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Exploring Palliative Care Education Needs and Desires of Advanced Practice Providers in the Critical Care Setting

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By

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Abstract

Background: Critical care providers in the ICU setting are discovering that their patients are living longer with more comorbid conditions. They are confronted with palliative care situations almost daily. Recently palliative care has been thrust into the forefront of critical care and is a resource critical care nurse practitioners and physicians' assistants need to be able to utilize. A gap in the literature has been found in the overall education of critical care providers regarding palliative care.

Purpose: The purpose of this study was to determine what palliative care training trauma/cardiac/neurological, and pulmonary critical care providers had previously received prior to practice and licensure, provide an online learning experience for them to participate in to expand their knowledge of palliative care, and to learn about their desire for more training.

Methodology*:* The study employed a quasi-experimental cohort design involving advanced practice providers who practice at the University of Kentucky in pulmonary, cardiac, neurological or trauma critical care. The study procedures consisted of a pre-educational intervention survey, an educational intervention, and a post educational intervention survey. The educational intervention involved a short module on palliative care basics involving communication and symptom management.

Results: Of the participants, 88% indicated they would like additional palliative care training. Seventy-two percent indicated they had never received palliative care training prior to independent practice. The provider was found to the be the largest facilitator of palliative care consults. Family was found to be the largest barrier to palliative care involvement. End of life/goals of care discussion was found to be the biggest challenge for the participants.

Discussion: Further research is needed on the most efficient training modality for palliative care in critical care providers. This study suggests that a starting point for training would be the online educational modules through the Center to Advance Palliative Care (CAPC) program. More education may be needed for family members of critically ill patients via community health and primary care physicians prior to intensive care unit admission to prevent being barriers to palliative care.

Conclusion: The majority of advanced practice providers did not receive formal palliative care training prior to their graduation or onboarding at their institutions where they are currently employed. Providers indicated they would participate in more training if offered by their institution. The significance of the family being found as the largest barrier to palliative care warrants more research to discover the best course of action to decrease this incidence. Additionally, more studies are needed to determine the best plan for palliative care training for critical care providers.

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Dedication

This is dedicated to my late brother, who passed away in 2009 due to Colon cancer. He always wanted to help others and make the world a better place for everyone in it. I am hoping to do the same as he always wanted to.

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Background and Significance

Palliative care is a part of the multidisciplinary critical care team that is focused on improving quality of life, symptom management, and bringing clarity to end of life decisions for families and patients. An estimated 40 million people need palliative care each year (World Health Organization, 2020). Palliative care has been shown to improve resource utilization and decrease hospital readmissions and costs (Center to Advance Palliative Care, 2021). Palliative care assists with identifying next of kin and having goals of care discussions in a timely manner. In situations where palliative care would offer benefit, it is crucial to begin palliative care discussions within the first 72 hours of admission (Edsall et al., 2021). The palliative care team is "aimed at improving the quality of life of patients and caregivers by providing physical, emotional, psychosocial and spiritual interventions" (Schwarz & He, 2020). Without palliative care teams or palliative care skills to guide the families and patients through a difficult hospital stay and the development of rapport, providers have difficulty establishing trust. Patient centered care becomes difficult without trust in the provider (Birkhauer et. al., 2017). Early delivery of palliative care has also been shown to reduce unnecessary hospital admission and use of health services. (World Health Organization, 2020).

Despite these benefits, barriers exist that may prevent the initiation of palliative care. The World Health Organization recognizes that significant barriers such as limited or non-existent training of healthcare providers as well as national health policies and systems may lead to reduced use of palliative care (World Health Organization, 2020). Patients and families may be resistant, either due to some miscommunication about the prognosis, or because they feel as though initiated palliative care would mean giving up on the possibility of treating or curing the

patient (Karlekar et al, 2014). A lack of physician comfort with end-of-life care, as well as confusion among advanced practice providers about terminology or fear that palliative care will keep patients from receiving life prolonging therapy can pose barriers to the use of palliative care services in the critically ill population (McAteer & Wellbery, 2013). Nationwide, there is a lack of agreed upon criteria for referral to palliative care (Perrin & Kazanowski, 2015).

In 2020 the definition of palliative care changed to help streamline care, and a new definition was adopted by the World Health Organization.

> "Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, though the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual" (p. 756).

Advanced practice providers who provide care for geriatric trauma patients in the acute care setting are involved in consulting and utilizing palliative care. To address the difficulties with incorporating palliative care some researchers have suggested educating providers, and incorporating palliative care into the standard of practice for trauma patients (Perri & Kazanowski, 2015). Currently there is a lack of research on what the onboarding and training of new graduate physician assistants and nurse practitioners consists of in trauma, and there is a large gap in the literature regarding the training of advanced practice trauma care providers in palliative care.

The Eastern Association for the Surgery of Trauma recognizes that palliative care is essential for geriatric trauma patients, and that it is best to have early interventions and involvement by a palliative care team when these patients are critically ill (Aziz et al, 2019).

The elderly population are living more active lives. The National Trauma Database illustrates that the number of geriatric trauma patients above 60 years old rose from 16.5% to 37.5% from 2005-2015 (Jiang et al., 2020). Education of trauma providers is another way to broaden the skill set and get palliative care and palliative care consultation to elderly trauma patients within the 72 hour window. One example of a successful palliative educational care intervention in a Level 1 trauma center was implemented by Schockett et al. (2021) who noted that "embedding primary palliative education into usual didactic and rounding time for an impatient trauma team is an effective way to help residents develop palliative skills and foster change" (Schockett et al. 2021, p. 668).

Pulmonary and cardiac critical care providers continue to experience challenges with end of life care. The acuity of the patients in these units is rising, with a larger number in need of care (Naib et al., 2015). As demonstrated by the current COVID-19 pandemic there is a continued need for critical care providers to be well trained in end of life discussions and palliative care. Since 2020, the delivery of palliative care to patients has changed. During the height of the pandemic in New York for example, consults increased seven-fold (Blinderman et al., 2021). Researchers have asserted that since demand has increased, there is an urgent need to educate healthcare providers in palliative care (Blinderman et al., 2021). Psychiatrists and other disciplines should be educated as well to bridge the gap of palliative care providers. In order to mitigate a shortage of palliative care providers in the future, all providers across the disciplines should be trained on basic palliative care skills (Blindermen et al., 2021).

Purpose

The purpose of this study was to determine what palliative care training trauma/cardiac/neurological, and pulmonary critical care providers had previously received prior to practice and licensure, provide an online learning experience for them to participate in to expand their knowledge of palliative care, and to learn about their desire for more training. Specific aims included:

1. To measure knowledge of advanced practice providers through a pre-intervention survey.
2. To provide education to the advanced practice providers through an online learning module.
3. To assess the effectiveness of the palliative care education module through a post-intervention survey.
4. To identify facilitators and barriers to palliative care implementation.

Conceptual Framework

To guide the implementation of the palliative care web-based training, the constructivist learning theory will be used as the conceptual framework (Thomas, 2014). The theory is non-teacher directed and builds on the learner's prior knowledge. This theory is based on the concept that "knowledge is built upon other knowledge. Students take pieces and put them together in their own unique way" (WGU, 2022). Constructivism assumes that learners create new meanings and mesh them with existing constructs, and that learning is a process of social interaction and engagement. Additionally, the learners obtain new knowledge through reflection (van Der Wath, 2013). The web-based module used in the project was designed to build on the knowledge already acquired by the provider. Guided by the

constructivist theory, providers were given time after their initial survey for reflection on the new knowledge of the palliative care techniques that they gained.

Literature Review

CINAHL, and Medline were utilized for the literature review. Keywords used were palliative care, education, training, advanced practice provider, trauma, cardiac, pulmonary, neurological and critical care. Over 450 articles were returned. Twenty-six focused on education of critical care providers and were pertinent to this study's focus. Two studies were found relating palliative care and education of providers.

Literature related to provider education is abundant, but literature related to palliative care education for advanced practice providers is lacking. Variations related to the timing of palliative care were observed across the literature, illustrating that palliative care is not being utilized to the fullest potential and needs to be studied further. According to Rowe et al. (2021) the shortage of providers who understood the value of palliative care was a stimulating factor for many palliative care educational interventions and use of palliative care teams during the COVID-19 pandemic. Blinderman et al. discussed how their team overcame the challenges of the COVID-19 pandemic with education of multidisciplinary team members and psychiatry physicians (Blinderman et al., 2021). Blinderman et al. also discussed the need to prepare all providers with basic palliative care knowledge so a shortfall of palliative care does not happen in the future.

Another significant theme that emerged from the literature was a lack of palliative care in the cardiac intensive care patient population. Romero (2019) identified inconsistencies and gaps in palliative care involvement in the coronary care unit despite a 30% patient mortality rate

within the first 24 hours of admission (Romero, 2019). This study also highlighted that cardiologists are not well trained and have reservations related to the use of palliative care (Romero, 2019).

A gap was discovered in relation to education of trauma advanced practice providers regarding palliative care. There was only one study done by Schockett et al. (2020) which aimed to provide a palliative care educational intervention to a group of trauma service providers. The researchers found that having palliative education embedded into the education of the providers was an effective way to develop palliative skills and served as a strong example of how to begin to bring palliative education to trauma providers.

Methods

Design

The study was a quasi-experimental, quantitative cohort study involving trauma, cardiac, and pulmonary and neurological nurse practitioners and physician assistants who work at an American College of Surgeons verified Level 1 Trauma center in critical care units.

Setting

The setting was the University of Kentucky Chandler Medical Center. Stakeholders included the critical care advanced practice providers, the critically ill patients in the intensive care untis and the palliative care providers. The University of Kentucky Research Council reviewed the study, and IRB approval was obtained.

Sample

The convenience sample of participants included trauma, pulmonary, neurological and cardiac nurse practitioners and physician assistants. The population was 60 practitioners; of those 23 took the pre-survey and 20 completed the post-survey. Inclusion criteria included that the practitioner must be a practice provider at the University of Kentucky, hold a current and valid license to practice, and provide care to patients aged 65 and older who were involved in a trauma and admitted to the trauma service. Exclusion criteria were that the practitioner did not provide care for trauma patients, did not have a current Advance Practice Registered Nurse (APRN) or Physician Assistant (PA) license, and did not practice at the University of Kentucky Medical Center.

Procedure

Institutional Review Board approval was obtained from the University of Kentucky Institutional Review Board in September, 2021. A pre-survey and post-survey were developed in Qualtrics and administered before and after the educational intervention. The survey included descriptive data items such as the years of practice, specialty field, position (nurse practitioner or PA), demographics such as sex, age, race and job satisfaction. The providers were asked if they could define palliative care, if they had palliative care at their institution, and if they received training on palliative care during their graduate education program. They were asked about barriers and facilitators to palliative care consults. The survey utilized a Likert scale when applicable for the practitioner to input their choices. Data collection began with the survey and link for the educational modules emailed to potential participants. After the initial survey was completed and the short educational module was completed, participants were sent a link to the follow up survey.

The educational intervention consisted of a short module from the Center to Advance Palliative Care, entitled "Communicating with Treating Clinicians: How Medical Directors Can support Best Care for the Seriously Ill" (Center to Advance Palliative Care, 2021). The modules were short and took approximately 15-20 minutes depending on the speed of the participant who was reviewing them. The educational intervention focused on basic information regarding palliative care communications and supportive care for the seriously ill. The intervention was sent via email.

Data Analysis was carried out using SPSS. Descriptive statistics was used for demographics. Inferential statistics was used for assessing the differences between pre and post-test variables.

Results

Eighteen participants were included in the study sample, to include 16 nurse practitioners and 2 physician assistants. Sixty-one percent of practitioners were between the ages of 26 and 40, with 39% being over age 41. Of the total participant group, 40% had been practicing for 1 to 5 years, 27% for 6 to 10 years and 22% for longer than 10 years. In relation to gender, 83% were female and 17% were male. See Table 1 for demographic characteristics of participants.

The majority of the participants did not receive palliative care training during their onboarding. Seventy-two percent indicated that they did not receive training, 11% indicated they had received training, and 16.6% indicated that they had received some but not enough palliative care education (see Table 2). Fifty percent of participants indicated they would like additional palliative care training, 38.8% stated they may be interested in future training, and 11.1% indicated that they did not need additional palliative care training.

Table 3 includes information about participant opinions about the impact of palliative care on length of stay and outcomes. Prior to the educational intervention the majority of participants believed that palliative care decreased length of stay, with 83% indicating that palliative care either definitely or probably resulted in improved length of stay. Opinions changed after the educational intervention, however with 67% indicating that palliative care either definitely or probably resulted in improved length of stay. Participant opinions about the value of palliative care in improving length of stay decreased after the educational intervention, but the change was not statistically significant. Eighty-nine percent of the practitioners indicated that palliative care definitely or probably resulted in improved patient outcomes prior to the educational intervention, while 67% felt palliative care definitely or probably would impact outcomes following the intervention; this change was not statistically significant ($p = 09$).

Included in Table 4 is information about the barriers and facilitators to palliative care consults. Fifty-six percent of participants indicated that family was the number one barrier before the intervention was completed. There was minimal change in the post intervention survey with 39% indicating family as the number one barrier following education. The attending was the second largest barrier with 28% before the intervention and 39% after the intervention. Twenty- two percent of the participants chose the patient as the barrier and this demonstrated no change between the two surveys. Prior to the intervention, one hundred percent of the participants indicated that providers were facilitators while only two participants felt that patients and family were facilitators. This changed slightly after the intervention, with 67% indicating providers as the number one facilitator. Following education family were found to be the second largest facilitator at 17%, followed by the attending physician at 11%.

Table 5 displays data that demonstrated that participants felt the short educational module was helpful. Forty- four percent of participants indicated the educational modules would definitely help with their practice and 44% stated that they probably would be helpful. With regard to face to face training, 38% indicated that face to face training would help a great deal and 38% indicated that face to face training would be somewhat helpful. Table 6 shows the largest challenge for the providers in palliative care was end of life discussions/code status talks with patients and families with 89% of participants selecting this answer.

Discussion

The purpose of this study was to evaluate the extent of palliative care training offered to critical care providers and the desire for additional training. The findings overwhelmingly supported the need and desire for palliative care training. The participants indicated that "providers" are the largest facilitator of palliative care consults. Surprisingly the 'family" was found to be the largest barrier for providers in relation to writing orders for palliative care. The finding of "family" being perceived as the leading barrier by the providers is significant an suggests that additional education perhaps in the community and from primary care providers may be needed regarding palliative care. It may also indicate the need for more family discussions with the providers in the intensive care unit. Additional research is needed to determine the most effective educational intervention.

With the significant finding being that the majority of the providers wanted more palliative care education, additional studies are needed to discover what training is best suited for the critical care setting. Whether online classes or in person training would be better suited for learning needs is yet to be determined. In moving forward with training of critical care providers, structured training programs may be beneficial to advance the knowledge and education of

advanced practice providers as noted by Grabenkort et al. (2017). The findings in the literature support the need for more education. Blinderman et al. (2021) discussed the COVID-19 shortfall of palliative care services. Education for all providers in basic palliative care skills should be a priority so that would not happen again (Blinderman et al., 2021). Schockett et al. (2021) provided promising examples of incorporating palliative care in trauma care, and supported the need for effective education.

The reason for the change of opinion of providers related to the value of palliative care in reducing length of stay following education needs further exploration. Prior to education 83% of providers felt palliative care would improve length of stay, but post education only 67% felt palliative care would result in improved length of stay. This difference was not statistically significant, but should be explored. It is possible that the interventions made the providers change or rethink their opinion about palliative care and how it would impact the patient and the care plan.

Additionally, prior to education 89% of providers felt palliative care would improve outcomes but this number went down to 67% post-education. With the word "outcome", and "improved" not being defined for the participant, it is difficult to discern what these findings mean. Most often, the palliative care team is consulted when the patient is near death. Would an example of improved outcome be not dying? Defining an outcome that is satisfactory in palliative care situations is a very difficult task.

Implications for Practice, Education, Policy and Research

The findings of the study support the need for palliative care education for critical care providers. The World Health organization found that only 14% of patients who need palliative

care receive it, and the education for the providers is severely lacking (WHO, 2020). This study supports the efforts of the WHO to improve the palliative care education of all providers. The study demonstrated the desire of the providers for education about palliative care. This suggests the need for a possible change in healthcare provider educational curriculum by adding palliative care training during onboarding of providers at the University of Kentucky Medical Center.

This study gives the distinct vision for future studies into what may be the most effective type of palliative care education for the providers. Additionally, the finding of the "family" being the barrier to palliative care consult suggests an opportunity for outreach education for family and patients. How to best educate the family needs to be determined. The findings from this study also have policy implications, in that requirements may need to be added by licensing bodies to require providers to have a specific amount of palliative care focused training at specific intervals, such every five to ten years.

Limitations:

There were several limitations to this study, the first being that it was a single center study. Only APPs and PAs within the University of Kentucky Chandler Medical Center participated in the study. Additionally, the recruiting period was only two months. A larger sample size would have been beneficial. This study was limited to cardiac, trauma and pulmonary critical care practitioners and could have been applied to a larger group. The survey did not ask the participants how they personally felt regarding palliative care; this could have given additional insight into the use of palliative care and possible bias. Lastly, the survey did not ask the timing of the code status and end of life discussions with families during their hospital stay. This information could have yielded more insight into the barriers and facilitators to palliative care.

This study did not explore if the change in the definition of palliative care that occurred in 2020 had an impact on the need for provider education. Further studies could explore if this new definition can be impactful on timely palliative care intervention, and if the new definition can clarify the questions and confusions surrounding the true definition of palliative care.

Conclusion

The population of our world is aging according to the US Census Bureau, North America is the second oldest region in the world. This will continue into 2050 with the aging Baby Boomers who turned 65 in 2011 (Roberts et al., 2018). With the older population comes more difficult conversations about code status and palliative care planning which are skills advanced practice providers need to have.

Advance practice providers currently augment the physicians in the critical care setting to serve over 6 million adults(Halpern et al., 2016). Patients admitted to units such as these have significant disease burden. The provider must be the facilitator of palliative care and discuss plans with family members when the patient is incapacitated. The significant findings of family being the number one barrier to palliative care does suggest that the provider can be the educator. However, the providers themselves need to have education and training prior to being competent and comfortable educating others.

In conclusion, this study found that palliative care is utilized by advanced practice providers, but they are in need of training to bridge the gap until the consult is completed. They feel they need and want additional training to support the families and patients in the critical care setting. Study findings support the literature and the World Health Organization's current efforts

to educate providers. Additional research is needed to discover what kind of palliative care education would best serve provider needs and be most effective.

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Tables

Table 1.

Descriptive Summary of Demographic Characteristics (N = 18)

Characteristic	**n (%)**
Age:	
26-31	5 (27.78%)
32-40	6 (33.33%)
41 and older	7 (38.89%)
Gender:	
Male	2 (11.11%)
Female	16 (88.89%)
Discipline:	
APRN	16 (88.89%)
PA	2 (11.11%)

Table 2.

Palliative Care Education of Providers

Characteristic	**n (%)**
Did you receive Palliative care training during onboarding/formal education?	
Yes	2 (11.1%)
No	13 (72.2%)
Some/not enough	3 (16.6%)
Would you like additional palliative care training?	
Yes	9 (50%)
Maybe	7 (38.8%)
No	2 (11.1%)

Table 3.

Pre and Post Intervention Data: Palliative Care Impact on Length of Stay/Outcomes

Characteristic	**Pre-intervention *n* n (%)**	**Post- intervention n (%)**	***p***
Improved Length of stay with palliative care consult?			.29
Definitely yes	9 (50.00%)	10 (55.56%)	
Probably yes	6 (33.33%)	2 (11.11%)	
Might/Might not	3 (16.67%)	2 (11.11%)	
Probably no	0 (0.00%)	4 (22.22%)	
Definitely no	0 (0.00%)	0 (0.0%)	
Outcomes of patient improved with palliative care?			.09
Definitely yes			
Probably yes	14 (77.78%)	11 (61.11%)	
Might/Might not	2 (11.11%)	1 (5.56%)	
Probably no	2 (11.11%)	3 (16.67%)	
Definitely no	0 (0.00%%)	2 (11.11%)	
	0 (0.00%)	1 (5.56%)	

Table 4.

Pre and post Intervention Data: Barriers/Facilitators to Palliative Care

Characteristic	**Pre-intervention* *n* (%)**	**Post-intervention *n* (%)**
Barrier to Palliative care consult		
Family	10 (55.56%)	7 (38.89%)
Patient	4 (22.22%)	4 (22.22%)
Attending	5 (27.78%)	7 (38.89%)
Provider	1 (5.56%)	0 (0.00%)
Facilitator to Palliative care consult		
Family	2 (11.11%)	3 (16.67%)
Patient	2 (11.11%)	1 (5.56%)
Attending	2 (22.22%)	2 (11.11%)
Provider	18 (100.00%)	12 (66.67%)

* Note: On the pre-survey, participants were asked to indicate all that apply; on the post-survey, participants chose only one barrier per question and one facilitator per question.

Table 5.

Post Intervention Educational Module/Training on Palliative Care

Characteristic	n (%)
Do you think the short educational module was helpful?	
Definitely Yes	12 (66.67%)
Probably yes	4 (22.22%)
Might/Might not	2 (11.11%)
Do you think the education modules would help with your practice?	
Definitely yes	8(44.44%)
Probably yes	8(44.44%)
Might/Might not	2(11.11%)
Would you like more training face to face?	
Like a great deal	7 (38.89%)
Like somewhat	7 (38.89%)
Neither like/dislike	3 16.67%)
Dislike somewhat	1 (5.56%)

Table 6.

Biggest Challenges with Delivery of Palliative Care.

Characteristic	n (%)
What is your biggest challenge with palliative care?	
Pain Management	1 (5.56%)
End of life care	1 (5.56%)
End of life/goals of care discussions	16 (88.89%)