

Experiences in end-of-life care in the Intensive Care Unit: A survey of resident physicians

Zubair Umer Mohamed, Fazil Muhammed, Charu Singh¹, Abish Sudhakar²

Abstract

Background and Aims: The practice of intensive care includes withholding and withdrawal of care, when appropriate, and the goals of care change around this time to comfort and palliation. We decided to survey the attitudes, training, and skills of intensive care residents in relation to end-of-life (EoL) care. All residents at our institute who has worked for at least a month in an adult Intensive Care Unit were invited to participate. **Materials and Methods:** After Institutional Ethics Committee approval, a Likert-scale questionnaire, divided into five composite measures of EoL skills including training and attitude, was handed over to individual residents and completed data were anonymized. Frequency and descriptive analysis was performed for the demographic variables. Central tendency, variability, and reliability were examined for the five composite measures. Scale internal consistency was checked by Cronbach's coefficient alpha. Multivariate forward conditional regression analysis was conducted to examine the association of demographic data or EoL experience to composite measures. **Results:** Of the 170 eligible residents, we received 120 (70.5%) responses. **Conclusions:** Internal medicine residents have more experience in caring for dying patients and conducting EoL discussions. Even though majority of participants reported that they are comfortable with the concept of EoL care, this does not always reflect the actual practice in the hospital. There is a need for further training in skills around EoL care. As this is a self-assessment survey, the specific measures of attitudes and skills in EoL are poorly reflected, indicating a need for further research.

Keywords: End-of-life, intensive care, palliative care

Access this article online

Website: www.ijccm.org

DOI: 10.4103/0972-5229.188196

Quick Response Code:



Introduction

The advances in critical care have contributed significantly to the vast improvements in health care and quality of life over the last century. The practice involves not only the application of technologically advanced and expensive lifesaving interventions but also their withholding and withdrawal, when appropriate. Presently, in the US and Europe, withholding and withdrawing care precede in around 90% deaths in critical care and 10% hospital admissions.^[1,2] Around 10–36% of patients admitted to Intensive Care Units

(ICUs) in India died.^[3] The goals of care change around this time to comfort and palliation, which can include, among others, withholding and withdrawal of care. The Indian Society of Critical Care Medicine (ISCCM) and the Indian Association of Palliative Care endorse the view that training in intensive care includes skills of end-of-life (EoL) care and comfort care, and this requires the same high level of knowledge and competence as other aspects of intensive care.^[3,4] Effective EoL care is considered as one of the top priorities for the Indian ICUs, and EoL care

From:

Departments of Organ Transplant Anaesthesia and Critical Care, ¹Pain and Palliative Care and ²Pediatric Cardiology, Amrita Institute of Medical Sciences and Research Centre, Kochi, Kerala, India

Correspondence:

Dr. Zubair Umer Mohamed, Department of Organ Transplant Anaesthesia and Critical Care, Amrita Institute of Medical Sciences and Research Centre, Ponekkara, Kochi - 682 041, Kerala, India.
E-mail: zubairumer@gmail.com

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Mohamed ZU, Muhammed F, Singh C, Sudhakar A. Experiences in end-of-life care in the Intensive Care Unit: A survey of resident physicians. *Indian J Crit Care Med* 2016;20:459-64.

is the focused theme of the Indian Society of Critical Care and Palliative care Society of India for the year 2014.^[5,6] However, there exists a lack of consensus among the Indian medical community in dealing with many EoL issues, and the India law is still in an evolving stage in many of these pressing issues.^[7]

A recent publication suggested that intensive care residents in the US are only moderately comfortable in dealing with various aspects of EoL.^[8] There is very limited information available on the attitudes of Indian intensive care residents toward EoL care. We decided to survey the attitudes of the intensive care residents of our institute toward EoL, the training they receive in this field and the skills they acquire during their placement in intensive care.

Materials and Methods

Due to the lack of an internationally accepted and validated questionnaire on issues of palliative and EoL care, a significant portion of our questionnaire was based on the work done by Chen *et al.*, and we modified the questionnaire to suit our patient population.^[8] Data of all the residents and junior consultants working in any of the adult ICUs at a single tertiary teaching hospital were collected from the hospital administration. Everyone who has worked for at least a month in adult ICUs was invited to participate in the survey. Pediatric intensive care residents were excluded from the study. The Institutional Ethics Committee approved the questionnaire and the survey methodology. The questionnaire was pretested in a couple of residents – for ensuring clarity of wording and appropriateness of questions - and a hard copy handed over to individual residents who were then requested to complete it anonymously and return it. A web-based survey was not attempted because not all residents had hospital E-mail address and obtaining individual E-mail addresses was practically difficult. Paper-based surveys have been shown to be as good, if not superior to web-based surveys.^[9] The questionnaires were distributed and data collected over a 3-month period October–December 2015. A response rate of 60% or more was decided at the outset to be considered an acceptable response rate and a reflection of the study population.^[10,11]

Statistical analysis

Frequency and descriptive analysis was performed for the demographic variables. The Likert-type questions were grouped to create five composite measures of opinions and attitudes related to (1) communication skill, (2) technical skill, (3) training, (4) education, and (5) attitudes. Initially,

we examined central tendency, variability, and reliability for the five composite measures. Scale internal consistency was checked by Cronbach's coefficient alpha. Multivariate forward conditional regression analysis was conducted to examine whether physician demographic data or physician EoL experience is associated with the composite measures. Significance was assumed at 0.05. Data analysis was performed using SPSS software version 17.0 (SPSS Inc. Released 2009. PASW Statistics for Windows, Version 17.0. Chicago: SPSS Inc.) for windows.

Results

A total of 170 intensive care residents fulfilled inclusion criteria and were invited to participate in the survey. We received 120 (70.5%) responses, of which 7 were incomplete. The residents were broadly divided into three groups - anesthesia, internal medicine, and surgery. The response rate was highest among anesthesia residents (97.29%) and least in surgery residents (56.14%) [Table 1]. Demographic data are summarized in Table 2.

Experience in end-of-life care

Seventy-four (61.6%) residents have cared for 10 or more number of dying patients. Forty percent of the residents have attended or conducted 10 or more EoL meetings with family. Residents in internal medicine had more experience with caring for dying patients in the intensive care, and they have attended or conducted more EoL care discussions with family as compared to their anesthetic or surgical colleagues.

Almost half (48%) of the residents have never communicated regarding organ donation to the family of brain-dead patients. Only 6 (0.05%) residents have had 10 or more discussion with family members regarding organ donation [Figure 1]. We find that nearly 75% (89/120) of the residents have never communicated regarding organ transplantation with family or have done it less than a couple of times. This trend holds true even for the residents who have 4 or more years experience in ICU. Of the 48 residents who have 4 or more years of ICU experience, 35 (72.9%) have negligible experience in discussing organ donation with relatives of brain dead patients. We find that although the dying patients cared for increases significantly with years of experience ($P = 0.02$), the discussion on organ donation after brain death does not increase ($P = 0.39$) with years of experience.

Likert-type questions

The Likert-type questions along with the median scores are shown in Table 3. The minimum and maximum

Table 1: Response rates based on specialty

Specialty	Invited	Responders (Percentage)
Anaesthesia	37	36 (97.29)
Medicine	76	52 (68.42)
Surgery	57	32 (56.14)
Total	170	120 (70.5)

Table 2: Demographic data

	Number (Percentage)
Age (yrs)	
<25	8 (6.66)
25-30	65 (54.16)
30-35	42 (35.0)
>35	5 (4.16)
Gender	
Male	92 (76.66)
Female	28 (23.33)
Medium of Undergraduate Training	
English	119 (99.16)
Year of training	
PG Y1	19 (15.83)
PGY2	28 (23.33)
PGY3	25 (20.83)
PGY4 or above	48 (40.0)
Time spent in ICU (months)	
1-3	44 (36.66)
3-6	34 (28.33)
>6	42 (35.00)
Religion	
Christianity	10 (8.33)
Hinduism	104 (86.66)
Islam	3 (2.5)
Others	1 (0.83)
None	1 (0.83)
Importance of religion	
Extremely Important	8 (6.66)
Very Important	24 (20.00)
Somewhat important	42 (35.00)
A little important	19 (15.83)
Not important	27 (22.50)

values were 1 and 5, respectively for all groups. The Cronbach’s coefficient alpha values for 4/5 individual composite measures range from 0.6 to 0.7 indicating a moderate internal reliability for the questions in the composite measures [Table 4]. However, the Cronbach’s coefficient alpha for the education was only 0.12, thereby indicating minimal internal reliability.

Communication skills

The scores in the communication section were between 3 and 4 indicating that the residents were fairly comfortable in discussing prognosis and goals of care to critically ill patients and to their family. On regression analysis, the only variable that was found to be statistically significant was internal medicine residents who were significantly more comfortable discussing prognosis and goals of care to critically ill patients and

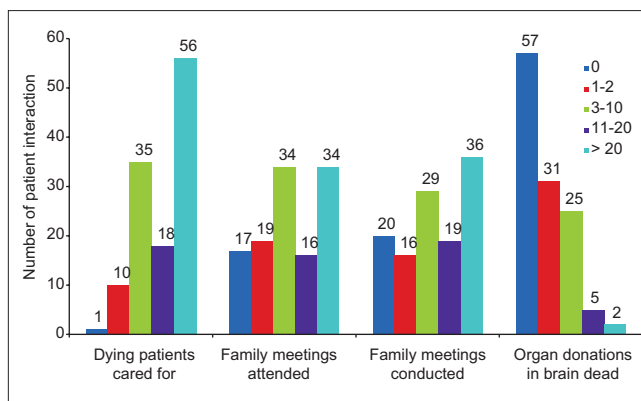


Figure 1: End-of Life care experience

to their family, compared to their anesthetic and surgical counterparts [Table 5].

Technical skills

The median score for the questions addressed was between 3 and 4, indicating that most residents were comfortable with identifying a dying patient, managing their symptoms, and even discussing the process of organ donation. Males had a significantly higher self-assessed technical skill compared to females, and year 1 residents were found to have a significantly lesser technical skill compared to their senior colleagues [Table 5].

Training

The residents felt that during their medical school, they have had a reasonable training in the management of symptoms and communication during EoL (median score 3). They agree that the senior medical staffs serve as good role models in EoL care management (median score 4). However, they feel that the feedback received during their training regarding EoL skills could be improved (median score 2). The significantly different variables in this composite measure were anesthetic and surgical residents who felt significantly less trained toward delivery of EoL symptom care compared to their internal medicine counterparts.

Education

The residents felt that, even though, learning procedures were more important and challenging in intensive care, placements of 1-month duration was enough to impart EoL skills (median score 3). The residents felt that better palliative care skills will have a significant impact on their future practice (median score 4). They also felt that they would benefit from further training in symptom management and communication during EoL.

Table 3: Likert-type questions and the response

Composite Measure	No	Question	Median	Mean	SD
CommunicationSkills	1	I am comfortable leading a family meeting to discuss goals of care regarding a patient with imminent death	3.00	3.47	1.107
	2	I am comfortable presenting prognosis to a critically ill patient	4.00	3.65	1.074
	3	I am comfortable presenting prognosis to family members of a critically ill patient	4.00	3.41	1.254
TechnicalSkills	4	I believe I can identify a dying patient early	4.00	3.67	1.040
	5	I am comfortable with the process of withdrawal of life support from a physician standpoint	3.00	3.22	1.298
	6	I know how to medically manage symptoms of a dying patient	3.00	3.38	1.093
	7	I am comfortable notifying family after a patient's death	4.00	3.47	1.195
Training	8	I am comfortable discussing organ donation with family members	3.00	2.98	1.152
	9	During my medical training, I have had training in symptom management during end of life	3.00	2.83	1.380
	10	During my medical training, I have had training in communication during end of life	3.00	2.85	1.364
	11	I have had adequate feedback on my end of life care skills during my training	2.00	2.49	1.341
	12	My senior colleagues serve as good role models in the provision of end of life care	4.00	3.59	1.156
Education	13	There is adequate time during a one month ICU rotation to incorporate more education on palliative and EoL care	3.00	2.85	1.234
	14	Learning to provide palliative and end of life care will have a significant impact on my future practice of medicine	4.00	4.12	0.997
	15	During an ICU rotation, it is more important to learn procedures and aggressive care than palliative care	3.00	3.03	1.267
	16	Providing aggressive care is more challenging than providing palliative care	3.00	3.01	1.260
	17	In general, I am well prepared to care for a critically ill patient at the end of life	3.00	3.16	1.092
	18	I will benefit from further training in symptom management	4.00	4.27	0.764
Attitudes	19	I will benefit from further communication training	5.00	4.32	0.953
	20	I am aware of the ISCCM guidelines on withdrawal of life support	1.00	1.57	0.923
	21	I am worried about the legal implications of withdrawal of life support	2.00	2.57	1.375
	22	I think withdrawal of life support is euthanasia	2.00	2.09	1.184
	23	I have ethical/moral concerns about limiting life support	2.00	2.48	1.324
	24	I have religious concerns about limiting life support	1.00	1.68	1.104

Abbreviations: ICU: Intensive Care Unit; EoL: End of Life; ISCCM: Indian Society of Critical Care Medicine Likert scale from 1 (Strongly disagree) to 5 (Strongly agree) Range was 1-5 for all questions

Table 4: Internal reliability of Composite Measures

	Mean	Standard Deviation	Cronbach alpha reliability
Communication Skills	3.50	0.87	0.640
Technical Skills	3.34	0.76	0.665
Training	2.94	1.02	0.778
Education	3.53	0.44	0.121
Attitude	2.03	0.79	0.662

Attitude

Majority of residents were not aware of the ISCCM guidelines on EoL care (median score 1). Majority did not see withdrawal of support as euthanasia (median score 2) and they do not have ethical/moral or religious concerns regarding withdrawal of life-supporting interventions (median score 2 and 1, respectively).

Discussion

There has been a recent increase in the interest toward

appropriate EoL care in India, and this is reflected in the policy statements and guidelines issued from Indian stakeholders.^[4,6] However, it has been acknowledged that the current quality of EoL care delivery in India is grossly inadequate.^[12,13] Possible reasons include inadequate resources, ambiguity within the legal framework, failure of statutory governmental bodies including Indian Medical Council to provide clear guidelines, lack of consensus within the medical community, and nascency of ethical development within the context of Indian values.^[12]

We decided to investigate the attitude of intensive residents at our hospital - a medical college and tertiary referral center - toward EoL care and the training they have received in this field. Due to lack of standardized questionnaire in this field, we used a modified version of a similar study conducted at a hospital in the USA.^[8]

Table 5: Results of Multivariate forward conditional regression analysis for composite and total measures

Predictor	Communication P value	Technical P value	Training P value	Education P value	Attitude P value	Total P value
Internal Medicine (Ref)	NS	NS	NS	NS	NS	NS
Anaesthesia	-0.744	NS	-0.736	NS	-0.718	-0.467
Surgery	-0.671	NS	-0.563	NS	-0.535	-0.353
PgY1	NS	-0.585	NS	NS	NS	-0.246
PgY2	NS	NS	NS	NS	NS	NS
PgY3	NS	NS	NS	NS	NS	NS
PgY4 (Ref)	NS	NS	NS	NS	NS	NS
Male	NS	0.347	NS	0.25	NS	NS
Female	NS	NS	NS	NS	NS	NS

NS: Not significant

We received an excellent response rate (more than 70%) from our study population, which may be considered as a reflection of the interest among the participants in this important field. Most studies consider a response rate of over 50–60% to be reflective of the study population.^[10,11] As English is not the first language in our city, the fact that almost 100% participants undertook undergraduate education in English language can be considered as sufficient proof that the participants understood the content of the questionnaire [Table 2].

Our results are similar to those of Chen *et al.* in that physicians display a moderate level of comfort in dealing with EoL issues with confidence increasing with experience.^[8] Although discussion around organ donation has been reported to not cause much angst among the residents, there seem to be a universal reluctance to engage the family of a dying patient with this topic. Whether this can be improved with further training in communication skills need to be explored. A lack of clarity regarding institutional or national policy on the seniority or the designation of the person who is entitled to discuss options of organ donation with the family of a dying patient may also contribute to this finding.

Internal medicine residents are more comfortable with discussions and decisions around EoL care, and they also feel better trained in this regard compared to their surgical and anesthetic counterparts. Our results are similar to that of Chen *et al.*^[8] This is probably a reflection of the fact that general medicine physicians deal with patients with chronic disease more frequently, requiring multiple interactions and communication sessions over a period of time. Anesthetists are not known to spend a significant amount of time speaking to patients during the perioperative period. The factor of communication is not usually engrained into the anesthetists' curriculum during training. This is likely to contribute to the inadequate communication skills and the lack of confidence thereof, of an anesthetist as (s)he subsequently takes up the role of an intensive care physician.

In our study population, males seem more comfortable making EoL discussions and decisions on withdrawal. This is in contrast to what was found by Chen *et al.* Whether cultural differences contributed to contrasting results, can only be postulated. However, it is evident that communication skills and confidence improve with experience as evidenced from our data and that of Chen *et al.*^[8]

There is an appreciation of the importance of EoL skills among the residents, an acknowledgment of current limitations - in terms of skills, training, and feedback - and a desire for further training in this field. These inadequacies seem to be universal and have been noted previously.^[8,14] Given the fact that senior medical staff already serves as good role models in EoL care management, this inadequacy probably highlights the need for better training of the trainers in medical education.^[15,16]

Lack of awareness of national guidelines may be a reflection of the urgent need for a more proactive approach by the stakeholders by engaging with the larger junior doctor community. EoL decisions do not seem to cause ethical concerns and religiosity had no bearing on the attitude toward these decisions in our study population. Our findings differ from that of ACME and ethicus studies where religiosity was shown to influence EoL decisions.^[17,18] Due to small number in our study, comparisons cannot be made based on the religious affiliation of the residents.

Our study has a number of limitations. As this is a self-assessment survey, objective evaluation of knowledge and skills is not possible. Recall bias, researcher imposition, question ambiguity, etc., are known disadvantages of questionnaire surveys and may have contributed to our study results. Generalization to other institutions should not be made from this single-center study. It will be interesting to know the attitudes and experience of a wider population across the country. Over 90% of the participants in this study belonged to the

25–35 years age group who will be the senior physicians in the coming years. There is an urgent need to address the learning requirements regarding EoL care skills in this group if we are to make a significant improvement in the quality of EoL care delivered in India in the coming years.

Conclusions

Internal medicine residents have more experience in caring for dying patients and conducting EoL discussions. Even though majority of participants reported that they are comfortable with the concept of EoL care, this does not always reflect the actual practice in the hospital. There is a need for further training in skills around EoL care. As this is a self-assessment survey, the specific measures of attitudes and skills in EoL are poorly reflected, indicating a need for further research.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

- Ferrand E, Robert R, Ingrand P, Lemaire F; French LATAREA Group. Withholding and withdrawal of life support in intensive-care units in France: A prospective survey. French LATAREA Group. *Lancet* 2001;357:9-14.
- Sprung CL, Cohen SL, Sjøkvist P, Baras M, Bulow HH, Hovilehto S, *et al.* End-of-life practices in European intensive care units: The Ethicus Study. *JAMA* 2003;290:790-7.
- Mani RK, Amin P, Chawla R, Divatia JV, Kapadia F, Khilnani P, *et al.* Guidelines for end-of-life and palliative care in Indian intensive care units' ISCCM consensus Ethical Position Statement. *Indian J Crit Care Med* 2012;16:166-81.
- Myatra S, Salins N, Iyer S, Macaden S, Divatia J, Muckaden M, *et al.* End-of-life care policy: An integrated care plan for the dying. *Indian J Crit Care Med* 2014;18:615-21.
- Divatia JV, Iyer S. Ten major priorities for intensive care in India. *Intensive Care Med* 2015;41:1468-71.
- Indian Society of Critical Care Medicine; 2014. Available from: <http://www.iscem.org/letterforISCCMdaycampaign.aspx>. [Last accessed on 2016 Jan 15].
- Iyer S. Challenges in the implementation of end-of-life care guidelines in India: How to open the Gordian knot? *Indian J Crit Care Med* 2014;18:563-4.
- Chen E, McCann JJ, Lateef OB. Attitudes toward and experiences in end-of-life care education in the intensive care unit: A survey of resident physicians. *Am J Hosp Palliat Care* 2015;32:738-44.
- Hayslett MM, Wildemuth BM. Pixels or pencils? The relative effectiveness of Web-based versus paper surveys. *Libr Inf Sci Res* 2004;26:73-93.
- Dragalis JR, Coons SJ, Plaza CM. Best practices for survey research reports: A synopsis for authors and reviewers. *Am J Pharm Educ* 2008;72:11.
- Huston P. Reporting on surveys: Information for authors and peer reviewers. *CMAJ* 1996;154:1695-704.
- Mani RK. Coming together to care for the dying in India. *Indian J Crit Care Med* 2014;18:560-2.
- Murray S. The quality of death: Ranking end-of-life care across the world. Economic Intelligence Unit. <http://graphics.eiu.com/upload/eb/qualityofdeath.pdf>. [Last accessed 2016 Aug 04].
- Anderson PA. Giving feedback on clinical skills: Are we starving our young? *J Grad Med Educ* 2012;4:154-8.
- Shrivastava SR, Shrivastava PS, Ramasamy J. Effective feedback: An indispensable tool for improvement in quality of medical education. *J Pedagog Dev* 2014;4:12-20.
- Algiragri AH. Ten tips for receiving feedback effectively in clinical practice. *Med Educ Online* 2014;19:25141.
- Sprung CL, Maia P, Bulow HH, Ricou B, Armaganidis A, Baras M, *et al.* The importance of religious affiliation and culture on end-of-life decisions in European intensive care units. *Intensive Care Med* 2007;33:1732-9.
- Phua J, Joynt GM, Nishimura M, Deng Y, Myatra SN, Chan YH, *et al.* Withholding and withdrawal of life-sustaining treatments in intensive care units in Asia. *JAMA Intern Med* 2015;175:363-71.