

Assessment of Students' Knowledge, Skills and Attitudes after Comprehensive Pain Assessment Training

Heather Cook, PharmD¹; Karen Kaiser, PhD, RN²; Kathryn Walker, PharmD, BCPS, CPE³; Mary Lynn McPherson, PharmD, MA, MDE, BCPS, CPE¹

1. University of Maryland School of Pharmacy 2. University of Maryland Capitol Region Health 3. Medstar Health

Background

- A comprehensive pain assessment is the first step in safe and effective pain management
- There are few studies about pain assessment training using mnemonics and in nonverbal pain assessment measures
- As part of University of Maryland School of Pharmacy's PharmD and Master of Science in Palliative Care programs, students completed an 11-step multidimensional pain assessment training
- Students were taught via video vignettes multidimensional pain assessments using the PQRSTA mnemonic as a strategy for verbal patients and the PAINAD and CNPI pain measures for nonverbal patients

Description of 11-step Training

Step	Student instruction
1	Submit pre-training Knowledge, Skills, Attitudes survey
2	Watch Video #1 and submit <u>Worksheet #1</u> describing what went well and what did not
3	Listen to " Symptom Analysis Recorded Slides "
4	Re-watch Video #1 and submit <u>Worksheet #2</u> (PQRSTA)
5	Watch Video #2 and submit <u>Worksheet #3</u> (PQRSTA)
6	Watch Video #5 and submit <u>Worksheet #4</u> (PAINAD) and <u>Worksheet #5</u> (CNPI)
7	Watch Video "Assessing Pain in Nonverbal Adults"
8	Watch Video #3 and submit <u>Worksheet #6</u> (PAINAD) and <u>Worksheet #7</u> (CNPI)
9	Watch Video #4 and submit <u>Worksheet #8</u> (PAINAD) and <u>Worksheet #9</u> (CNPI)
10	Watch Video #5 and submit <u>Worksheet #10</u> (PAINAD) and <u>Worksheet #11</u> (CNPI).
11	Submit post-training Knowledge, Skills and Attitudes survey

Study Aims

- Compare and assess the change in knowledge, self-perceived skills, and attitudes regarding pain assessment in verbal and nonverbal patients before and after the training

Inclusion Criteria

- Students enrolled in Palliative Care Imperative or Symptom Management in Advance Illness courses

Exclusion Criteria

- Incomplete response to assignment

Methods

- Retrospective cohort study approved by University of Maryland Baltimore IRB
- Survey/ worksheets submitted via Blackboard educational platform
- Worksheets compared to expert defined answer keys

Data Collection

- Data elements collected include: discipline, # years in practice, # of years practicing in palliative care, survey and worksheets (PQRSTA, PAINAD, CNPI)
- Pre/post survey collected students' attitudes and self-perceived skills
 - Survey part 1: Related to utilization, components, and interpretation of pain measures
 - Survey part 2: Related to relevance and generalizability of pain assessment strategies and measures in routine clinical practice

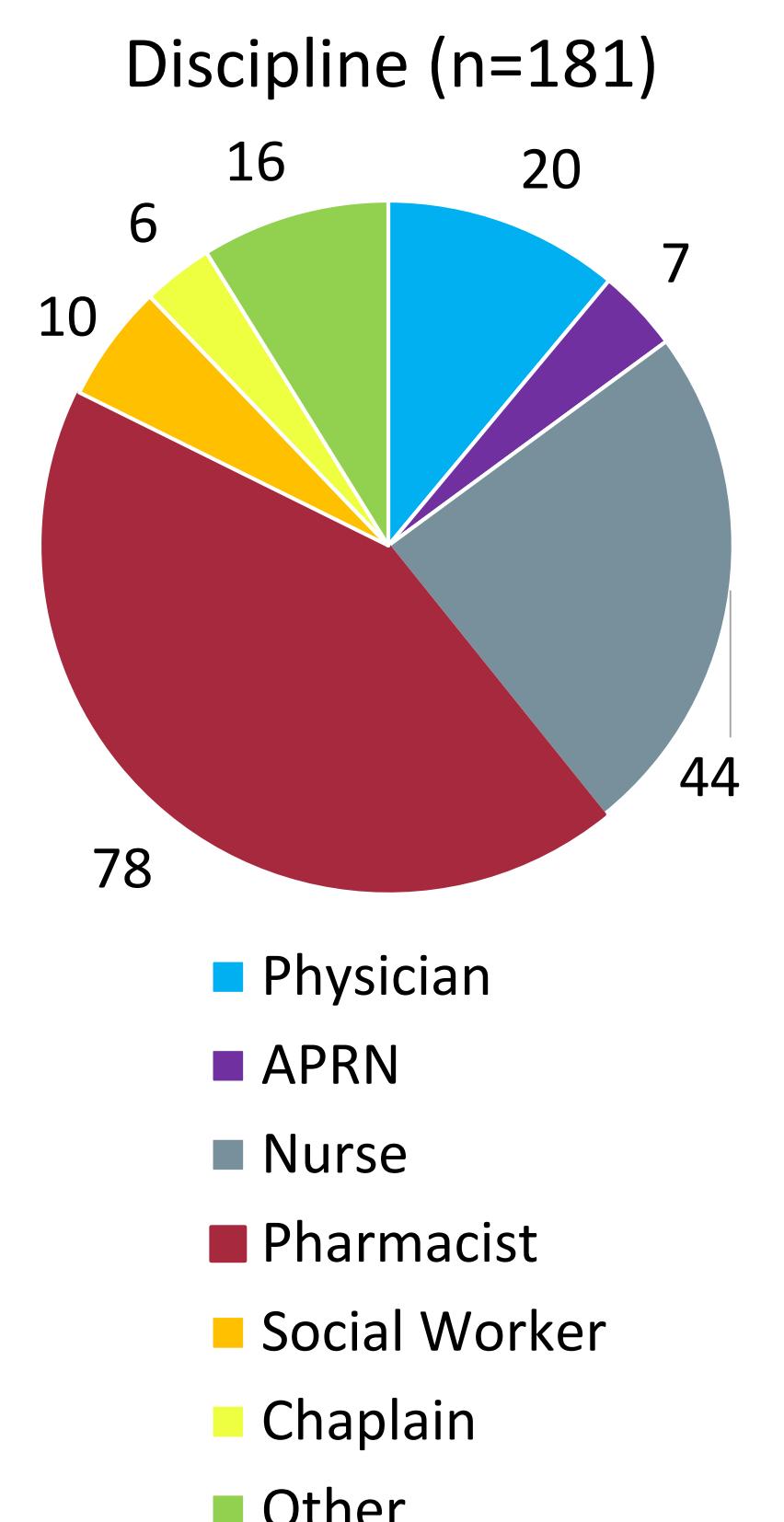
Data Analysis

- Wilcoxon signed-rank and one sample t-test were used to detect differences between worksheets and compare expert defined key
- Attitudes and skills in pre/post survey were assigned to a Likert scale and analyzed using chi-squared or Fischer's exact test
- Fisher's exact test with Bonferroni correction was applied for post-hoc comparison of pre/post survey

Results

Baseline Characteristics

Experience	Responses (n=181)
Years of experience	< 1 year = 64 (35%) 1- 10 years = 52 (29%) > 10 years = 65 (36%)
Years of experience in hospice/pal care	< 1 year = 97 (54%) 1-10 years = 64 (35%) > 10 years = 20 (11%)
Board certified in hospice/pal care	Yes = 27 (15%) No = 65 (36%) Unavailable = 90 (49%)



Assessment of Skills & Attitudes

Survey Part #	Self-Perceived Skills	Attitudes
1	Statistically significant improvement in 9/13 (69%) of questions	No change as majority of respondents thought all skills were important pre- and post- training
2	Statistically significant improvement in 11/11 (100%) of questions	Statistically significant increase in favor of using pain assessment strategies and measures in 11/13 (85%) of questions

Assessment of Knowledge

- After completion of the training, students could more accurately:
 - Identify the components of the PQRSTA tool included in the video of verbal patient ($p=0.0028$)
 - Assess pain during movement in a nonverbal patient using the CNPI ($p=0.033$)
- Data does not support an increase in accuracy or change in knowledge assessing pain using PQRSTA, CNPI or the PAINAD

Limitations

- Retrospective study that used worksheets which were graded for completion only (not assessed for accuracy) by the instructor
- Simulation vs real world experience
- Short duration of training using multiple pain strategies and non-verbal pain measures

Conclusion

- Comprehensive pain assessment training produced a statistically significant improvement in self-perceived skills and attitudes
- Pain assessment in nonverbal patients remains difficult, especially at rest
- Repeated simulations may lead some students to minimize pain severity, possibly due to sensitization
- Future pain assessment training/research should consider:
 - Training on one non-verbal pain strategy or measure at a time to an acceptable level of reliability
 - Incorporating bedside/clinical assessments
 - Providing a refresher course post training