Changes in Evidence-based Practice Skills of First-Year DPT Students

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Background/Significance

- Evidence-based practice (EBP) refers to the integration of the best clinically relevant research with clinical expertise and patient values
- Evidence for the growing emphasis of EBP in physical therapy is provided by:
  - APTA research agenda
  - Designation of EBP as one of the 5 key areas for achieving autonomous practice
  - Development of Hooked on Evidence
  - Development of Physiotherapy Evidence Database (PEDro)
  - Inclusion in the CAPTE Evaluative Criteria

- It is critical that entry-level DPT programs foster the development of EBP skills in students
- A number of studies have evaluated different educational strategies and practices for teaching EBP to practicing physicians and occupational therapists, but there are no studies describing the outcomes of similar training for DPT students

Purpose

Evaluate changes in: (1) DPT students’ knowledge and skills of EBP, as measured by the Adapted Fresno Test of Competence in Evidence-Based Practice (AFT) and (2) self-confidence in EBP skills, after instruction in the elements of EBP in a 2 credit course - Scientific Inquiry 1 (SI1)

Methods and Materials

Outcome Measures

- AFT Version 3 used to measure knowledge of EBP
- 7 open-ended questions to 2 clinical scenarios

Clinical Scenario 1

You have been asked to see a 70-year-old woman with painful osteoarthritis in both knees that is affecting her mobility. She has been told about the following options: conservative care, pain medication, or total knee replacement surgery. However, introducing the last may be a problem for her due to her age.

Clinical Scenario 2

A 50-year-old man injured his left elbow in a fall. He is in pain and has difficulty moving his arm. His occupation involves lifting and carrying, which may be problematic.

Inclusion in the SI1 AFT Evaluation

Subjects

- 30 first-year DPT students volunteered
- Written consent; no compensation
- UNE Institutional Review Board for the Protection of Human Subjects reviewed the protocol and determined that it was exempt

Instruction in EBP in SI1

2 credit course
24 of 30 class hours devoted to EBP:
1) write a P-I-C-O clinical question
2) develop effective strategies to search electronic databases
3) interpret: RCTs, meta analyses, diagnostic/screening tests, case report
4) evaluate statistical significance and clinical importance of treatment effects

Results

AFT Outcome

- Q2 Statistically significant decrease (Table)
- AFT grading rubric rewards quantity and variety of sources more than quality
- Q3 to Q7 Statistically significant increase (Table)
- No statistically significant difference between the 2 clinical scenarios for any individual question or the total score
- The interaction of time and scenario was significant for Q5 and total score. In both instances, students answering about the patient with carpal tunnel syndrome improved their score more than students answering about the patient with knee osteoarthritis

Confidence Questionnaire Outcome

- Statistically significant increase in students’ self-confidence in all 5 EBP skills assessed (Figure)

Conclusion

- This is the first study to use the AFT to evaluate changes in DPT students’ knowledge and skills related to EBP after formal instruction
- The observed 24 point increase in the mean total score is educationally important and comparable to the change in AFT scores reported in a study of occupational therapists (McCluskey)
- The AFT is a useful instrument to help educators assess the impact of their teaching and learning activities on students’ EBP skills
- The results of the study will be used in the ongoing evaluation of teaching EBP, an essential element of curriculum review in physical therapy education.