Comparative Methods of Nursing Instruction: A Systematic Review

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Problem:
A nursing shortage is anticipated as baby boomers age and become more dependent on health care resources. According to the United States Department of Health and Human Services (National Institutes of Health, 2011), fundamental goals of the agency are to foster creative discoveries, innovative research strategies, and applications for protecting and improving health. An educated workforce is critical to meeting the nation’s nursing needs and to advance creative discoveries and innovative strategies for promoting education and improving health.

Evidence:
This field study determined whether there is a difference in methods of instruction between computer-aided instruction (CAI) compared to facilitator directed instruction (FDI) that leads to the best practice for achieving knowledge retention and nursing satisfaction in clinical nursing education.

Strategy:
An integrative systematic review was developed to evaluate knowledge retention and nursing satisfaction between these two methods of instruction through examination of fifteen primary comparative studies. Sub-factors of age, cultural diversity, and experience were included. Methods for investigating the effects of knowledge retention and nursing satisfaction on learning outcomes were a synthesis and integration of comparative study results using quantitative and qualitative comparisons.

Practice Change:
Integration from the primary studies suggest that the most practical use of nursing education methods, according to the outcomes of this review, is a combination of CAI and FDI. Targeting each teaching method to an individual learning topic with relatively known outcomes could show different results. For example, according to this author, nursing education regarding the teaching and learning of mood disorders and/or suicide assessment and management may be delivered and more effective using FDI or a combination of FDI and CAI. Whereas, teaching nurses oral medication administration or neurological assessments may be better delivered using CAI. The ACE Star model used in this systematic review shows the circular nature of one topic speaking to another.
Evaluation:
Quantitative and qualitative analysis were used to describe differences of methods of instruction between CAI and FDI on the factors of knowledge retention and nursing satisfaction and the sub-factors of age, cultural diversity, or nursing experience.

Results:
The fifteen primary studies do not show a clear preference that one mode is superior to the other. However, three of the studies showed significant differences in nursing knowledge retention, two other studies showed significant differences in nursing satisfaction, and slight long term knowledge retention using CAI is indicated. Overall, knowing the best practice application for the educational need is noteworthy.

Recommendations:
To conduct comparative research on narrowly defined forms of CAI (such as online modules or web-based text) and FDI (such as nursing assessments, nursing diagnosis, or procedures). This course could be offered to hospitals and to institutes of higher learning as part of the core curriculum designed to improve knowledge and skill level of the nursing student or the nurse. A research study would be extremely informative using both modes of educational teaching and testing to compare and measure effectiveness between the two methods of instruction. This type of investigation would be directed toward expanding the scope of practice for the advance practice nurse and for evaluating best educational practices.

Lessons Learned:
In order to optimize the mix of CAI and FDI modes of instruction, it would be advisable to establish an on-going comparative study, similar to those summarized in this review (e.g., Campbell et al., 2008; Gega et al., 2006). For example, each subject/factor would include at least one “control” cohort being trained by the alternative mode of instruction: if training on assessment of suicide risk is deemed to be best served by FDI instruction, the other cohort should be presented with the same material through a CAI module. The “control” group should have between 30 and 40 students total, to allow for meaningful comparison of results. The pre-test, post-test, and retest instruments should be standardized to collect enough information on knowledge retention, nursing satisfaction, age, cultural background, and nursing experience. “Standardizing” a testing instrument would be complicated, yet it seems the best way to generate comparable results that can be used for the optimal, evidence-based management of the faculty’s or hospital’s staff development program.

Bibliography: