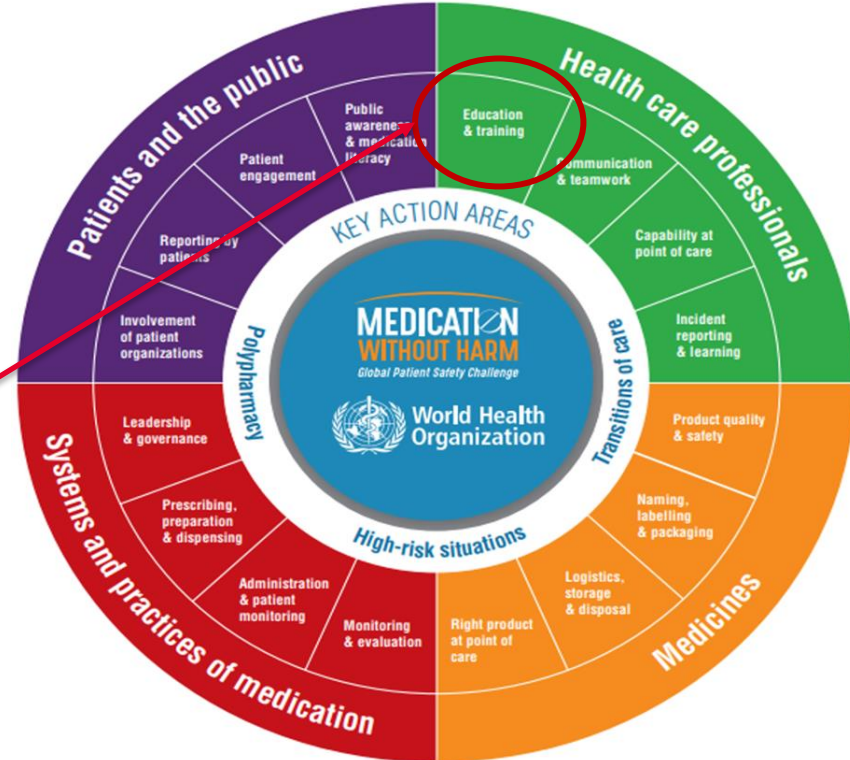
INTRODUCTION



INTRODUCTION

- ✓ Safe medication management and prevention of medication errors is a strategic line worldwide.
- ✓ 2017-2022 The third WHO Global Patient Safety Challenge: Medication without harm

EDUCATION and TRAINING



INTRODUCTION

- ✓ Nursing professional has a major role in medication management, which involves multiple professionals.
- ✓ Spend 40% of their working day managing medication.
- ✓ It is necessary the nursing perspective in the medication management



INTRODUCTION

- ✓ Clinical simulation is an effective active teaching methodology for health sciences students to acquire clinical skills.
- ✓ The stability over time of the skill acquired in simulation remains poorly studied.



AIMS

- The **primary aim** of this study was to evaluate the effectiveness of a teaching intervention in high-fidelity clinical simulation, compared to low-medium simulation, in improving safe management of medication competence in 2nd year nursing students.
- The **secondary aim** was to evaluate the intervention's effectiveness 12 months after its implementation.

METHODS

- **Non-blinded randomized clinical trial**

- **Inclusion Criteria:**
 - ✓ 2nd year nursing degree course
 - ✓ Enrolled in the subject of LBS
 - ✓ Academic year 2018- 19 and 2019-2020

- **Exclusion Criteria:**
 - ✓ Retuning students of the subject
 - ✓ Do not want to participated in the study



METHODS

- The study was conducted in 2 consecutive phases

1st Phase: Non blinded randomized clinical trial

Stage 1: Theory

- ✓ GC + GI 3h Theoretical content: patient safety, drug management, dose calculation

Stage 2: Simulation

- ✓ GC low medium fidelity: use of mannequin (no feedback)
- ✓ GI high fidelity: standardized patient (feedback)

2nd Phase: Repeated measures study

- ✓ T0: baseline
- ✓ T1: post intervention
- ✓ T2: 12 months post intervention

METHODS

✓ 3 questionnaires were used to collect the data

Dose calculation	8 dose calculation exercises of different difficulty
Nursing students' Perceptions about medication management (NURSPeM Instrument)	2 questionnaires: 1) Self-perception on the relevance of safe medication management 2) frequency of use and dose calculation study
Drug administration (checklist MEDISIM)	26 items (sequential steps for safe administration)

METHODS

✓ Simulation Description:

- Prebriefing- Simulation- debriefing
- Individual simulation with possibility of help
- No evaluative
- No pre-established time limit
- 2-3 simulation/day
- Each scenario had a diferente dose calculation
- In the scenarios there were some errors that had to be detected to make a safe administration (ex. expired drug)
- Debriefing after simulation: Pearls Model



METHODS

✓ International Nursing Association for Clinical Simulation and Learning

International Nursing Association for Clinical Simulation and Learning



Clinical Simulation in Nursing (2016) 12, 55-612



Standards of Best Practice: Simulation

INACSL Standards of Best Practice: SimulationSM Simulation Design

INACSL Standards Committee

KEYWORDS
pedagogy;
simulation design;
simulation format;
needs assessment;
objectives;
prebriefing;
debriefing;
faculty;
facilitation

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As the science of simulation continues to evolve, so does the need for additions and revisions to the INACSL Standards of Best Practice: SimulationSM. Therefore, the INACSL Standards of Best Practice: Simulation are living documents.

Clinical Simulation in Nursing (2013) 9, 515-514



Featured Article

Standards of Best Practice: Standard I:

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KEYWORDS
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Statement

Consistent terminology nomenclature and abbreviations, research, and

Clinical Simulation in Nursing (2013) 9, 515-518



Featured Article

Standards of Best Practice: Standard II:

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Clinical Simulation in Nursing (2011) 9, 429-29



Featured Article

Standards of Best Practice: Standard VI:

Sharon Decker, PhD, RN, ANEF, FAAN¹, Mary Fey, MS, RN², Stephanie Siders, PhD, RN, C.A.P.A.³, Sandra Caballero, MSN, RN⁴, Leland (Rocky) Rockstraw, PhD, RN⁵, Teri Boese, MSN, RN⁶, Cynthia Reese, PhD, RN, BC⁷, Ashley E. Frankl, MSN, RN, CRN, CNE⁸, Donna Gloe, EdD, RN, BC⁹, Colleen Meakim, MSN, RN¹⁰, Jimmie C. Borum, MSN, RN, CNS¹¹, Carol R. Sando, PI

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Standards of Best Practice: Simulation Standard VI: The Debriefing Process

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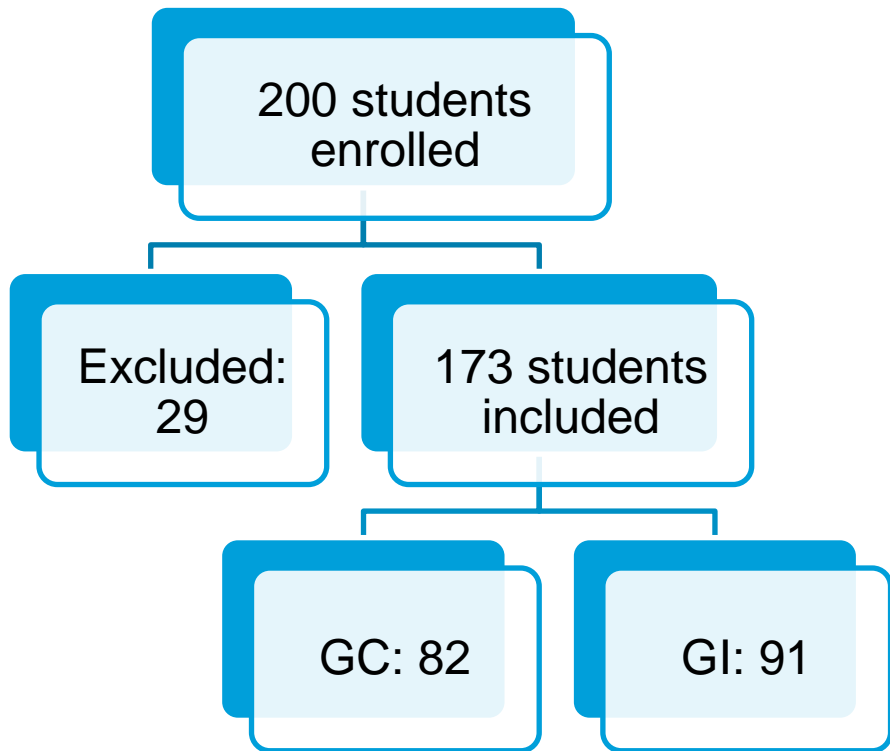
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Clinical Simulation in Nursing
www.elsevier.com/locate/cnsn

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Abstract: All simulation-based learning experiences should include planned debriefing sessions aimed toward promoting reflective thinking. Learning is dependent on the integration of experience and reflection. Reflection is the conscious consideration of the meaning and implications of an action, which includes the assimilation of knowledge, skills, and attitudes with pre-existing knowledge. Reflection can lead to new interpretations by the learner. Reflective thinking does not happen automatically, but it can be taught. It requires time, active involvement in a realistic experience, and guidance by an effective

RESULTS



	Global (n=173)	GI (n=91)	GC (n=82)	P
Mujeres [^]	143 (83,6%)	76 (84,4%)	67 (82,7%)	0,922
Exp. Lab. Sanitaria [^]	51 (29,8%)	30 (33,3%)	21 (26%)	0,374
Trabaja actual [^]	34 (19,9%)	19 (21,1%)	15 (18,5%)	0,816
Edad (años)*	21,3 (3,8)	21,5 (4,2)	21,1 (3,4)	0,393
Cohorte 18-19*	79 (46,2)	40 (44,4)	39 (48,1)	0,740
Cohorte 19-20*	92 (53,8)	50 (55,6)	42 (51,8)	

RESULTS

Dose calculation

Nota ☑ (DE)	T0	T1	T5
GI	5,64 (2,05)	7,83 (2,08)	7,72 (1,82)
GC	5,46 (2,25)	8,02 (1,9)	7,69 (1,82)
Global	5,56 (2,14)	7,91 (1,99)	7,70 (1,81)

Administration Skills

Nota ☑ (DE)	T0	T1	T5
GI	13,98 (4,97)	21,59 (2,51)	20,8 (5,15)
GC	12,74 (4,4)	20,8 (5,15)	21,59 (2,51)
Global	13,30 (4,74)	21,24 (3,91)	17,30 (6,91)

DISCUSSION and CONCLUSIONS

- The simulated intervention was **very effective**.
- There were **no differences between the fidelities evaluated** . Possibly it is due to the physical context in which the study was carried out, which increases realism 1 . Furthermore, it was the first time they faced a simulation like this and they are 2nd year students.
- The simulation intervention combined with the theoretical intervention was very effective in calculating doses and safely administering drugs 2 .
- It was less effective in self-perception . This could be because this fact is more personal and requires an internal process and is more complex to create an impact

DISCUSSION and CONCLUSIONS

- **The effectiveness of the intervention was maintained up to 12 months later** in some aspects . Instead, the practices had a negative impact on safe administration and the checks carried out before administering a drug. Possibly because they do not see nurses doing it specifically ¹ .

LIMITATIONS

- The level of pharmacology knowledge was not evaluated
- We do not have a control group that had not done simulation
- Only conducted in one university.



Gracias
Gràcies
Thank you
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