

MEASURING KNOWLEDGE TRANSFER IN NURSING CLINICAL PRACTICE FOLLOWING AN E-LEARNING TRAINING ON PAIN MANAGEMENT

1. BACKGROUND AND AIMS

Since 2009, the University Hospital of Lausanne (CHUV) started an institutional program aimed at improving pain management within the whole institution. Since 2013, about 3'700 nurses, nurse assistants, have to undergo an e-learning training program on pain management. The training consists of 21 audio-commented videos for the standard course, 18 videos for the optional course, as well as pre and post-training quiz. The total duration of the e-learning corresponds to half-day training.

The goal of this inquiry is to measure the transfer into nursing clinical practice of new knowledge about pain management acquired via an e-learning training.

2. METHOD

[Setting and sample:] 13 clinical departments are concerned by the e-learning training program, which represent 90 units, stationary and ambulatory. 59 registered nurses (RN) and nurse-assistants (NA) of a 66-beds geriatric rehabilitation unit (surgery and medicine) were invited to undergo this inquiry. At the moment of the inquiry, 47 RN and NA achieved the e-learning training.

[Ethical approval:] The inquiry was approved by the CHUV inquiries application board.

[Design:] Exploratory and descriptive inquiry. Quantitative and qualitative data from **questionnaires, nursing files analysis and focus groups** were recorded. For analysis a P value < 0.05 was considered as statistically significant.

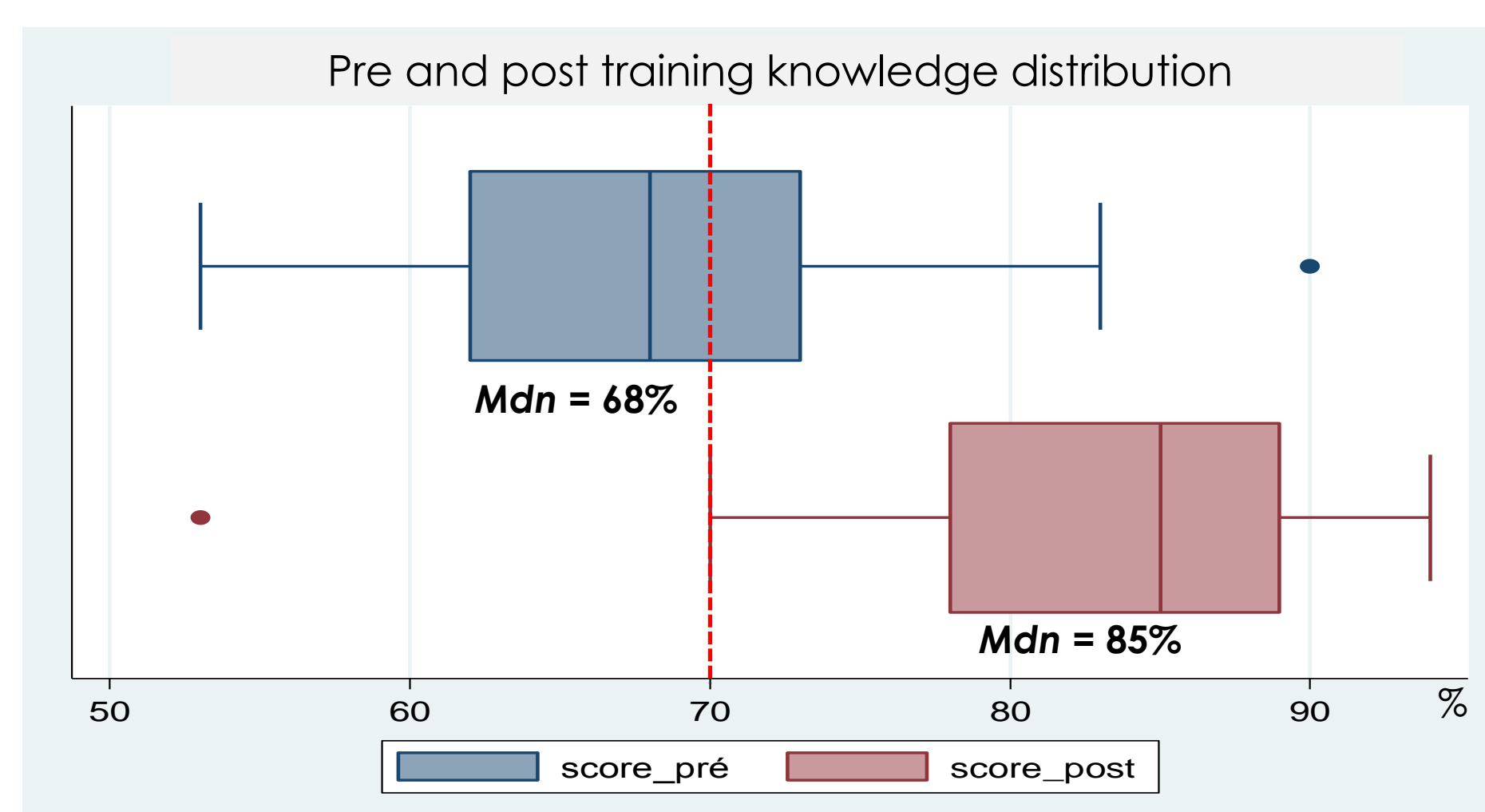
[Objectives:] The objectives were to :

- Measure knowledge increase
- Evaluate satisfaction with the training
- Describe knowledge transfer into nursing clinical practice
- Explore barriers and facilitators to knowledge transfer

3. RESULTS

Objective 1: Measure knowledge increase
82% RN and NA ($n = 42$) completed the pre-training knowledge quiz (optional). 70 % of correct answers were required to pass the post training quiz (mandatory) and obtain the achievement certificate. Only one participant did not succeed at post-training quiz (53% correct answers).

3. RESULTS (continued)



The difference test demonstrates a **significant knowledge increase pre-post training** ($p = 0,000$).

Objective 2: Evaluate satisfaction with training

	Yes (n ; %)	Rather Yes (n ; %)	Rather No (n ; %)	No (n ; %)	Does not apply (n ; %)
n = 16 (34%)					
Training is useful to develop new knowledge	7 ; 43,8%	9 ; 56,2%	1 ; 6,3%	0 ; 0%	0 ; 0%
Themes are sufficiently developed	9 ; 56,2%	7 ; 43,8%	1 ; 6,3%	0 ; 0%	1 ; 6,3%
Content is applicable to my job	8 ; 50%	8 ; 50%	1 ; 6,3%	0 ; 0%	1 ; 6,3%
E-learning training rhythm is convenient for me	5 ; 31,3%	9 ; 56,2%	2 ; 12,5%	0 ; 0%	0 ; 0%
I recommend this training to my colleagues	9 ; 56,2%	7 ; 43,8%	2 ; 12,5%	0 ; 0%	1 ; 6,3%
Relevance of distance teaching method	1 ; 6,3%	12 ; 75,6%	1 ; 6,3%	0 ; 0%	2 ; 12,5%

Trainees expressed a **high satisfaction with the training and its content.**

Objective 3: Describe knowledge transfer into practice

115 nursing files were analyzed, 58 nursing files from pre-training period and 57 files 2 months post-training, according to 4 good clinical practice recommendations :

1. Screening for pain is performed within 4 hours upon unit admission (1, 2, 4)
2. Pain assessment is performed at least 1x/day (3, 4)
3. Choice of pain assessment tool is relevant to the patient clinical status (1, 3)
4. The person's pain characteristics are documented (1, 2)

Comparison of nursing files, pre and post training, at day 0, 2, 4, 7, 14 did not bring out statistically significant differences: good practice recommendations were not systematically integrated into clinical practice.

*Many special thanks to
the nursing team of the
geriatric rehabilitation unit*

1. Registered Nurses' Association of Ontario . (2013). Clinical best practice guidelines: Assessment and management of pain. 3rd Ed. Toronto : Canada
2. The Society of Post-Acute and Long-Term Care Medicine . (2014). Pain Management Clinical Practice Guideline Implementation Measures. Columbia : United States. Available from URL : http://www.amda.com/news/AMDA_Pain_Measures.pdf
3. The Joanna Briggs Institute. (2015). Pain : assessment and management. Available from URL : <http://connect.jbiconnectplus.org>
4. Commission Performance. (2014). Fiche synoptique pour indicateurs et mesures : Prévention et gestion de la douleur. Centre Hospitalier Universitaire Vaudois, Lausanne : Suisse.

Objective 4: Explore barriers and facilitators to knowledge transfer

Focus groups with 10 RN/NA brings out three categories identified as barriers or facilitators to knowledge transfer and assessment and management of pain in the geriatric unit.

Knowledge and skills	Inter-professional collaboration	Organization of care
BARRIERS: <ul style="list-style-type: none"> - When communication with patients is limited - In complex situations (palliative care, end of life, dementia and confusion) - Less knowledge about behavioral scales 	BARRIERS: <ul style="list-style-type: none"> - Limited sharing of clinical information with physicians - Lack of nursing clinical leadership in decision-making processes 	BARRIERS: <ul style="list-style-type: none"> - Lack of time due to work load - Lack of coaching and pain champions - Numerous documentation tools
FACILITATORS: <ul style="list-style-type: none"> - Positive attitude towards nursing roles and responsibilities - Awareness of clinical pain issue - E-learning training contributes to better quality information to patient 	FACILITATORS: <ul style="list-style-type: none"> - Good communication and teamwork between RN/NA - Good collaboration with physiotherapist 	FACILITATORS: <ul style="list-style-type: none"> - Implementation of informatic system for clinical documentation

4. CONCLUSION AND PERSPECTIVES

This inquiry demonstrates knowledge increase towards pain management and high participants satisfaction with e-learning. Nevertheless, it shows no significant changes in nursing documentation.

Focus groups enable to understand different areas where to target future improvement efforts for this geriatric rehabilitation unit.

This inquiry indicates that trainings alone could not be enough to lead to significant clinical changes and points out **the importance of developing strategies to sustain clinical changes in collaboration with nursing teams and leaders.**

Perspectives for better care in pain management:

- **Trainings** should integrate best available evidences and clinical recommendations, but also consider specific needs of clinical teams. In order to achieve this, in-depth analysis should precede any training conceptualization.
- **Institutions of care** should keep on sustaining diffusion of best evidences through guidelines, continuing education of their teams, and clinical supervision by pain champions, specially in complex situations of care.
- **Institution of care** should promote nursing skills development of clinical assessment, based on a structured communication, in order to improve interprofessional pain management.
- Nursing teams should promote systematic **partnership with patients and relatives**, in order to share decision making in the management of symptoms and prevention of side effects.