

Development of a New Measure to Assess Primary Palliative Care Perceived Competence

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ABSTRACT

Background: Many nursing schools have begun to address the gap in palliative care education. Recently released entry-to-practice competencies in palliative care can guide educators as they incorporate such material into their curriculum. In an effort to evaluate learning, educators need a reliable instrument that aligns with the updated competencies.

Purpose: This article describes the development of a new instrument to evaluate perceived competence to provide primary palliative care.

Methods: The psychometric properties and performance of the new instrument in evaluating perceived competence were tested via an interprofessional palliative care simulation with medical, nursing, and social work students. Perceived competence was measured before and after the simulation.

Results: The new instrument demonstrates strong reliability and validity, represents a unidimensional construct, and captures changes in perceived competence across time and disciplines.

Conclusions: The new instrument is acceptable for assessing perceived competence to provide palliative care, particularly for nursing students.

Keywords: competency, instrument, measurement, nursing education, palliative care

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Nursing education is largely grounded in developing knowledge and skills toward prevention of illness and restoration of health. Often missing is the nurse's central role in addressing the unique needs of patients with serious illness and their families approaching the end of life. Across the care spectrum, from antenatal through geriatrics, nurses are called upon to provide quality, holistic care to patients who are diagnosed with life-limiting illness and/or dying and their loved ones. Thus, nursing students should develop fundamental knowledge and skills to provide primary palliative care (PPC) on entering professional practice.¹⁻³ The need for nurses, including students, to be competent in this area is highlighted in the

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historic Peaceful Death⁴ and the more recent CARES: Competencies and Recommendations for Educating Undergraduate Nursing Students competency documents.⁵

PPC, which focuses on enhancing the quality of life of persons with serious, chronic, or life-limiting illness, requires expertise from multiple disciplines, including nurses, physicians, social workers, chaplains, and other health care professions.¹ For nurses, including prelicensure nursing students and new graduates, PPC encompasses the core knowledge and skills expected when providing care to these patients and families.³ PPC principles and topics align with the scope of practice of RNs and do not require graduate education or advanced certification.¹ PPC is available not only to patients nearing the end of life, but from the time a serious illness is diagnosed and during concurrent curative treatment.¹ The interprofessional care team collaborates to identify patients' goals of care and maximize quality of life. As an individual's disease trajectory progresses, attention may shift to focus on coordinating care that attends to the holistic needs of patients and families approaching the end of life.

Faculty provide education on PPC and engage in processes to evaluate associated student learning, as many of these concepts, such as pain and symptom management and end-of-life care, are included on the nursing licensure examination, considered part of entry to practice competencies, and are integral components of nursing practice.^{3,6}

The Shared Theory of Palliative Care suggests that nurses' abilities to provide competent PPC are related to their perceived competence.⁷ The PPC interventions nurses perform are influenced by their actual and perceived competence.⁷ For example, an individual's perceived judgment of his/her own ability or skill is required to engage in a particular action or behavior. People tend to avoid situations requiring a skill when perceived competence is low. Conversely, individuals demonstrate more persistent determination toward completing an action when perceived competence is high. Therefore, educators should evaluate students' perceived competence as it can impact the provision of PPC. The purpose of this article is to (1) describe the development and psychometric properties of a new perceived competence instrument aligned with the CARES competencies⁵ and (2) present results of a test of the new instrument in assessing change in students' perceived competence to provide PPC associated with an interprofessional simulation.

Historically, perceived competence has been measured using the Perceived Competence to meet End-of-Life Nursing Education Consortium Competencies (PC-ELNEC) instrument. The PC-ELNEC is a 15-item instrument with a 5-point Likert scale.⁸ In 2016, new palliative care competencies were published in the CARES document,⁵ creating a need for an updated instrument to evaluate students' perceived competence to provide PPC. The research team developed a new perceived competence instrument, called the CARES Perceived Competence (CARES-PC) instrument. The CARES-PC uses a 5-point Likert scale applied to each of the 17 CARES competencies (CARES-PC instrument, Supplemental Digital Content, <http://links.lww.com/NE/A632>).

The new instrument needed psychometric testing and assessment of its performance in measuring perceived competence to provide PPC. As a component of the instrument testing, the research team wanted to determine the instrument's ability to assess change in perceived competence. Therefore, the team elected to assess perceived competence before and after a simulation that incorporates many key PPC topics.

Simulation presents a unique strategy for examining PPC learning outcomes, including perceived competence. Studies demonstrate that simulation, through repetitive practice of skills and exposure to a wide variety of health care situations, is an effective pedagogy in health care training.⁹ Extant literature further supports that simulations requiring the provision of end-of-life care can increase students' perceived competence, attitudes, actual competence, and knowledge about care of the dying.^{2,8} The inherent interprofessional nature of PPC, which requires nurses to work with other health care professionals to care for seriously ill patients, was the basis for using an interprofessional simulation to test the new CARES-PC instrument.

Research Questions

The research questions were as follows: (1) What are the psychometric properties of the new perceived competence instrument? (2) How is health care professional students'

perceived competence to provide PPC, as measured by the CARES-PC, impacted by an interprofessional simulation? Is the impact similar or different across disciplines? and (3) Do any relationships exist between students' demographics and perceived competence?

Methods

The CARES-PC instrument was tested using a repeated-measures design. Students from nursing, social work, and medicine completed the CARES-PC measure before and after an interprofessional simulation. Members of the research team with expertise in simulation and PPC adapted a nursing-focused withdrawal of life-sustaining measures simulation.⁸ The interprofessional simulation incorporated multiple aspects of PPC and the CARES competencies relevant for all 3 represented disciplines and provided opportunities to highlight respective professions' scopes of practice when providing PPC. The university institutional review board approved the study.

Data Collection

Bachelor of Science in Nursing (BSN), bachelor of social work (BSW) or licensed clinical social worker (LCSW), and doctor of medicine (MD) students and residents were invited to participate in the study over 3 semesters. At the beginning of the semester, students were given information about the study and informed consent (in person for BSN students and via email for all other students). Pretest and posttest surveys were administered online via a survey software program. The interprofessional simulation was conducted over a few weeks during the first half of each semester. Individual participants completed the online posttest survey immediately at the conclusion of the simulation.

Interprofessional Simulation

The interprofessional simulation served as a mechanism to test the ability of the CARES-PC measure to assess change in perceived competence over time. The simulation had 3 phases: (1) family meeting to discuss tracheostomy, (2) team communication about a change in patient status, and (3) family meeting and withdrawal of life-sustaining measures. The patient was portrayed by a high-fidelity manikin and the family members by paid actors.

BSN students completed a 1-hour online module (voice-over slide presentation) on PPC a few weeks prior to the simulation. BSW, LCSW, and MD students and residents did not receive PPC education aside from content routinely covered within their respective programs. In general, 1 medical student and/or resident, 1 LCSW or BSW student, and 9 to 15 BSN students comprised each simulation team. A nursing faculty member with expertise in PPC and simulation conducted all simulations, including prebrief and debrief, using a detailed script to ensure consistency in simulation implementation. Family members received training and used a script.

All students engaged in prebriefing and debriefing. Smaller groups actively performed simulation phases while

the rest watched live video streams of the simulation room. BSN students in the simulation room ($n = 3-4$) were assigned specific tasks, such as assessment, recorder, or medication administration, prior to performing their assigned portion of the simulation. Some BSN students observed all portions of the simulation via video stream. Social work and medicine students and residents received assigned tasks aligned with their scopes of practice and participated in all portions of the simulation.

Sample

Eligibility criteria differed for each discipline. BSN students were enrolled in their final semester of a 5-semester professional nursing program. The simulation was a required course activity for BSN students, but completion of the CARES-PC instrument was voluntary and required consent. Social work students were enrolled in any semester of the BSW or LCSW programs, MD students in their third or fourth year, and MD residents in any year of residency. The social work and medicine programs at the university are disproportionately smaller than the nursing program; therefore, all students and residents from the programs were invited in an attempt to have interprofessional representation at all simulations.

Power analyses were conducted to determine sample sizes needed for psychometric analyses and assess change in perceived competence over time and across disciplines. The sample size required for psychometric analysis is 170 participants to sustain a sample size-to-number of items ($N:p$) ratio of at least 10.¹⁰ The sample size required to assess change in perceived competence is 66 participants (based on a conservative effect size of 0.3 identified in prior research and power of 0.95).⁸

Instruments

The pretest survey contained questions for students to generate an anonymous identification code, demographics, and the CARES-PC. The posttest survey included the anonymous identification code and CARES-PC. The anonymous identification code was generated by students answering 7 questions that were unidentifiable and stable, such as number of older brothers.¹¹ The combined responses created an anonymous identification code that could be linked across time points. Demographic variables included age, degree program, and gender. Students answered palliative or end-of-life care-specific questions, including prior hospice/palliative care experience working with patients, experienced the loss of a loved one (friend or family member) within the last year, cared for a loved one who died, and received prior hospice/palliative care education.¹² Perceived competence was measured with the CARES-PC. Students evaluated their competence on a 5-point Likert scale for each of 17 CARES competencies. Possible scores ranged from 17 to 85, with higher scores indicating higher perceived competence.

Data Analysis

Statistical analyses were conducted using the Statistical Package for the Social Sciences version 25.0 (IBM Corporation, Armonk, New York). The significance threshold was set at $P < .05$ for all analyses. Descriptive statistics assessed demographic data. Mixed-methods analyses of variance (ANOVAs) assessed change in perceived competence and differences across disciplines. Assumptions of mixed-methods ANOVAs were assessed for each analysis.¹³

Results

Demographics

The sample comprised mostly female nursing students (Table, Supplemental Digital Content, <http://links.lww.com/NE/A633>). Medical students and residents (mean, 28.67 [SD, 3.11]) were on average a few years older than BSN (mean, 22.35 [SD, 2.84]) and social work (mean, 24 [SD, 3.02]) students. The data from pretest were used to conduct psychometric and factor analyses of the CARES-PC. Data from participants who completed CARES-PC at both pretest and posttest were analyzed to determine the instrument's ability to assess perceived competence for all students and by discipline.

Psychometric Properties

Internal consistency for the CARES-PC was assessed with Cronbach's α , and reliability of difference (r_{diff}) was calculated by correlations between pretest/posttest.¹⁴ Results indicated that the CARES-PC measured a Cronbach's $\alpha = .95$ at pretest and a Cronbach's $\alpha = .97$ at posttest. Reliability of difference for the instrument was $r_{diff} = 0.92$ ($r_{pre-post} = 0.53$). Thus, the CARES-PC demonstrates high internal consistency reliability for assessing change in perceived competence to provide PPC. The instrument has strong face validity as it is derived from expert-developed, national competence guidelines. An exploratory factor analysis using principal components analysis and varimax rotation was conducted for CARES-PC using pretest data. The first component accounted for 58.86% of the variance; thus, the instrument can be considered a unidimensional construct that assesses perceived competence to provide PPC.

Perceived Competence

Means and SDs for CARES-PC scores are presented in Table. Individual competencies and aggregate CARES-PC scores were analyzed. Change in perceived competence was assessed for only those participants who completed the CARES-PC at pretest and posttest ($n = 95$). Students reported high perceived competence at both pretest (mean, 70.17) and posttest (mean, 76.52). At pretest, 14 of 17 item means ranged from 4.00 to 4.51, with the remaining 3 means less than 4.00. At posttest, 8 of 15 item means ranged from 4.00 to 4.50, with the remaining 9 means greater than 4.50. Paired t tests revealed significant improvement ($P < .046$) for 14 of the 17 individual competencies. Items 1 ($P = .096$), 3 ($P = .301$), and 4 ($P = .131$) were the only competencies without significant improvement. Competencies

Table. CARES-PC Scores

Group	Pretest, Mean (SD)	Posttest, Mean (SD)
BSN	68.79 (9.86)	76.37 ^a (7.14)
MD	70.67 (10.35)	78.00 (9.17)
BSW or LCSW	61.80 (19.18)	79.60 ^a (7.27)
Total	68.54 (10.49)	76.64 (7.24)

^aSignificant change ($P < .05$) from pretest to posttest on post hoc ANOVA analyses.

3 and 4 focused on cultural and spiritual considerations and had the highest pretest scores, creating a ceiling effect.

A mixed-methods ANOVA was used to examine change in CARES-PC scores over time and by discipline. Results revealed a significant effect of time, $F_{1,92} = 35.72$, $P < .001$, $\eta_p^2 = .28$. However, discipline had no effect, $F_{2,92} = 0.29$, $P = .746$, $\eta_p^2 = .006$. Importantly, there was a significant interaction between time and discipline, $F_{2,92} = 3.14$, $P = .048$, $\eta_p^2 = .06$. Post hoc analysis of pairwise comparisons of the means indicated that there was a significant increase in CARES-PC scores from pretest to posttest for BSN (pretest: 95% CI, 66.52-71.05; posttest: 95% CI, 74.79-77.94) and BSW and LCSW students (pretest: 95% CI, 52.50-71.10; posttest: 95% CI, 73.15-86.06). There was no difference between pretest (95% CI, 62.18-79.16) and posttest (95% CI, 72.11-83.89) scores for MD students or residents.

Relationship Between Demographics and Perceived Competence

We conducted bivariate regression analyses to investigate whether the demographic variables age, gender, and the 4 prior experience questions predicted either pretest CARES-PC scores or change in perceived competence scores. For pretest scores, only experiencing the loss of a loved one in the prior year significantly predicted pretest CARES-PC scores, $\beta = -.25$, $t_{191} = -3.61$, $P < .001$. However, both prior experience caring for a loved one who died ($\beta = -.14$, $t_{191} = -1.94$, $P = .053$) and prior hospice or palliative care experience ($\beta = -.12$, $t_{183} = -1.68$, $P = .095$) marginally predicted pretest CARES-PC scores. None of the demographic variables significantly predicted change in perceived competence. Gender marginally predicted change in perceived competence, with females scoring higher, $\beta = .20$, $t_{93} = 1.92$, $P = .058$.

Discussion

Findings support the reliability and validity of the new perceived competence instrument, CARES-PC. As such, the instrument can be used to assess perceived competence to provide PPC. Given the high proportion of BSN students within the sample and the instrument's emphasis on CARES competencies, the CARES-PC is specifically supported for use with nursing students. The CARES-PC represents a contemporary instrument to assess perceived competence to provide PPC in nursing students.

There was significant improvement in perceived competence for BSN and social work students, which has been demonstrated in other simulation studies.⁸ Given the uneven sample sizes across disciplines, the impact on social work and medicine students and residents should be interpreted cautiously. Three (1, 3, 4) of the 17 competencies were not significantly impacted by the simulation. These competencies focus on principles of PPC including culture and spirituality, areas that were not the focus of the simulation activity.

Several of the demographic variables demonstrated a moderate influence on students' pretest scores, with loss of a loved one being most significant. Educators in both academic and clinical settings should carefully consider how students' prior experiences will shape their approach to and engagement in learning, particularly in end-of-life scenarios. Assessing demographic variables pertaining to previous experiences with loss and death was helpful in understanding differences in pretest perceived competence. Educators may want to carefully consider assessing similar demographics for any PPC- or end of life-focused educational activity.

A few limitations must be addressed. The study was conducted in one university, so the results may not be generalizable to other institutions. Demographic variables such as ethnicity or race were not collected, which further limits the generalizability of the findings. The measure should be tested with other samples and in other institutions. The attrition of responses from pretest to posttest (>50%) is of concern. Students completed posttest surveys immediately after the simulation, but they were not provided an incentive for participation, which may explain the attrition. Despite the attrition, the sample size of participants who completed both pretest and posttest was sufficient to achieve the desired power for the mixed-methods ANOVA. Finally, social work and medicine students and residents represented much smaller samples than BSN students in the study. Educators of medicine and social work students can use the CARES-PC measure. However, the representation of these disciplines within the data is underpowered, and the small samples are distributed between students and residents at various stages of their academic programs. These limitations warrant caution in using the measure with them.

Conclusion

PPC is a core expectation of professional nursing that crosses practice settings and requires collaboration within interprofessional teams. The CARES-PC instrument should be used to evaluate perceived competence to provide PPC, particularly for nursing students, as it is based on current PPC practice expectations and competencies.

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TEACHING TIP

Cultivating Cultural/Spiritual Interview Skills Online

Online engagement and social presence are critical to the learning process in online nursing courses. This assignment was used for accelerated second-degree BSN and associate-to-MSN students in online health assessment courses to meet the course objective related to demonstrating cultural/spiritual sensitivity and competence. To demonstrate the objective online, video interviews were used in a discussion thread format. Grouped in sets of 2, each student had a chance to asynchronously ask questions and answer them in the roles of the nurse and patient. Students were provided with validated assessment tools and could choose which tool to use in their assessment. Some tools provided included the FICA (Faith and belief, Importance, Community, Address in care); HOPE (Hope sources, Organized religion, Personal spirituality/practices, Effects on medical care/end-of-life issues); and the Open Invite Mnemonic. Students then recorded their questions to their partner as if they were interviewing a patient and submitted it via the group discussion thread. Students provided an American Psychological Association (APA) citation for the tool used and also gave feedback to their partner about their interview skills. Evaluation of the assignment was done with an original rubric for the following criteria: APA style, patient response, all required postings present, nurse assessment, and professionalism, which included appearance. The assignment helped students apply content in an active-learning format, enhancing their test scores and patient interactions. Students improved awareness of their body language and tone when asking sensitive questions, and the activity provided practice before patient interaction.

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TEACHING TIP

Using a Nutrition Assignment to Enhance Cultural Competence

Cultural competence is the ability to understand, appreciate, and interact with people from different cultures. Nursing students need to develop cultural competence to provide care to an increasingly diverse population. Using a combination of cognitive and experiential teaching and learning activities, sophomore nursing students enrolled in a nutrition course completed an assignment that aimed to create awareness about the relationship between cultural food practices and health and wellness. The students worked in groups of 4 to 6 to identify foods eaten by African Americans, American Indians, Asians, whites, Hispanics, and Native Hawaiians for breakfast, lunch, dinner, dessert, and snacks. They reviewed the methods of preparation such as fried, baked, or steamed and the seasonings used, and they identified any illnesses or wellness patterns that were associated with the food practices of each group. The outcome of the assignment was shared in the form of a poster presentation along with a dish from the assigned cultural group. Each group gave an overview of their findings to the entire class, and individuals also visited each poster, asked questions, and sampled the foods of the other groups. In their reflections, the students indicated that they enjoyed working with their groups and tasting different foods and gained a better understanding of the relationships between cultural food practices and health and wellness.

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