

# A longitudinal method of teaching pediatric palliative care to interns: Preliminary findings regarding changes in interns' comfort level

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(RECEIVED April 1, 2009; ACCEPTED April 19, 2009)

## ABSTRACT

*Objective:* A longitudinal pediatric palliative care curriculum was introduced into the pediatric residency program at the University of California, Los Angeles. The present study explores the possible effects of this curriculum on the interns' self-assessed comfort levels regarding caring for children with life-threatening conditions.

*Methods:* A newly created assessment tool was administered to interns in order to rate their comfort regarding pediatric palliative care at the beginning and conclusion of their intern year.

*Results:* Twenty-two of the 29 interns completed this survey. Baseline data indicated 55% of the interns had some experience with taking care of a dying pediatric patient during their medical school training, and 79% indicated that they had taken care of a dying adult. Only 7% of the interns felt adequately prepared to deal with death and dying, but all interns indicated interest in further learning about pediatric palliative care. Comparison of the overall comfort levels of the 22 responding residents before and after the first year of training in 20 different related tasks demonstrated a significant self-assessed improvement of comfort in seven areas. There was no increase in self-reported comfort in communication related to palliative care.

*Significance of results:* Residents indicated increased comfort in some areas of pediatric palliative care after the first year of their training. The underlying cause of this increased comfort is unclear at this time. The overall effect of longitudinal palliative care curriculums on residents' level of comfort in caring for this population deserves further assessment.

**KEYWORDS:** Palliative care, Pediatric residents, Resident education/training

## INTRODUCTION

Pediatric palliative care is becoming increasingly recognized as an important part of the health care paradigm that needs to be considered early for children with life-threatening conditions (Frager, 1996). Insufficient clinical skills in pediatric palliative care can hamper clinicians' ability to optimize

their patients' quality of life, and can lead to reduced parent satisfaction with the care received (Harper & Wisian, 1994). Additionally, lack of perceived competence in such cases can lead to clinicians' feelings of inadequacy and discomfort (Goldberg et al., 1987; Graham et al., 1996), which might hinder future engagement with this patient population.

Pediatric residency training may be an opportune time to acquire the skills needed to care for children with life-threatening and life-limiting conditions in ways that also focus on quality of life. Pediatricians in private practice typically care for less than three

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patients who die per year, yet pediatric residents care for more than 35 children who die during their three years of training (Sacks et al., 1984; Hoyert et al., 2001).

Despite the increasing recognition of the need to train pediatricians in palliative care, there is little consensus as to how to achieve this education. A preliminary study by Vazirani et al. (2000) at our institution found no self-assessed improvement in interns' comfort levels regarding death and dying at the end of their first year of training. A more detailed study by Kolarik et al. (2006) concluded that, without any formal training in pediatric palliative care, residents acquired no additional comfort or self-assessed competence in dealing with these issues.

In previous studies, the notions of comfort, attitude, and competence have been used interchangeably when describing and assessing residents' experiences in learning about pediatric palliative care (Goldberg et al., 1987; Bagatell et al., 2002; Kolarik et al., 2006). For the purpose of our current study, residents were asked to assess their comfort in carrying out tasks in the following areas: communication with parents and children, medical management, documentation of do-not-resuscitate (DNR) orders, and death certificates.

The most effective method of improving the comfort and competence of residents in pediatric palliative care remains to be established at this time. Bedside teaching, pediatric palliative care clinical services, individual lectures, and seminar series are some of the proposed and tried methods in preparing residents to care for pediatric patients with life-threatening illnesses (Berman & Villarreal, 1983; Bagatell et al., 2002; Kolarik et al., 2006). However, as Bagatell et al. (2002) suggested, the quality and content of bedside teaching may greatly vary depending on the attendings' comfort and competence in this subject, and their demanding schedules. Inconsistency in bedside teaching compounded with residents' decreased time spent in the inpatient setting dictates the need for a longitudinal palliative care curriculum. Bagatell constructed a six-part seminar series for second-year pediatric residents and found an improvement in their residents' confidence in dealing with this population. Early introduction of a pediatric palliative care curriculum at the beginning of the residency training allows interns to properly deal with these complex issues before they become supervising residents.

Therefore, to provide a more consistent palliative care training for our pediatric residents, we have introduced a longitudinal palliative care-focused curriculum into our residency training program. Through the findings of the current design, we describe the

challenges and possible benefits of this curriculum on the self-reported comfort of our entering pediatric residents with respect to pediatric palliative care.

## METHOD

### Procedure

All categorical pediatric interns of the 2005 entering class at the University of California, Los Angeles (UCLA) School of Medicine ( $N = 29$ ) were asked to complete a baseline palliative care questionnaire. The initial questionnaire was administered to the incoming interns in their first week of orientation. Upon orientation, all 29 categorical interns consented and completed the questionnaire that was subsequently collected by the medical education administrative assistant, who coded the responders' name to protect confidentiality. At the end of their first year of training, follow-up questionnaires were administered, collected, and coded in a similar fashion. Twenty-two residents (76%) completed the 1-year follow-up. This study was reviewed and approved by the UCLA Institutional Review Board.

### Questionnaire

Our assessment tool was designed to measure the self-reported comfort level of the residents in several areas related to end-of-life care in children and was based on questionnaires that were previously published by Bagatell et al. (2002) and Khaneja and Milrod (1998). The initial questionnaire was composed of seven demographic questions along with 41 other questions related to comfort toward children with death and dying issues. Our follow-up questionnaire was composed of the same questions minus the seven demographic questions. The current study presented here examines interns' comfort in communication with parents and children, medical management, documentation of do-not-resuscitate (DNR) orders, and completion of death certificates.

### Curriculum

Our pediatric palliative care formal curriculum was designed to provide a longitudinal learning opportunity for our residents to train in this subject. The curriculum was composed of mandatory noon conferences and nonmandatory Comfort Care Panels.

Noon conferences included eight sessions (Table 1), held every 6 to 8 weeks throughout internship. All interns and residents on-site are mandated to attend noon conferences as a part of their core training requirements. All sessions were formatted uniformly and included a lecture in the first 20 minutes, followed by a sample case and related questions. These

**Table 1.** *Pediatric palliative care lectures*

Lecture no.	Title
1	Definitions & Practice: A New Model of Pediatric Palliative Care
2	Overview of Psychological Aspects of Pediatric Palliative Care
3	Psychotropic Medications
4	Pain Management
5	Spirituality
6	“Do Not Resuscitate” DNR
7	Hospice Care
8	Bereavement/Grief

questions were intended to encourage residents to interact and apply the knowledge gained from lecture in a semistructured environment. Each session ended with a 10-minute open discussion.

We also introduced the concept of Comfort Care Panels (CCP). These were designed to examine the palliative care treatment options for patients who suffered from complex diseases with significant morbidity or end-of-life issues. These CCPs met bi-monthly and were open to all faculty, staff, and residents. Resident attendance was not specified as mandatory and all classes were notified of the time and the place by e-mail, posted memos and alphanumeric pages. The panel of experts included attending physicians from different subspecialties, ethicists, nurses, psychologists, social workers, child-life workers, and others who were critically involved in the care and decision-making process. Members of the audience had the opportunity to pose questions or contribute to the discussion. Recommendations generated by these CCPs were subsequently discussed with the patients and their families. To promote “practice-based learning” among our house staff and faculty, we dedicated some of these sessions to the follow-up of previously discussed cases.

### Statistical Analysis

We compared baseline and follow-up survey responses for each of 22 questions about comfort and competence related to end-of-life care. Two of the questions had 5-point Likert scale responses ranging from “strongly disagree” to “strongly agree,” and 20 questions had 5-point Likert scale responses ranging from “least comfortable” to “most comfortable.” Comparisons were conducted using the Wilcoxon signed-rank test for nonparametrically distributed categorical variables. Because the 22 outcomes were highly correlated, Bonferroni-type corrections were not used when assessing statistical significance. Correlation studies were conducted using the

Pearson correlation method. We used the Statistical Package for Social Sciences (SPSS v. 14, Chicago, IL) software to calculate our statistics.

### RESULTS

The 29 interns represented 24 different accredited U.S. medical schools, with no foreign graduates. Sixty-two percent of the interns were female with a mean age of 26 years (ranging from 24 to 33 years). Most interns were single (76%), with 7% “living as married” and 17% married. Only one of the residents had a child. The members of the intern class identified themselves as subscribing to an array of faiths and religious beliefs, including Buddhist (3%), Christian (31%), Hindu (14%), Muslim (3%), Jewish (7%), and agnostic (7%). The remainder (35%) did not define a religious preference. Residents described their racial and ethnic background as Caucasian (24%), Asian (17%), Indian (14%), Iranian (10%), and “other” (35%). A comparison of the responders versus nonresponders to the follow-up questionnaire across demographic variables yielded a significant difference between genders, such that female residents responded more than males ( $p = .006$ ).

More than half of the interns (55%) indicated some experience with taking care of a dying pediatric patient during their medical school training, and 79% indicated that they had taken care of a dying adult. All indicated some form of experience dealing with death and dying involving their family and friends. Fifty-two percent identified some formal training in grief and bereavement during their medical school training, whereas 35% had no training and 14% were unsure. A smaller portion of our interns (38%) indicated formal training in death and dying in different cultures, whereas 52% had no training and 10% were unsure. Only 7% of the interns felt adequately prepared to deal with death and dying.

However, all respondents indicated interest in further training in pediatric palliative care. During their first year of training 55.2% of the interns attended at least one of the eight palliative care lectures. The mean number of lectures attended by this group was 1.27. However, our CCP attendance records indicate that, despite a considerable attendance by the second and third year residents, none of the interns attended any of these sessions.

We compared the overall competence and comfort levels of 22 residents who had responded to the questionnaires before and after the first year of training (Table 2). Overall, the responses indicated greater self-reported comfort after 1 year. We also asked them to rate their comfort level in carrying out 20 different related tasks before and after the first year of training (Table 3). After 1 year, the survey

results demonstrated a significant improvement in 7 of the 20 measured areas. The areas in which residents reported greater comfort included managing bowel and bladder problems, fluids and nutritional needs, pain, seizures, anxiety, and respiratory needs, and pronouncing a child's death.

There appears to be no significant statistical correlation between the number of lectures attended or resident demographics and improved comfort levels mentioned above.

## DISCUSSION

Our initial survey indicated that about half of the interns, representing 24 U.S. medical schools, had had some form of medical school training or experience with patients' deaths. However, a mean comfort level of less than 3 (1 indicating the lowest comfort level and 5 indicating the highest comfort level) in 17 of the 20 palliative care areas on the initial questionnaire (Table 3) suggests that our interns were not adequately prepared to feel comfortable in medical school on this subject. They have additionally indicated that they do not feel adequately prepared to deal comfortably with death/dying among their patients (Table 2). This supports previous studies indicating a fragmented palliative care education that mostly takes place in a classroom setting during the first 2 years of medical school, without any longitudinal clinical exposure (Mermann et al., 1991; Rappaport & Witzke, 1993; Holleman et al., 1994; Hill, 1995).

The lack of formal and consistent medical school training in this field underscores the importance of palliative care education during residency training.

**Table 2.** *Comfort in end-of-life care before and after internship*

Question	Mean 1 (beginning of internship; <i>n</i> = 22)	Mean 2 (end of internship; <i>n</i> = 22)	<i>p</i> value
I feel adequately prepared to deal comfortably with death/dying among patients	2.45	3.09	.006*
I feel comfortable taking care of a dying child as with any other patient	2.21	2.86	.014*

1 = strongly disagree, 5 = strongly agree.

\**p* < .05.

**Table 3.** *Self-assessed competence in dealing with pediatric end-of-life care*

Question	Mean 1 (beginning of internship; <i>n</i> = 22)	Mean 2 (end of internship; <i>n</i> = 22)	<i>p</i> value
Discussing a DNR with family of terminally ill child	2.52	2.64	.308
Completing the documentation for a DNR directive for a terminally ill child	2.69	2.68	.820
Initiating discussion of impending death with family of terminally ill child	2.28	2.55	.156
Discussing options for terminal care with the family of a dying child	2.83	2.77	.672
Discussing death with families from variety of ethnic/cultural backgrounds	2.17	2.45	.090
Guiding parents in age-appropriate discussions of death with their child	2.14	2.50	.099
Discussing options for end-of-life care with colleagues	3.66	3.77	.557
Comfort level when seeking out community resources to assist in the management of dying child and family	3.03	3.64	.108
Seeking advice from a professional role model regarding management issues	3.66	3.68	.922

*Continued*

**Table 3.** *Continued*

Question	Mean 1 (beginning of internship; <i>n</i> = 22)	Mean 2 (end of internship; <i>n</i> = 22)	<i>p</i> value
Interacting with a family after the death of a child	2.79	2.91	0.858
Managing the pain of a dying child	2.66	3.64	.001***
Managing the fluid and nutritional needs of a dying child	2.72	3.73	.001***
Managing the bladder and bowel care of a dying child	2.59	3.36	.003**
Managing seizures in a dying child	2.41	3.45	.002**
Managing the anxiety of a dying child	2.31	3.09	.007*
Managing the respiratory needs of a dying child	2.45	3.32	.010*
Declaring/pronouncing a child's death	2.03	2.50	.027*
Correctly filling out a death certificate	2.17	2.41	.688
Discussing organ donation with the family of a dying child	2.28	2.32	.740
Discussing autopsy with the family of a dying child	2.10	2.41	.206

1 = least comfortable, 5 = most comfortable.

\**p* < .05, \*\**p* < .01, \*\*\**p* ≤ .001.

Additionally, because most of the clinical training of these future pediatricians occurs during their residency, graduate medical educators have a greater opportunity and responsibility to provide meaningful training with measurable results. Kolarik's study has demonstrated that without any pediatric palliative care training, most residents gain no significant knowledge or comfort in managing end-of-life issues in children (Kolarik et al., 2006). Vazirani et al.'s (2000) earlier study of UCLA interns found no significant improvement in their self-assessed comfort after

the first year of training. However, to the best of our knowledge, there are no published reports on longitudinally implemented pediatric palliative care training during all 3 years of training.

Our study aims at exploring the changes in the self-assessed comfort of interns before and after the first year of training with respect to their exposure to the new curriculum. Our assessment of the interns' comfort in this subject showed significant improvement in several areas after the completion of internship. However, these improvements cannot be directly attributed to the educational intervention.

Our study underlines the challenges involved in providing an effective, practical palliative care curriculum. Although repeated efforts were made to facilitate the attendance of the house staff at the CCPs, none of the interns attended these sessions. Despite the presence of the second and third year residents, the lack of intern attendance can be explained by their demanding schedule. This may have limited their availability to attend nonmandatory educational sessions. Mandatory conferences along with modification of the work hours may facilitate and improve the interns' attendance in palliative care related training sessions.

Furthermore, the improved areas appear to be independent of the number of noon conferences attended. Each of these palliative care noon conferences was composed of didactic lectures and interactive discussions, intended to provide resident participation. This "mixed" approach (didactics plus interactive discussions) is supported based on Davies et al.'s (1999) meta-analysis findings, such that mixed conferences seem to have a significantly positive impact on improving the practice behavior of the physicians. Although Davies et al.'s meta-analysis on educational curriculum suggests that that mixed conferences improve physician practice behavior, this educational approach may not be sufficient for improving levels of physician comfort in dealing with such difficult topics as pediatric palliative care.

Lack of a relationship between attendance and areas of improvement may be due to the small size of our sample, limited duration of our study, and/or lack of adequate intern participation in palliative care noon conference discussions. Any improvement may simply reflect increased comfort with repeated exposure and practice.

On the other hand, lack of any measurable direct relationship between the introduced curriculum and improved comfort parameters does not refute the usefulness of such educational interventions. Increased exposure through the palliative care educational curriculum may have created a culture of awareness regarding this topic. Thus, introduction of the palliative care *formal curriculum* may have

created an *informal curriculum* that facilitated learning outside a classroom setting, where faculty and trainees alike engage in discussions and management of otherwise ignored palliative care issues.

Interestingly, six out of the seven areas of improvement included end-of-life medical management of children whereas all areas where no improvement occurred involved communication with the patients and their families, communication with a faculty role model, or seeking help in the community. This deficit is of particular concern because communication with parents of dying children is a task often incumbent upon the pediatrician. Harper and Wisian's (1994) study indicated that parents were generally dissatisfied with their pediatrician's communication, sharing of grief, and provision of support during their child's end-of-life care. This supports the need for further training in this area. Role modeling by the more experienced faculty, involvement of the residents in family conferences, parent advisory panels, and communication workshops are some of the venues for improving the communication skills of the training residents.

The areas where no improvement occurred deserve further study and assessment in the next 2 years. Upcoming introduction of a clinical Palliative Care Team may facilitate better role modeling, bedside teaching and practical didactic sessions. Additionally, introduction of role-playing workshops and inclusion of the residents in the bedside discussions led by the faculty may provide added experience and improve communication skills of the residents.

### Limitations

We recognize that our study has multiple limitations that include lack of a control group and poor attendance at the CCPs. Additionally, we did not track the number of dying patients cared for by the interns during their first year of training. Due to the multicampus nature of our residency program, we decided to introduce the lectures only on the main campus, and, therefore, some of our interns missed some of the offered didactic and clinical teachings while on away rotations.

### Conclusion

Preliminary findings of our study suggest that interns' comfort improved in managing certain areas of palliative care after the first year of their training. The role of the introduced longitudinal curriculum in improving the interns' comfort level is unclear at this time. However, we intend to further study the 3-year effect of the existing curriculum on our interns at the time of their graduation and distinguish the components of their formal and informal training that they deem as most valuable. Lack of improved comfort in communication with the parents and faculty

involving a dying child suggests a need for further study and educational interventions. Further studies are needed to examine the direct and indirect effects of a longitudinally implemented palliative care curriculum in pediatric residency programs.

### ACKNOWLEDGMENT

This research has been made possible by a grant from the Unihealth Foundation. We would also like to thank all our residents for contributing to this study.

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