Relevance and Usability of a Computerized Patient Simulator for Continuous Medical Education of isolated Care Professionals in Sub-Saharan Africa

Full paper

G. Bediang\textsuperscript{a}, CO Bagayoko\textsuperscript{a}, MA Raetzo\textsuperscript{a,b}, A Geissbuhler\textsuperscript{a}

\textsuperscript{a} Department of Radiology and Medical Informatics, University of Geneva, Switzerland
\textsuperscript{b} Groupe Médical d’Onex, Switzerland

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Introduction

○ Many guidelines are developed aimed at reinforcing the capacity of healthcare professionals (HCP).

○ There are many difficulties for their application, especially in developing countries.
  ▪ Inadequacy with the local conditions
  ▪ Only based on traditional tools of CME
  ▪ Insufficient consideration of the operating environment of healthcare professionals

○ “How do we adapt and teach medical guidelines in our local context?”

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Introduction

- Many studies outline the importance and the potential of virtual patient in medical education

- **Objective:** Explore the relevance and usability of using a computerized patient simulator as a continuing medical education tool for HCP situated in rural areas of French-speaking Sub-Saharan Africa, for improving diagnostic processes and decision-making in the management of patients.

- **Sites:** Cameroun and Mali (RAFT-Member countries)
Material

- Virtual Internet Patient Simulator (VIPS)
  - Web application
  - Main learning activity: Medical consultation.
  - Based on diagnostic pathway and decision analysis tools developed for improving skills of general practitioners in Switzerland.
- Interface:
  - Conversational
  - Graphical
Methods

- Identification of clinical situations (errors of management)
- Creation of Height (8) clinical vignettes (CV)
  - Diabetes, PID, Ectopic pregnancy, Placenta Praev., etc.
- Implementation of CV on VIPS
- Assessment of relevance and usability of VIPS
  - Healthcare professionals: Cameroon, Mali
  - Consultation of CV on VIPS program
  - Questionnaire
- Statistical analysis: EpiData Entry 3.1, SPSS 17.0
Results

Participants

- 88 people
- Mali: 54 %, Cameroon: 46 %
- Six groups
  - Medical Doctors: 59%
  - Medical Students: 23%
  - Nurses: 8%
  - Others: 10%
- Average age: 30,3±7,1 Years
- Clinical experience: 43% had between 3-6 years

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Results

Relevance of clinical vignettes

- Relevance of general content of CV: 96.1% of users (..)
- Ability to find items they wanted: 66.7%
- Appropriateness of answers’ items: 94.8%
- Completeness of CV: 76.8%
- Cases of CV adapted to local context: 74.7%
- Appropriateness of bibliographic references (BR): 87.4%
- Utility of BR to understand the errors made: 90.1%...
Results

Usability of VIPS Program

- Time (30min-1h) to resolve one case on VIPS: 51.9%..
- VIPS is easy to use in general: 76.8%..
- Ease to progress in the case: 63.1%..
- Ease to navigate between the steps of the case: 63.9%..
- Ease to ask questions/take decisions: 55%..
- VIPS is an entertaining way of learning: 96.3%..
- Enjoyment to resolve the cases: 97.6%.
Discussion

- An adapted computerized patient simulator can be used as an initial and CME tool for isolated HCP in French-speaking Sub-Saharan Africa.

- The support for the deployment of this activity in district hospitals is required.

- The identified keys for the success of this project:
  - Sufficient training and appropriation of tools/concepts
  - Development of computers skills
  - Access to computers and the Internet
  - Availability of power electricity
Conclusion

- Adaptation of this approach in the isolated districts hospitals in Sub-Saharan Africa is possible.

- Although, additional efforts to better tailor are still needed.

- The limitations exit for the generalization of our results
  - Small number of participants
  - Only two countries was concerned
  - Only address the usability and relevance aspects.
Thank you for your kind attention

georges.bediang@hcuge.ch

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