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Evaluation of a novel individualised communication-skills training intervention to improve doctors' confidence and skills in end-of-life communication

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Abstract

Background: We developed a novel individualised training program regarding end-of-life communication, designed to be time effective for busy junior-doctors working in hospital settings.

Aim: We aimed to pilot this brief individualised training program with junior-doctors to explore its acceptability, feasibility and effect on the doctors' confidence, communication skills, attitudes towards psychosocial care and burnout.

Design: The content of the training intervention was informed by a systematic literature review and evidence-based clinical practice guidelines regarding end-of-life communication. The intervention was based on sound educational principles and involved three one-hour teaching sessions over a three-week period, including two individual sessions with an expert facilitator and simulated patient/caregiver. In addition, participants received written and audiovisual take-home learning materials.

Participants were videotaped consulting with a simulated patient/caregiver pre/post training to assess the impact of the course on their communication behaviours. Participants completed de-identified questionnaires pre/post training, including self-assessed confidence, attitudes to psychosocial care, and the Maslach Burnout inventory.

Participants: Participants included 22 junior-doctors from a large teaching hospital in Sydney, Australia.

Results: All participants reported that the training was useful, had been helpful for their communication with patients and that they would recommend the training to others. Significant improvements were found in participants' communication skills (in seven out

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of 21 specific and all three global communication behaviours assessed, range $P=0.02$ to <0.001), confidence in communicating about relevant topics ($P<0.001$), attitudes towards psychosocial care ($P=0.03$) and sense of personal accomplishment ($P=0.043$). There were no overall differences in participants' burnout levels.
Conclusion: This intervention shows promise and warrants further formal evaluation.

Keywords
Communication, palliative care, terminal care, education-medical, physician-patient relations

Introduction

Communication is identified by patients and families as critical to end-of-life care.[1,2] Quality information, delivered sensitively by physicians, allows people with advanced life-limiting illness to make appropriate decisions about their care, set goals and priorities, prepare for their death and avoid inappropriate interventions at the end of life.[3]

However, end-of-life discussions are difficult for patients, families and health professionals.[4] Poor quality or lack of discussion about end-of-life issues is a frequent cause of patient/family complaints.[5] While discussions about end-of-life issues should be part of advance-care planning, they often do not take place until death is imminent and when senior medical staff are not available. Junior-doctors often feel inadequately prepared for these difficult conversations because of lack of training.[6–8]

Formal communication skills training involving workshops of three days or longer improve communication skills of medical practitioners.[9,10] Few studies have explored workshops for junior medical staff to improve end-of-life communication.[10–12] However, attendance at even a one-day workshop is often unrealistic for junior-doctors. We developed a novel individualised training program regarding end-of-life communication, designed to be time effective for busy junior-doctors working in hospitals.

We aimed to pilot this brief individualised training program and to explore its acceptability, feasibility and effect on the doctors' confidence, communication skills, attitudes towards psychosocial care and burnout.

Methods

Participants

Participants were junior-doctors employed at a large tertiary-referral teaching-hospital in Sydney, Australia, who volunteered in response to internal advertisements about the study. Written informed consent was obtained from all participants. The study was approved by the relevant Ethics Committees.

Intervention

The training intervention content was informed by a systematic literature review and evidence-based clinical practice guidelines regarding end-of-life communication previously developed by our group.[3] The key take-home messages of the training reflect the executive summary of these guidelines[3] and are outlined in Table 3.

Participants took part in three one-hour, onsite teaching sessions and a follow-up telephone call spaced over four weeks, and received written and audiovisual take-home learning materials, including a 20-minute DVD (http://www.psych.usyd.edu.au/cemped/dvd_resources.shtml) demonstrating a junior-doctor discussing end-of-life issues with a patient and their family member, scripted by expert clinicians.

The first teaching session, held in a small group, included an interactive presentation providing a framework and evidence-based strategies for conversations with patients expected to die within days/weeks and their caregivers, regarding prognosis and end-of-life issues, including about goals of end-of-life care, "No-CPR orders" and referral to palliative care teams. The presentation included excerpts from the DVD demonstrating specific skills. Participants were given a package to take home and review, incorporating written materials and the DVD and a copy of their videotaped baseline interview with a simulated caregiver (see below) if they wished.

Participants took part in two further individual sessions, where they practiced communication skills with an experienced simulated patient or caregiver and received feedback from an expert facilitator. In both sessions the patient had far-advanced cancer, using scenarios developed by a multidisciplinary team to ensure relevance to discussion of end-of-life issues and the goals of the training intervention.

At the start of each individual session the facilitator assisted the participant to set learning objectives. The participant then interacted with the simulated patient/caregiver for short segments, after which they were encouraged to self-appraise their communication, were given constructive feedback based on their own objectives and replayed segments with a revised strategy to a more satisfactory conclusion.

One week after the second individual session, participants received a phone call from the facilitator to reinforce and extend learning and to offer further support and feedback. Participation in the intervention took three

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hours in total of face-to-face time and up to two additional hours to review the provided materials.

Evaluation

Participants completed assessments one week before and two weeks following completion of the intervention. Each evaluation consisted of a video-recorded consultation (up to 20 minutes long) about end-of-life issues with standardised caregivers of terminally ill patients, as well as completion of written questionnaires. Measures included the following:

Communication skills assessment

The pre-/post-intervention video-recorded consultations between participants and simulated caregivers were fully transcribed and coded using a purpose-designed coding manual (Online Appendix 1) based on teaching content. Coders recorded the presence or absence of 21 specific skills (Table 3) and rated the strength of three global skills (Table 2) on a four-point scale (poor to very good). Coding was completed by a skilled coder (R L-P) who was blinded to subject identity and timing of video-recording (i.e. pre or post training). Twenty per cent of consultations were recoded by the primary coder (R L-P) and a secondary coder (AO) to determine intra- and inter-rater reliability using Cohen's Kappa with Landis and Koch's standards used for interpretation.[13] The mean intra-rater and inter-rater reliability for coding of specific skills was 0.96 (range 0.53–1.00) and 0.90 (range 0.52–1.00), respectively, indicating almost perfect agreement. The mean intra-rater and inter-rater reliability for coding the global skills was 0.94 (range 0.81–1.00) and 0.61 (range 0.53–0.67), respectively, indicating substantial agreement.

Course satisfaction

Satisfaction with the course was assessed two weeks following completion of the intervention using four-point Likert scales adapted from previous studies[14,15] (see Table 4). Participants were also asked whether they had discussed "no-CPR" orders or prognosis/end-of-life issues with a patient/caregiver since taking part in the training (yes/no) and whether they had used any of the skills taught in the training (yes/no). Qualitative feedback about the course was elicited using open-ended questions.

Self-assessed confidence in communication skills

Self-assessed confidence in communication skills in areas specifically relevant to end-of-life discussions was assessed using 15-item five-point Likert scales (1=not at all confident to 5=very confident) adapted from Lenzi et al.[16] Total scores may range from 15 to 75 (higher scores reflect greater confidence); items are shown in Table 4. In the current sample, Cronbach's alpha for the scale was 0.934, indicative of excellent reliability and internal consistency.

Attitudes towards psychosocial aspects of care

Attitudes towards psychosocial aspects of care was assessed using a 20-item questionnaire adapted from Ashworth et al[17] and Jenkins et al.[18] The questionnaire uses a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Scores may range from 20 to 100, with high scores reflecting positive attitudes and a belief that addressing psychosocial issues is part of the physician's role.

Stress and burnout

Stress and burnout was assessed using the 22-item Maslach Burnout Inventory (MBI) as used by Ramirez et al.[19] A high degree of stress and burnout is indicated by high scores on the emotional exhaustion and depersonalisation subscales and low scores on the personal accomplishment subscale.

Statistical analysis

Data analyses were conducted using Predictive Analytics SoftWare (PASW) version 17.0. Descriptive statistics were used to summarise demographic variables. Due to the small sample size and restricted range of data, non-parametric tests were utilised to analyse differences between physicians' pre-training and post-training self-report scale responses (Wilcoxon Signed Ranks Test) and behaviours/skills (the McNemar Test for dichotomous items: Yes/No, and the Wilcoxon Signed Ranks Test for ordinal items: Never/Once/2+ Times; Poor/Fair/Good/Very Good).

Results

Twenty-eight junior-doctors expressed interest in participating in the study, of whom 22 participated and completed baseline measures and six had competing commitments at the available teaching times. Twenty participants completed all components of the intervention and 21 the pre-/post-intervention assessments. The demographic characteristics of all 22 participants are shown in Table 1.

Communication skills assessment

There were significant improvements on all three global consultation behaviour items (see Table 2), and the number of participants displaying skills significantly increased for seven out of 21 specific skills relevant to the teaching (see Table 3).

Satisfaction with the course

Feedback about the course is shown in Table 4.

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Table 1. Demographic characteristics of participants (n=22).

Characteristic	
Age (years)	Range 22 to 46 years, mean 30, median 27
Gender	N
Male	9
Female	13
Type of participant	
Intern or pre-intern	3
Resident medical officer – Year 1	11
Resident medical officer – Year 2 or beyond	3
Specialist trainee (registrar) or Fellow*	5
Number of patients with advanced life-limiting illnesses the participant estimates they have cared for during their last days of life	
None	3
1 to 10	8
11 to 20	1
>20	10
Number of times the participant estimates that they have previously discussed no-CPR orders with a patient and/or their family	
None	3
1 to 10	8
11 to 20	4
>20	7
Previous formal communication skills training in end-of-life discussions, including skills practice, since graduation from medical school	
Yes	1
No	21

*Areas of specialty training included: general internal medicine, emergency medicine, haematology and renal medicine.

All participants agreed the training was useful, was helpful for discussing end-of-life issues with patients/caregivers and that they would recommend the training to others. In addition, 13 (62%) said they had discussed "no-CPR orders" or prognosis/end-of-life issues with a patient or caregiver since completing the training, and 18 (86%) said they had implemented skills taught in the training during actual consultations with patients/caregivers. Qualitative feedback from participants was also highly positive, as shown in Box 1.

Box 1. Examples of participants' qualitative feedback about the course.

A very unintimidating way to improve communication.
Great course, fantastic actors, highly recommended.
I feel comfortable in breaking bad news now; the importance of exploring what matters most to patient.
Very impressed with course — very helpful.
Felt very real but safe place to practice.
I am more confident and objective about my skills in discussing end-of-life issues.

Self-assessed confidence in communication. Total self-assessed confidence in communication skills significantly increased from a baseline mean score of 42.1 (SD 6.41) to 56.1 (SD 8.95) after completion of the training (Z= -3.923, P<.001), see Table 5.

Attitudes towards psychosocial aspects of care. Mean scores significantly improved from a baseline mean of 72.3 (SD 5.42) to a mean of 77.1 (SD 8.11) following the intervention (Z=-2.155, P=0.031).

Stress and burnout. Participants' scores on the personal accomplishment subscale of the MBI significantly improved following the intervention (pre-mean 33.9, SD 8.52; two-week, post-intervention mean 36.9, SD 5.32, z=-2.023, P=0.043); there were no significant differences on the emotional exhaustion (pre-mean 21.7, SD 10.62; post-mean 20.3, SD 10.50, z=-1.576, P=0.115) or depersonalisation (pre-mean 9.81, SD 5.91; post-mean 8.86, SD 5.32, z=-0.707, P=0.48) subscales of the MBI.

Discussion

This is the first study reporting a brief one-to-one skill-based training intervention utilising simulated patients/caregivers plus a facilitator for teaching doctors about

Table 2. Global ratings of participants' communication skills at baseline ('before') versus two weeks following completion of training ('after') (n=21).

Item		Poor	Fair	Good	Very good	Z	P
Overall clarity of information provided	Before training	0	5	16	0	−3.500	P< .001
	After training	0	1	10	10		
Pacing of information	Before training	0	8	13	0	−3.095	p= .002
	After training	0	1	12	8		
Empathy and support	Before training	2	5	12	2	−2.288	p= .022
	After training	0	4	8	9		

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Table 3. Participants' specific skills relevant to discussions about palliative care, end-of-life issues and "no-CPR orders" at baseline ('before') versus two weeks following completion of training ('after') (n=21).

Communication skills coding scheme	Number of participants with skill		*P* value
	Before training (n=21)	After training (n=21)	
PREPARED skills			
Prepares for the discussion (not able to code)			
Relates to the person			
Doctor displays warmth and/or empathy/compassion for the family member within two minutes	17	18	1.00
Explores understanding and preferences			
Doctor explores family member's understanding of the patient's condition/ prognosis before giving new information	16	21	0.063
Doctor clarifies family member's preferences for information	1	5	0.219
Provides information			
Doctor uses plain language and/or explains jargon	6	13	0.039*
Doctor gives information about prognosis and end-of-life issues in small chunks (no more than three facts or pieces of new information at a time) before pausing or checking in with the family member	7	12	0.267
Doctor checks family member's understanding of information provided	3	9	0.07
Acknowledges emotions and concerns			
Doctor expresses verbal expression of empathy (e.g. this must be a really difficult time)	20	20	1.00
Doctor expresses **support** (e.g. our team will be here to support you)	15	19	0.219
Doctor **explores** emotion / concerns	11	14	0.508
Doctor offers non-verbal response to emotion (e.g. touch, facial expressions, empathic body language)	19	19	1.00
(fosters) **Realistic** hope			
Doctor explores family member's values, goals and/or priorities for patient's remaining time	7	14	0.039*
Encourages questions and further discussions			
Doctor encourages questions	10	20	0.002*
Documents what has been discussed (not able to code)			
Other skills			
Discussing referral to palliative care team			
Doctor explores family member's understanding of palliative care	4	14	0.002*
Doctor discusses the referral to palliative care in a way that emphasises non-abandonment	14	18	0.289
Doctor explains role of palliative care framed in positive way	18	21	0.250
Discussing end-of-life care and No-CPR orders			
Doctor explores family member's understanding of the patient's illness and prognosis before No-CPR discussion	15	21	0.031*
Family member's values and goals for remaining time clarified before No-CPR discussion	11	18	0.065
Doctor explores the family member's fears or concerns about what may happen during the final days	1	7	0.031*
CPR orders framed within the context of the family member's goals for end-of-life care	6	16	0.006*
No-CPR orders expressed as a recommendation for quality care at the end-of-life (not a choice the family member has to make)	14	19	0.125
Doctor emphasises support during the dying process	20	21	1.00

*$p<0.05$

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Table 4. Overall ratings of course in the final questionnaire (n=21).

Item	Strongly agree (n)	Agree (n)	Disagree (n)	Strongly disagree (n)	Missing (n)
The training was effective.	14	5	1	0	1
I have utilised the information from the training during my patient consultations.	7	12	0	0	2
The training was enjoyable.	7	11	2	0	1
The training provided me with useful information.	15	5	0	0	1
The training has helped me in my discussions about prognosis and end-of-life issues with patients/families.	14	6	0	0	1
I would recommend this training to others.	15	5	0	0	1

Table 5. Participants' self-assessed confidence in communication skills (n= 21).

	Pre		Post		p
	Mean	(SD)	Mean	(SD)	
1. Give bad news to a patient about his or her illness?	2.9	.79	4.0	.71	.000*
2. Elicit a patient's emotional reaction to what is being discussed?	2.9	.70	4.1	.67	.000*
3. Express empathy?	3.2	.70	4.2	.68	.001*
4. Elicit a patient's information needs regarding their illness and prognosis?	3.1	.48	4.0	.78	.002*
5. Discuss life expectancy?	2.1	.87	3.3	.86	.000*
6. Discuss potential future symptoms?	2.7	.74	3.5	.87	.012*
7. Discuss the dying process and what to expect in the final days of life?	2.4	1.02	3.6	.98	.001*
8. Elicit a patient's fears about the end of life?	2.5	.60	3.9	.85	.000*
9. Elicit a patient's hopes for the end of life?	2.6	.59	4.0	.67	.000*
10. Discuss referral to the palliative care team with a patient or family member?	3.3	.66	4.2	.63	.001*
11. Discuss no-CPR orders with a patient?	2.9	.94	3.9	.79	.004*
12. Discuss no-CPR orders with a family member?	3.0	.78	3.8	.75	.005*
13. Discuss discontinuing other life-prolonging treatments such as antibiotics or intravenous fluids (when the patient is in the terminal phase of illness)?	3.0	.92	3.5	.98	.082
14. Discuss religious or spiritual issues with patients and families?	2.3	.66	3.0	1.00	.010*
15. Discuss a patient's condition and care during the last days of his or her life with a family member/ caregiver?	3.0	.74	3.9	.67	.002*

*P<0.05

end-of-life discussions. This training increased the confidence and skills of the participating junior-doctors regarding end-of-life discussions, and was feasible and acceptable to participants. The training modestly improved participants' attitudes towards psychosocial care and participants' sense of personal accomplishment.

Previous studies have explored the use of short retreats involving small-group learning to teach junior-doctors about end-of-life communication skills. Szmuilowicz et al[11] evaluated a one-day end-of-life communication skills workshop for internal medicine residents in a small randomised controlled trial. Twenty-three intervention participants showed improved skills in delivering bad news and responding to emotion compared with 26 controls. Their confidence level in end-of-life communication increased after the workshop in some areas (breaking bad news) but declined in others not explicitly covered by the retreat (discussing code status or no-CPR orders). Likewise, Alexander et al[12] evaluated a two-day retreat for medical residents on end-of-life communication in another small controlled but unrandomised study involving 56 participants. Participants completed audio-recorded standardised patient

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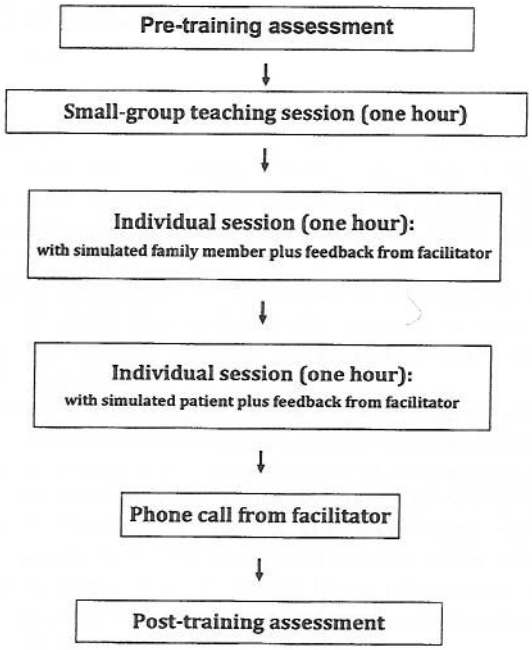

Figure 1. Training intervention and timing of assessments.

encounters pre/post intervention. The 37 intervention participants demonstrated significantly improved skill ratings in the delivery of bad news and in responding to emotional cues compared with controls, but no improvement in discussion of end-of-life treatment preferences.

Other studies involving specific teaching on end-of-life communication have explored longer interventions. For example, a four-day workshop for medical oncology fellows from the USA reported by Back et al[10] was evaluated in 115 participants using audio-taped standardised patient encounters pre-/post-completion of the training. Post-workshop, participants acquired a mean of 5.5 skills in breaking bad news ($P<0.001$) and 4.4 skills in transitioning to palliative care ($P<0.001$) compared with baseline. Participants' skills significantly improved in nearly all of the individual skill items assessed.

In contrast, in the current study participants' skills significantly improved in only a third of the 21 individual items assessed, although non-significant improvements were seen in nearly all items and significant improvements were seen in all of the global items. The differences observed in results of this and Back's study[10] may be related to the less intensive nature of this intervention as well as the smaller sample size. In addition, baseline scores were already high in many of the individual items assessed in the current study and may have lacked sensitivity in picking up subtle changes in participants' skills. For example, scores on some specific individual emotion skill items were already high at baseline and showed little change at follow-up, yet the overall global score for responding to emotions (which allowed more subtle aspects to be assessed) significantly improved.

The one-to-one nature of this training intervention and the short duration of each individual session (one hour each) plus the overall short total teaching time (three hours face-to-face teaching plus up to two hours reviewing the accompanying written/audiovisual teaching materials) appeared to be very feasible and accessible to the junior-doctors and easier for them to attend than a one- to three-day workshop. However, there were logistical issues involved with organising multiple individual sessions for participants. Both facilitators who conducted the teaching were palliative care physicians who had completed intensive workshops on teaching communication skills. The minimal level of competency required to teach end-of-life communication skills is not known.

While the sense of personal accomplishment scores of participants improved significantly following the intervention in this study, perhaps because of improved confidence and skills in communication,[19] their overall burnout scores did not alter after the training. This is perhaps unsurprising given the brevity of the intervention and the multiple factors which may contribute to burnout of junior-doctors.[20]

Limitations of this study include the relatively small sample size, the pre/post nature of the evaluation rather than a randomised study, involvement of only one institution and the lack of longer follow-up. We did not assess the impact of the training on patient outcomes. All participants were volunteers, and it is not known whether similar results would be seen if participation in the training were mandatory.

The optimum length of training in end-of-life communication to balance adequate skill practice for participants with cost effectiveness of the teaching, as well as time effectiveness for junior-doctors, is unknown. Further studies could compare different lengths of training versus no training as well as individual sessions versus small-group workshops.

In conclusion, this type of brief, individualised end-of-life communication skills training intervention shows promise and warrants further formal evaluation regarding effectiveness and feasibility for wider scale implementation.

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