Paramedic – Evidence Based Medicine (P-EBP) Program

Paramedic CAT (Critically Appraised Topic) Worksheet

Title: Evaluation utilizing "think aloud" strategies
Report By: Laura Cole
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Clinical Scenario:
Many, if not all, students enter the medical workforce not feeling completely prepared for what lies ahead of them. While it may not be possible to make sure that all students are always prepared for every scenario they may encounter on the job, it is certainly in everyone's best interest to make sure students are as prepared as possible.

PICO (Population – Intervention – Comparison – Outcome) Question:
For paramedic students do "think aloud" scenarios versus tradition linear algorhythmic evaluations better demonstrate critical thinking skills.

Search Strategy:
(clinical competence OR patient care process OR nursing process) AND (humans OR nursing staff OR critical care OR intensive care) AND (decision making OR thinking OR logic OR problem solving OR data collection)

Search Outcome:
61180 results

Relevant Papers:

AUTHOR, DATE	POPULATION: SAMPLE CHARACTERISTICS	DESIGN (LOE)	OUTCOMES	RESULTS	STRENGTHS/ WEAKNESSES
Aitken, Mardegan; 2000	Nurses, 14 participants	Prospective observational, no control group, but 2 different types of 'think aloud' methods were used. One utilized only concurrent data collection, the other used concurrent and retrospective	Concurrent and retrospective data collection was deemed to be more valuable than concurrent data collection alone.	"think aloud" is a valid form of evaluation, but no quantitative results are available	Small sample size Direct comparison group available (method 1 vs. method 2) Long periods of data collection for each participant No finite results on quality of "think aloud" vs. not Real medical cases used
Funkesson,	Nurses, 11 participants	Prospective observational, qualitative	Cognitive algorhythms designed to	Individual reasoning focuses on	Small sample size No control/comparison

Anbacken, Ek; 2005			reduce mental strain were not commonly used.	background and experience.	group
Fowler, 1997	20 interviews from 5 different nurses about 10 patients	Prospective observational, qualitative	Six cognitive operators and six cognitive strategies were isolated and used to code verbal responses.	Content, clinical context and experience were most important when developing a care plan	Small sample size Excellent analysis technique Well structured to assist more research in the future

Comments:

- Challenging topic to quantitatively assess
- No set method for "think aloud", so each study uses it's own method
- All studies have been done on established health care providers, no data is available yet on the validity of assessing students with "think aloud" strategies
- No research on Prehospital health care providers

Consider: *Why would you NOT change practice, based on this article?*

Certainly this area of research and evaluation is still in its infancy. While it holds potential for the future, more research needs to be done in this area, not only on the validity of "think aloud" assessment, but also to determine the most efficient procedure for carrying an evaluation out.

Clinical Bottom Line:

Before educational or assessment protocol changes there must be no amount of reasonable doubt that "think aloud" style assessments are superior for accurate evaluation.

References:

LM Aitken., KJ Mardegen (2000) "Thinking aloud": Data collection in the natural setting, *West J Nurs Res*. 2000 Nov;22(7):841-53.

Kajsa Helena Funkesson., Els-Marie Anbacken, Anna-Christina Ek (2005) Nurses' reasoning process during care planning taking pressure ulcer prevention as an example. A think-aloud study, *International Journal of Nursing Studies* 44 (2007) 1109–1119

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Latrell Fowler (1997) Clinical reasoning strategies used during Care planning *Clin Nurs Res*. 1997 Nov;6(4):349-61.