

Healthcare professional clinical skills acquisition and self-confidence levels: Enhanced via video iPods?

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Video iPods For healthcare professional education... Now, that is Zany!



Background

- Urinary catheters pose an increased risk for hospital acquired infection for patients [1]
- Urinary catheterization is one of the first invasive skills learned by nursing students
- It is frequently a procedure that increases student nurses' anxiety levels
- An educational method to enhance this skill would be beneficial in order to decrease morbidity and hospital costs & increase student self-confidence levels

Study Objectives

- To determine whether viewing female and male urinary catheterization videos via a video iPod enhances nursing students' clinical skill acquisition (competency) and self-confidence levels
- The educational objective associated with the comparative competency assessment is to begin to develop objective measures of nursing students' skills' competencies and to decrease practice time on patients in the clinical setting

Design...Participants

- Design
 - Randomized controlled intervention study
 - Pre-test and post-test methodology
- Participants
 - 16, sophomore, semester 2 nursing students
 - Enrolled in a clinical skills course at a West Coast university fall 2009
 - Urinary catheterization was one skill learned during the clinical-skills course

Research Participants

- Participants (N=16) randomly assigned to two groups
 - Control: n= 9
 - 9 females
 - 19 years-old (8)
 - 20 years-old (1)
 - Intervention(Video iPod): n= 7
 - 7 females
 - 19 years-old (4)
 - 20 years old (3)

Research Participants

- A 15 -week fundamental nursing skills course
- Prior to randomization informed consent was obtained. Some declined to participate.
- The entire course lasted a semester (sp09)
- Skills learned:
 - Urinary catheterization (male and female)
 - Intramuscular, intradermal, and subcutaneous injections
 - Mixing insulin

Pre-Clinical Course Evaluation

- A pre-course evaluation survey was administered to measure previous experience with the urinary catheterization skill for male and female patients
 - How many times had they performed the skill?
 - Self-reported level of confidence performing the skill
 - How important it is to master the skill?
 - To what extent do you think you will need to know this skill for future medical practice?
 - Self-reported level of fatigue before the clinical course
 - Also, state in their own words what they expected to learn from the skills course and personal comments

Learning procedure

- Training Session:
 - Two videos on how to perform a male and female urinary catheterization
 - 15 min. female; 15 min. male
 - Live demonstration of each skill on a mannequin in the skills lab by a Registered Nurse
 - 20 min. female; 20 min. male
 - Total time of training = 70 minutes

Learning procedure

- The participants were given the opportunity to practice the skill (female and male) on the mannequin under the tutelage of the RN who demonstrated the skill after their skills class the same day
 - Average time = 15 mins
- Directly thereafter each participant performed the skill and were assessed by the same RN in the skills lab for competency
 - 33-item assessment tool created by Potter & Perry (2001)
 - competency checklist ('yes' or 'no')

Web2.0 Application



<http://www.apple.com/itunes>

Intervention

- 7 participants (experimental) were given video iPods to view male and female urinary catheterization videos (created by the clinical skills staff) for two weeks and 9 participants (control) were not provided the intervention
- Following two weeks, participants were re-assessed for the same skills by the same evaluator who used the same set of metrics
- A 2-week follow-up questionnaire was administered in order to determine exposure to the skills since the clinical course and confidence levels in performing the skills

Video clip

Analyses

- **Competency Scores**
 - Separate scores calculated by summing 33 items for female catheterization and 34 items for male catheterization
 - Lower score indicates higher competency level
 - Taken 2 times
 - Post clinical skills learning experience
 - 2-weeks follow-up
- Linear mixed models to view changes in scores between
 - two time points (post video in skills lab or post video iPod)
 - groups (control vs. iPod)
 - procedure (male or female catheterization)

Analyses

- **Confidence Scores**
- Likert score treated as a continuous measure
 - 1 = no confidence; 5 = fully confident
- Three time periods
 - Pre, post, and at 2 weeks
- Female and male procedure
- And by control or iPod

Discussion

- At the time of writing the researcher is waiting for a more detailed analysis of the data
- Data analysis and results are to follow
- Following final analyses a manuscript will be written and submitted to an appropriate journal

- Results will follow after data analyses

Web 2.0 Applications and Education

- 'Web 2.0' refers to a "second generation of web-based communities and hosted services" [2] and has a focus on interactivity. Therefore, it is also known as the 'read-write' web [3].
- Podcasts are common Web 2.0 applications and are being actively used in healthcare education for anytime and anywhere access to information...mobile knowledge assistants...
- May contain audio, text, video
- A social application that provides student-centered collaborative learning and social networking...while gleaning ideas and questions

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Thank you...

- Thank you for attending this presentation
- Questions?
 - Contact Margaret Hansen at mhansen@usfca.edu



<http://www.apple.com/itunes/>

References

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