

Methodology to develop and evaluate a virtual realitytraining course on medication error prevention and management in neonatal intensive care units (NICUs)

E. Delavoipière(1), L. Fazilleau (2), C. Lehoussel(3), I. Goyer (2), FX. Roth (4), J. Mourdie(4), M. Le Roussel(4), A. Bobay-Madic(5), C. Bouglé C(1), S. Rodier(5,6), B. Guillois(2), A. Cherel(1)

(1) Observatoire du médicament, des dispositifs médicaux et de l'Innovations Thérapeutique de Normandie – 14000 Caen; (2) Centre Hospitalo-Universitaire de Caen – 14000 Caen; (3) Centre hospitalier Robert Bisson – 14100 Lisieux; (4) Groupe Hospitalier du Havre – 76290 Montivilliers; (5) Association pour le digital et l'information en pharmacie; (6) Centre hospitalier intercommunal Alençon-Mamers – 61000 Alençon

What was done?

► A virtual reality-training course was developped and evaluated, regarding prevention and management of medication errors (ME) in NICUs

Why was it done?

- ► 360° virtual room of errors = innovative educational tool which can be included in strategies of ME risk management
- ► NICUs = high-risk areas → priority target



We developed and evaluated a virtual reality-training program based on medication error management in the NICU of a university hospital centre

How was it done?

A multidisciplinary working group

- ► 2 neonatologists
- ► 2 pharmacists
- ► 1 pharmacy resident
- ► 3 NICU nurses



To define:



Target audience



Assessment methods (pre- and

post-training evaluations)

Training model



Training schedule



Educational materials

What has been achieved?



Target audience

99 professionals involved in the medication circuit in the NICU:

- ▶ 9 physicians
- ▶ 8 residents
- ▶ 82 nurses



Training shedule

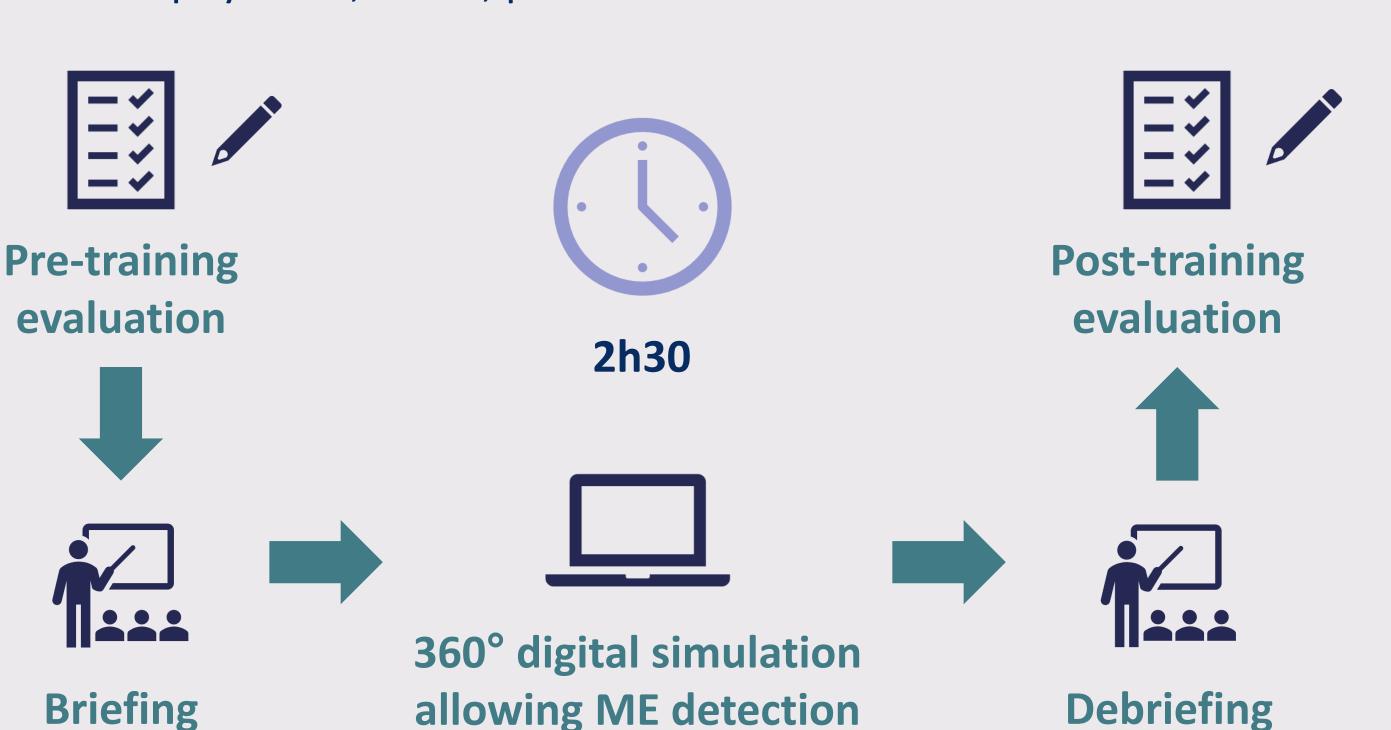
- ▶ Weekly sessions
- ► During 4 months



Training model

Although it was a digital-training, a pedagogical format with « classroom » training sessions has been chosen to promote interactivity between learners and trainers, particularly during debriefing

Every session was run by 3 professionnals: physician, nurse, pharmacist





Pre- and post-training evaluations

Evaluate and enhance educational impact

Kirkpatrick's 4 levels of training evaluation model:

Satisfaction questionnaires





Knowledge evaluation and skills selfassessment

Audits of practices

Before

M-2 to D0



Monitoring of indicators (adverse events reports)

Training After D0 M+1 M+3

What next?

- ► This concept promotes the link between clinicians from the NICU and the multi-disciplinary approach concerning the risk management of ME
- ▶ By directly involving all the healthcare professionnals, this innovative training provides a patient-safety culture development and the implementation of safety measures
- ► The implementation of this training concept in a multi-centric assessment of professional practices should enable to confirm pedagogical interest of such innovative sessions and his deployment in other health facilities













