Clinical model for ethical cardiopulmonary resuscitation decision-making

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Abstract

Background: Decisions to withhold cardiopulmonary resuscitation (CPR) for future cardiac arrest continue to be problematic, with a lack of consistency in how doctors approach this decision.

Aims: To develop a clinical model that can be used in education to improve consistency in CPR decision-making.

Methods: A qualitative study, using semistructured interviews with a total of 33 senior doctors, junior doctors and nurses from two Melbourne hospitals explored how decisions to withhold CPR are made. Interviews explored: issues arising; how doctors learn to make these decisions; how they deal with disagreement and their experiences of performing CPR. The transcripts were coded and analysed thematically.

Results: Three major themes were identified: CPR as a life-and-death decision; good and bad dying; and trust. The research also defined the two elements to a CPR decision: (i) technical and (ii) ethical.

Conclusions: Applying ethical principles commonly used in medicine, a model for ethical CPR decision-making has been developed that identifies four patient groups, each with a different discussion aim. This approach simplifies the complexities of the CPR decision, providing a structured way to teach CPR decision-making to doctors and thereby achieve greater consistency in the decisions made.

Introduction

Cardiopulmonary resuscitation (CPR) is default hospital treatment for a patient whose heart stops beating. A recent American study of 433 985 in-hospital cardiac arrests treated with CPR has reported increasing incidence of hospital deaths preceded by CPR; stable overall survival to discharge of 18.3% and that higher levels of CPR were associated with increased disability and increased institutional care.1 A medical order is required to withhold CPR: however, a 2007 study demonstrated significant variability within Australian hospital CPR policies.2 Guidelines have been developed by New South Wales Health and, although comprehensive, they are more in the nature of a policy than a clinical guide for use at the bedside.3

Debate is ongoing about whether a decision to withhold CPR should be a medical decision or a patient decision. A recent study4 reported a diversity of patient views about who should make the CPR decision. Some participants were willing to entrust their doctor with the decision. Other participants, however, lacked trust that the doctor would act in the patient’s best interests and so wanted to retain authority over the decision. Several studies report that doctors also vary in their views about whether an order to withhold CPR should be a medical decision or whether the patient should have ultimate authority.5-9

Not-for-resuscitation (NFR) or decisions to withhold CPR have been described as among the most difficult in clinical medicine.10,11 Doctors have reported less confidence discussing CPR than other medical procedures.12 Formal teaching of this skill has been lacking,13,14 and doctors have been identified to vary in their approach with respect to which patients should be resuscitated, the timing of the decision and the information provided.5,9,11,15-17 Tyrer et al.9 concluded that whether a
patient received CPR could significantly depend on the values of the treating doctor.

This article proposes an approach to CPR decision-making that: (i) seeks to address variability in practice and (ii) is simple enough to be taught to junior medical staff. The emphasis is on the CPR discussion.

Methods

This qualitative research explored how future CPR decisions are made for hospital patients. A qualitative approach using a social constructivist framework and grounded theory was chosen as there is little detail in the literature about the content of CPR decision-making and accompanying discussions. The social constructivist approach is used to examine how research participants construct meanings. The research aim was to identify the ethically significant elements and associated issues within the CPR decision.

The research took place at two Melbourne hospitals. Sampling was purposive. Eleven senior doctors (SDs) were recruited in response to individual letters. Specialties included intensive care, cardiology, oncology, palliative care, aged care, general medicine and emergency medicine. These doctors were expected to have considerable experience in making CPR decisions and responsibility for teaching junior doctors (JDs) and students. The Intensive Care Physicians also participated in Medical Emergency Team calls. Eleven JDs from years 2–5 and 11 nurses (Ns) from years 1–30 were recruited in response to study flyers. Participants provided written consent. The study was approved by the health service’s Human Research Ethics Committee.

Individual, semistructured interviews explored issues arising during CPR decision-making; how participants had learned CPR decision-making; whether participants thought CPR decisions different from other medical decisions and their experiences of performing CPR. Thematic analysis by the author with manual open and axial coding of the transcribed interviews occurred in parallel with the interviews. This enabled exploration of emergent themes in subsequent interviews. Relationships between themes were identified and themes assembled into a ‘thematic tree’. Selective coding identified central themes.

This study presents only doctors’ and Ns’ perceptions of CPR decision-making, and further research to directly explore the views of patients and families is planned.

In the following discussion, the terms ‘substitute decision-maker’ and ‘family’ are used interchangeably for convenience, recognising that often, although not necessarily, a family member will act as substitute decision-maker.

Results

Themes relating to both the technical and moral aspects of CPR decisions were identified. The following quote by an SD illustrates both aspects of decision-making:

I think it’s a prime responsibility of the medical profession to assess the individual, become conversant with every aspect of what their life was before, their quality-of-life, views that they have expressed . . . and then to look at the medical problem, look at reversibility and irreversibility and then come to a medical decision yourself on behalf of the patient about what you think is the appropriate way to go. (SD4)

Additionally, three major themes emerged that help explain what is significant about the CPR decision:

• CPR as a life-and-death decision
• Good and bad dying
• Trust

Three major themes

Each of the three participant groups identified the CPR decision to one of great significance for patients and families, because of what is at stake in the decision-making.

A life-and-death decision

First, when making CPR decisions, patients and families were described as needing to grapple directly and overtly with a life or death choice. Some families were said to be surprised that withholding CPR would be considered:

Some of them are absolutely aghast that we might even suggest not to resuscitate . . . they bring their loved one into hospital to get better; not to be asked . . . if we cannot treat them. (N1)

Despite this, many patients were reported to participate comfortably in these discussions:

A lot of people . . . just say, ‘No, I’ve had a good innings, just let me die.’ . . . often I find it’s families who have the objection. (SD11)

Other participants also commented that discussions about withholding CPR often seemed more difficult for families than patients. One reason postulated was the decision could be quite burdensome for the family. It was reported that sometimes families had refused to agree to no CPR, in order to protect against feeling responsible for the patient’s death. The relative of a 100-year-old patient was reported as saying:
If there’s a chance she might survive with that treatment, then I don’t want to be the one to say no to it.
(JD2)

The potential for CPR to result in a life that the patient might not want appeared to be less considered by patients and families but was a concern for participants and is described by the following doctor:

I’ve seen young people who’ve had long down-times and who have acquired brain injuries, who hate their life. (JD10)

Good and bad dying
Participants described experiences of successful, sometimes seemingly miraculous, CPR outcomes, but descriptions of unsuccessful CPR were more common. The following quote from an SD represents a frequent description of CPR at the end of life:

I’m sure . . . if you asked people how would they like to die, most people say: ‘In my sleep, quietly’ . . . not stripped naked . . . plethoric and having people doing this [cardiac massage] all the time and breaking ribs . . . if they’re intubated they end up having blood coming up the tube and oozing . . . it’s just awful. (SD2)

The importance of treating dying in a dignified way or respectfully was discussed by many participants:

The problem is still now we do not respect death. We see it still as something that should never happen . . . The patient should die in a dignified way. The way the life is, we should respect the death also. (SD8)

When there was little or no chance of the patient surviving, CPR was frequently interpreted by participants as disrespectful or ‘bad dying’. It was suggested, though, that patients and families might not share this view and may have a different understanding and valuing of good dying, as illustrated by the following quotes:

I might be projecting that onto families who don’t necessarily cherish the thought of just a peaceful death. (SD1)

He was resuscitated I don’t know how many times . . . [the family] said . . . as long as the doctors did everything they could . . . then it was in God’s hands. (N3)

It was suggested that the relative eagerness of patients and families to accept CPR might reflect a poor understanding of what CPR involved, and one N described the response of families who had the opportunity to witness CPR on an unrelated patient:

. . . two lots of families actually saw CPR . . . they straight away said, ‘We don’t want that’. (N2)

The CPR decision has been described in these two themes as one about high stakes: (i) life and continuing survival; (ii) survival, but in a more impaired, and possibly distressing, condition or (iii) undignified and bad dying during CPR. Participants repeatedly referred to the patient’s and family’s need to be able to trust the doctor’s CPR advice when making this decision.

Trust
Participants identified three types of trust that were inferred by them as necessary. Firstly, trust in the clinical judgement, described by an SD:

They’re trusting that you know enough about their illness to know what the likely prognosis is and what the likely survival is. And we’re talking about death, so there’s an enormous amount of trust. (SD11)

As well as trusting the doctor’s technical knowledge, trust in the doctor’s moral character was also identified as important. Descriptions were given where this trust appeared lacking or was damaged by the CPR discussion itself: the following quote is a report of what a patient had said to the N after a CPR discussion:

. . . they feel . . . because of their age that the doctors were giving up on them . . . didn’t care about them . . . put them on the scrap-heap. (N6)

Trust in the whole treating team was also reported to be necessary, that high-standard care would continue despite a no-CPR order. When lacking, this was said to lead to demands for CPR:

Because they [family] thought that care was going to be compromised when he was NFR, they refused to have that. (JD2)

The importance of a trusting relationship with the clinician, and the potential to damage that trust, when discussing CPR has been an important finding of this research.21

It could be argued that these three themes would be present in all end-of-life decision-making and there was no participant consensus about whether CPR decisions should be regarded as different from other medical decisions. There was, however, substantial agreement among participants that patients and families appeared to regard the CPR differently from other medical decision-making. One difference described by participants was the lay-assumption that CPR, unlike other treatments, would always be provided. This is illustrated in the next two quotes:
There are a lot of treatments [other than CPR] that are available that we don’t provide . . . that we don’t have the same conversations about. (SD3)

Everybody knows about CPR, so you have to discuss it; you can’t just withhold it. (N2)

An inference can be made from these comments that although clinicians do not usually discuss all treatments that would not be of provided, the common patient expectation that CPR would be provided creates a special requirement for there to be some type of CPR discussion. The potential for the CPR discussion itself to cause harm has been described. It will be important that the potential harm of inappropriate CPR is not replaced by a different harm of poor CPR decision-making. A conclusion can therefore be made that it is not just the final CPR decision that is ethically significant; it is also ethically significant how the decision is made.

**Discussion**

Qualitative research is interpretative and it is not possible to directly conclude how CPR decisions should be made based on the practice of a small group of clinicians. Instead, the descriptions given by these clinicians have been used to identify and better understand what is ethically significant within the CPR decision. The ethical virtues of trustworthiness and respect[24] will be integrated with other ethical principles commonly used in medicine: autonomy, beneficence, non-maleficence and justice.[19] These normative ethical principles used in medical decision-making and an understanding of issues raised within the major themes can be applied to the CPR decision, in order to describe a way for thinking ethically about CPR decision-making.

**Proposed model for ethical CPR decision-making**

The proposed model for CPR decision-making will take account of the technical aspects of the CPR decision that must rely on clinical assessment and judgement. There will then be ethical implications for how this technical knowledge is applied to the CPR decision. It is important that the clinician be able to distinguish between these two elements and seek to identify the best application of CPR for each individual patient. This might be considered as: ‘attempt[ing] to place the medically good within the larger context of the patient’s total good’. [24]

CPR decision-making comprises three steps: (i) technical analysis and judgement about the patient’s illness, disease trajectory and expected response to CPR; (ii) moral analysis about the application of that technical judgement and (iii) a discussion with the patient and/or family that seeks to understand the patient, their values and the moral implications of providing or withholding CPR for that patient. The first two steps are represented in Figure 1:

The nature of the discussion will be determined by which of four clinical categories applies.

**Four patient discussion categories**

The four patient categories comprise: two categories of patients not expected to survive a CPR attempt and two categories who may survive. The significance of these categories is that for each, there is a different discussion aim. It is not always possible to predict outcomes with absolute certainty, but any uncertainties can be addressed within the discussion. Also, a decision about CPR can only be understood within the context of the patient’s overall medical condition and management. Hence, a discussion about CPR needs to be part of that bigger discussion and not a discussion in isolation.

Categories 1 and 2 include patients where a technical medical judgement has been made that CPR could not reverse cardiac arrest. For these patients, CPR can neither prolong life nor provide greater comfort in dying. CPR would not be of benefit and may do harm by denying the patient a gentle dying. Offering a non-beneficial
treatment is not respectful of patient autonomy and is dishonest. However, given the likelihood that CPR might be expected, it will be important to have a CPR-related discussion so there is no harmful misunderstanding. The patient’s and family’s autonomy is respected by explaining why CPR would not be appropriate. These discussions should be deliberative, as described by Emanuel and Emanuel,25 conveying an understanding that CPR should not, and will not, be provided because there would be neither technical nor ethical reasons to do so. This is a discussion about good dying: life is not an option.

**Category 1: dying patient**

When the patient is expected to die soon, this should be considered a special category of patients for whom CPR is not expected to restore a heartbeat. In such patients, cessation of heartbeat and respiration should not be diagnosed as cardiac arrest. The discussion aim will be preparation for the patient’s, possibly sudden, death. If there is acceptance that the patient is dying and that the goal of care is comfort, then a specific discussion about CPR serves no additional benefit; it may actually cause harm by giving mixed messages. A specific CPR discussion may be required, however, where the premise that the patient is dying is not accepted. If there is doubt, the ethically better management will be to have a specific CPR discussion and avoid misunderstanding.

**Category 2: medically unwell but not imminently dying patient who would not survive CPR**

The discussion aim will be to provide an understanding of the patient’s underlying health problems and preparation for the possibility of sudden death due to cardiac arrest. It will be a discussion that explains that CPR would not be effective, and hence, not provided. This is a discussion about good and bad ways to die, not about life-and-death choices.

If the patient or family disagrees with the recommendation to withhold CPR, further discussion will be required. Judgement will be needed about whether providing or withholding CPR would, on balance, be the ethically better management; which option will provide the greatest good and the least harm for the patient? In this research, a particular harm from refusing to provide CPR was identified as damage to trust, with a risk that other aspects of patient care could be compromised.

Categories 3 and 4 are patients for whom CPR is judged to have some potential to reverse cardiac arrest. There will be ethical implications for both providing and withholding CPR. Whether or not CPR will be beneficial or harmful will depend on the patient and what they value, and hence, a decision-making discussion will be required. When the patient has capacity to participate in the decision, respect for autonomy would mean the patient is permitted to determine whether or not CPR would be in their own best interests. When the patient lacks capacity to make an autonomous decision, then the family and clinician will need to make a decision that is in the patient’s best interests. Both situations will require an interpretative discussion, as described by Emanuel and Emanuel.25 The patient or family interprets the patient’s values and beliefs, including any advance care planning preferences, and the clinician interprets the technical information about CPR within that patient’s context. A shared understanding is reached about what CPR decision would be most beneficial for this patient.

It will be important that the substitute decision-maker understands that it is the patient’s interests that need to be interpreted, rather than their own. If the family is able to prioritise the patient’s interests, then a shared decision with consensus should be achievable. If the family appears to be prioritising their own interests rather than those of the patient, a more directive or deliberative25 approach may be required.

**Category 3: patient expected to have a very poor CPR outcome**

Such a patient would be expected to have a survival at the lower end of the 0–17% range expected for non-selected hospital patients,1,16 but not zero. Should they survive, they will be at risk of greater impairment. The clinician will be aiming to convey their judgement that CPR may not be in the best interests of the patient due to the poor chance of surviving unimpaired and the high risk of dying either during or soon after CPR; however, the clinician should also be open to other interpretations of the ethical value of CPR for that patient. For example, some patients will have a view that all life should be valued, regardless of quality. Often, although not always, this will have a religious basis.

**Category 4: patient for whom the CPR outcome is uncertain**

Such a patient would be expected to have a survival rate in the mid 0–17% range. The clinician should come to this discussion seeking to understand the patient’s beliefs and values, and then help interpret the possible outcomes for the patient. A consensus decision is the aim.

The decision-making is summarised in Figure 2.
Conclusion

Currently, there is inconsistency in CPR decision-making and considerable disagreement regarding the relative authority of the clinician and patient. A process-oriented approach is proposed that can be taught to clinicians, particularly junior medical staff. It is an approach that distinguishes between the technical and ethical elements of the CPR decision and is applicable in the clinical setting. This approach to discussing CPR takes into account that patients and families, as well as clinical staff, are moral agents, each with their own values. These different but valid ethical values will affect how each person regards the use of CPR. It is within the important CPR discussion that these differences can be understood and consensus respectfully achieved.

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