Effect of a Web-Based Research Dissemination Project on Clinician Practice Patterns

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Abstract

Keeping up with the rapid pace of change in the healthcare system and the development of technology has dictated that clinicians learn about ways to improve quality of care over the course of their careers. Yet there has been little study of the association between the process of rehabilitation education and quality care. [1] This poster describes the effect of a web-based training (WBT) program on clinician *knowledge* of manual wheelchair technology, and *attitudes* towards practice for professionals recommending seating and wheeled mobility equipment. WBT resulted in positive changes in Knowledge over time. Attitude changes improved in the domains of Independence and Leadership. Overall, evidence suggests that WBT has utility as a knowledge transfer mechanism.

Statement of the Problem

- Assessing training effectiveness is complex and costly with few proven methodologies.
  - Complicating factors:
    - length of evaluation time
    - lag time between an educational intervention and follow up evaluation
    - lack of reliable objective measures
    - Other confounding factors such as clinician differences, patient/client co-morbidities, and system level policies and regulations influencing patient care practices and funding.
- Research validating effective methods to train clinicians, influence practice patterns or impact patient outcomes is lacking [2-5].
- The most effective educational interventions include learning linked to clinical practice, interactive educational meetings, outreach events and strategies that involve multiple educational interventions.[3-6]
- The least effective methods are the most commonly used in medical education- lecture format teaching and clinical guidelines. [7]

Objective

To measure the utilization of web-based training by professionals recommending seating and wheeled mobility equipment.

Specific Aim

Compare *knowledge* and *attitudes* measured before, immediately after and 6 months following training

Methods

Pretest-post test design with control group

39 intervention & 26 control subjects.

Training Intervention: A XX module web course designed to address several modes of learning (i.e. didactic content, critical thinking discussion points, homework assignments with experiential activities, unit posttest).

Evaluation: Clinical knowledge & attitudes

Knowledge Questionnaire**:** A 15-question multiple-choice test assessing knowledge of empirical research and "best practices" as related to manual wheelchair applications. The WBT Knowledge Questionnaire included eight questions that were used with the control group. These like items were used to compare the WBT and Control groups.

Attitude Questionnaire: assessed four attitude domains: confidence, independence, leadership and resourcefulness.

Evaluation Timing

Intervention group: before, after and 6 months following training

Control group: time of initial contact and 6 months later

Analysis

Repeated measures ANOVA

Results and Discussion

Demographics:

No statistically significant differences between the training and control groups for years of clinical practice, years of seating and mobility, hours of seating and mobility service or professional development hours.

Both groups averaged over 10 years of clinical service.

Largest difference between groups:

number of hours/week providing seating and mobility services.

WBT group averaged of 9.8 hours

Control group averaged 4.8 hours.

Knowledge Scores:

Comparison of WBT to Controls:

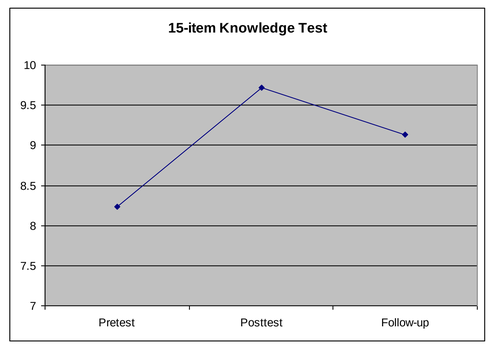
no interaction between Group (Control and WBT) and repeated Knowledge test scores (Pre-test and 6 month Follow-up)

Changes in knowledge scores over time did not vary across the WBT and Control Groups.

WBT over time:

Posttest and Follow-up test scores were higher than Pretest scores.

Knowledge scores from the 15-item test taken by WBT participants



Attitude Scores:

Controls over time: Attitude scores from the Control group within all four domains were not different between Pretest and Follow-up ($P>0.3$).

WBT over time: A significant improvement in Knowledge scores was seen immediately after and 6 months following WBT. The WBT group reported greater feelings of Independence and Leadership but no change in Confidence or Resourcefulness.

Conclusion

WBT resulted in positive changes in knowledge over time. WBT also had a positive impact on the attitude domains of independence and leadership.

Overall, evidence suggests that WBT has utility as a knowledge transfer mechanism.

Additional psychometric development of the knowledge test and manual wheelchair questionnaire is warranted.

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