



To resuscitate or not to resuscitate? The crossroads of ethical decision- making in resuscitation in the emergency department

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Emergency physicians (EPs) working in low-resource settings, where patients mainly bear the cost of healthcare delivery, face many challenges. Emergency care is patient-centered and ethical challenges are numerous in situations where patient autonomy and beneficence are fragile. This review discusses some of the common bioethical issues in the resuscitation and postresuscitation phases of treatment. Solutions are proposed and the necessity for evidence-based ethics and unanimity on ethical standards is emphasized. After a consensus was reached on the structure of the article, smaller groups of authors (2-3) wrote narrative reviews of ethical issues such as patient autonomy and honesty, beneficence and nonmaleficence, dignity, justice, and specific practices and circumstances such as family presence during resuscitation after discussions with senior EPs. Ethical dilemmas were discussed, and solutions were proposed. Cases related to medical decision-making by proxy, financial constraints in management, and resuscitation in the face of medical futility have been discussed. Solutions proposed include the early-stage involvement of hospital ethics committees, financial assurance in place beforehand, and allowing some leverage on a case-to-case basis when care is futile. We recommend developing evidence-based national ethical guidelines and incorporating societal and cultural norms with autonomy, beneficence, nonmaleficence, honesty, and justice principles.

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Capsule Summary

What is already known

Decision-making on the resuscitation of critically ill patients is a challenging task worldwide. Globally there are ethical guidelines that assist emergency physicians in decision-making on the resuscitation of such patients. However, emergency physicians still face difficulties in decision-making.

What is new in the current study

This narrative review reflects on how different and difficult the decision-making process is in resource-limited settings. No large-scale studies exist to explore the factors, barriers, problems, and perspectives behind decision-making in resource-limited settings. Perhaps, having a set of clear ethical guidelines to follow would be the best solution for the emergency physician in a resource-limited setting.

INTRODUCTION

Resuscitation is derived from a Latin word that means "to set in motion." Resuscitation traditionally encompasses a variety of interventions such as intravenous fluids, oxygen, vasopressors or inotropes, antibiotics, and cardiopulmonary resuscitation (CPR) [1]. The goals of resuscitation are like other medical interventions: to save a life, restore health, relieve distress, and limit disability [2]. Unlike other resuscitative interventions, CPR is unique: it can reverse the loss of life— a clinical outcome achieved by only a few who experience in-hospital cardiac arrest and even fewer who experience out-of-hospital cardiac arrest [3–6]. Procedures for when to initiate or to stop resuscitative efforts vary globally and depend on several factors: the clinical condition of the patient, comorbid conditions, cultural and religious beliefs, social expectations, the guardian's perception of the patient's condition, moral principles, anticipated clinical outcome and, occasionally, the patient's autonomy, preference, or advanced directive [2].

In the past three decades, resuscitation science has progressed remarkably with advancements in CPR techniques. Different resuscitation councils have devised guidelines to standardize resuscitation of patients with cardiac arrest or critically ill patients who might develop cardiac arrest. However, reflex initiation of CPR or resuscitative efforts has faced criticism [7]. There are two schools of thought in this regard. First, resuscitation efforts should be attempted for any patient who has at least a theoretical chance of survival [8]. Second, resuscitation efforts should be attempted only if there is a realistic likelihood of benefit to the patient based on existing scientific evidence and reasonable medical judgment [9,10]. The antithesis of the first view is that it might require many resources that could be better used elsewhere and divert practice from outcome-based resuscitation to universal resuscitation instead [2]. This plays a major role in resource-limited settings where the unreasonable use of resources could hypothetically cost a life that could be saved [11]. The antithesis of the second view is that it involves human factors that are complex to mea-

sure in real-life cardiac arrest scenarios and are not currently accounted for in existing resuscitation guidelines [12,13]. For example, the views of two physicians of the same level can differ on the initiation or termination of resuscitation of the same patient. The interpretation of a situation might be influenced by the scientific, religious, metaphysical, and socioeconomic background of the individual.

Therefore, decision-making in resuscitation is intricate and error-prone even in developed countries. In 2012, The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report noted frequent failures to consider resuscitation status, a high number of futile resuscitation attempts in frail patients with substantial comorbidities, limited engagement of families and patients in reaching do not attempt-CPR decisions, and 43% of cases in which CPR was performed against the expressed will of the patients [14].

On the other hand, in the resource-limited settings of low- and middle-income countries, the situation is a dilemma as there have been no studies to determine objectively the practice of decision-making in resuscitation and the beliefs surrounding it. However, low literacy rates, poverty, extreme religious beliefs, regressive social values, extended family structure, and low socioeconomic conditions might add to the complexity of the decision-making process in resuscitation.

The decision to initiate or terminate resuscitative efforts rests with the physician dealing with the patient. The physician should use the available information about the patient's premorbid conditions, time unresponsive or in a state of cardiac arrest, acute illness, and the trajectory of resuscitation. Differences in ethical and cultural norms should be the last thing to be considered by the physician while deciding when to initiate or terminate resuscitative efforts. Although the common principles of autonomy, beneficence, nonmaleficence, and justice (Table 1) appear to be accepted across different cultures, the priority of these principles may vary among different cultures. Physicians should play a role in decision-making regarding resuscitation based on scientific

Table 1. Definition of ethical principles that come into consideration during resuscitation

Ethical principle	Definition
Autonomy	The principle of respect for patient autonomy. Physicians do not have the right to treat patients without their consent or in Latin " <i>voluntas aegroti suprema lex est.</i> "
Beneficence	The principle of beneficence means the provision of benefits as the promotion of welfare. Beneficence requires positive steps to help others. In Latin, " <i>bonum facere</i> " or " <i>salus aegroti suprema lex est.</i> "
Nonmaleficence	The principle "above all do not harm," or in Latin " <i>primum non nocere.</i> " Nonmaleficence involves obligation not to inflict harm on others.
Justice	The principle of justice affects priorities in the allocation of healthcare resources. Justice may be defined as giving each person which is due, and which can be claimed legitimately.
Honesty	Honesty is defined as "fairness and straightforwardness of conduct" or "adherence to the facts."
Dignity	Dignity is defined as "a state, inherent respect, worthy of honor, or high regard."

Table 2. Common ethical challenges observed in the resuscitation room and associated principles of bioethics

Ethical challenges during resuscitation	Ethics principle
Needing central venous access for ionotropic initiation	Beneficence and nonmaleficence vs. autonomy and dignity
Decision for CPR	Beneficence and nonmaleficence vs. autonomy and dignity
Decision to intubate	Beneficence and nonmaleficence vs. autonomy and dignity
Discontinuation of CPR	Nonmaleficence and dignity
Continuation of life-sustaining treatment as per demographic and clinical features	Beneficence and nonmaleficence
Family involvement in decision-making during resuscitation	Honesty, autonomy, beneficence and nonmaleficence, dignity, and justice
Patient accessibility to best quality care	Justice
Transfer of patients to other hospitals due to financial constraints	Justice

CPR, cardiopulmonary resuscitation.

evidence and resuscitation guidelines [2]. In this narrative review, we discuss the real-life ethical issues of resuscitation in low- and middle-income countries (Table 2) and review of the literature to provide ethical solutions to these problems.

METHODOLOGY

This review article explores the ethical dilemmas that are commonly encountered by emergency physicians (EPs) in the emergency department (ED) of a low- and middle-income country through the concept of basic ethical principles. The selection of cases was based on a discussion among the core team, which included EPs (residents and consultants). The cases are those that are commonly encountered and were selected following a review by an independent emergency physician not included in the core team. Each case was assessed using the basic ethical principles described in Table 1. The conclusion of each case reached a consensus through feedback from each core team member.

ETHICAL CHALLENGES DURING RESUSCITATION

Case 1: the right to refuse

A 69-year-old female patient with a prior history of asthma attended the ED with complaints of fever for 7 days and shortness of breath for 4 days. Upon arrival, the patient was in impending respiratory failure with a silent chest. The diagnosis of life-threatening asthma was made. Initial treatment was initiated and the patient's next-of-kin, her daughters, were counseled regarding the need for emergent intubation and invasive mechanical ventilation. The daughters refused this intervention despite being counseled by a team consisting of pulmonologists, intensivists, and EPs. Their refusal was centered on the fact that the patient had attended an ED with acute asthma exacerbation multiple times, and her management precluded this intervention each time. Why should this time be any different? The patient was deemed not to have the capacity to dis-

cuss the decision, as she was in severe respiratory distress, suffering hypoxic respiratory failure, and was hemodynamically unstable. There were no other surrogates. The patient eventually succumbed to her illness and expired in the ED.

Ethical challenges and resolution

A clear distinction between competence and capacity already exists in the literature. Competence is a legal term whereas capacity is a medical one. Competence refers to the mental ability of a person to participate in or execute legally recognized activities such as preparing a will, standing trial, entering a legally binding contract, and making medical decisions. To declare a person incompetent is a judicial decision. Capacity, on the other hand, is determined by a physician [15]. This is done when we explain a part or the whole of the management plan to the patient. The patient is assessed on their ability to understand the information, retain the information, weigh all the pros and cons, and then come to a rational conclusion and communicate it by any means necessary. Any patient found to be lacking capacity is *de facto* incompetent, and as such a legal verdict is not needed. These patients cannot exercise their right to choose or refuse treatment, so either the treating physician or a *de facto* surrogate decision-maker must act on their behalf [16]. There are several loopholes to this, and the entire process is not as straightforward as it may seem on paper. It is important to understand that capacity can fluctuate, and a patient may be capable of making one decision but not another. The more critical the decision, the more formal should be the assessment [17]. There are several tools available for capacity assessment and these include the Mini-Mental State Examination, Montreal Cognitive Assessment, Hopkins Competency Assessment, MacArthur Competency Tool for Assessment for Treatment, Competency Interview Schedule, and Structured Interview for Competency [18,19]. The capacity assessment followed unanimously in the institution should be used by the physician and in complex cases, the findings can be corroborated between colleagues and then documented. Psychiatric consultation

may be prudent in some clinical settings where mental health conditions such as schizophrenia might be interfering with the capacity of the individual to decide.

The first step is always a thorough assessment of a patient's capacity before the involvement of surrogate decision-makers. Once a patient's lack of capacity is established, the next important question is who gets to decide on behalf of the patient. Ideally, it should be someone chosen previously by the patient. This may include a primary care physician, an attorney, or the next-of-kin. Their decisions should be based on the moral values and personal beliefs of the patient. The core concepts of beneficence and nonmaleficence must be applied and followed by everyone at the bedside of the patient, be it their physician, their nursing staff, or their surrogate. Three problems can be encountered here. First, what if there is no surrogate? In cases when no surrogate is available, and the patient requires emergent care, then the physician might administer life-sustaining treatments as per institutional protocols. This is consistent with the four ethical principles that govern physician conduct: autonomy, beneficence, nonmaleficence, and justice. Second, what if the physician wishes to override the decision of the designated medical proxy? This is a uniquely challenging scenario with potentially more than one viable solution. This can only be supported by the institution if a consensus between the different treating physicians determines that the designated medical proxy is not acting in the best interests of the patient. The ideas and concerns of the designated medical proxy should be explored at length before such a consensus is reached. The institutional ethical review committee, if present and functional, should be involved early on to avoid liabilities. Third, if the patient has discussed their wishes in advance, it is important to honor those wishes as closely as possible. However, if there is no documentation of the patient's wishes, the surrogate decision-maker should be careful not to make decisions based solely on their values and beliefs, as this may not align with the prior intentions of the patient. Many organizations and nations have protocols in place for this process, and it is important to follow these protocols to ensure that the wishes of the patient are respected. However, no such guideline or protocol exists in the healthcare system of Pakistan to safeguard the end-of-life or life-sustaining decisions made by the patient before losing decision-making capacity. Subsequently, it lies with the surrogate to decide on their behalf regardless. This warrants the development of a protocol or policy addressing this issue on a national level.

In the above scenario, it was established early on that the patient lacked capacity. It was also ascertained that the patient had not appointed any medical proxy. Therefore, the next-of-kin present (her daughters) was included in the decision-making process.

It was here that a controversy arose. The treating physician believed that the decision by the next-of-kin was not in the best interest of the patient. While their intentions were not malevolent and stemmed from a lack of understanding of the disease and unfounded fear of "putting patients on the vent," asthma is a reversible condition and the family's refusal to allow intubation possibly caused her death. A resolution to this could have been achieved by involving the hospital ethics committee earlier in the process.

Case 2: is money everything?

A 23-year-old female patient with no known prior comorbid conditions came to the ED just beyond the 4.5-hour window with sudden onset right-sided motor weakness and aphasia. Her National Institutes Health Stroke Scale (NIHSS) at presentation was 17. The neurology team was brought on board. Computed tomography (CT) of the head and CT angiogram of the internal carotid arteries (ICAs) were done and demonstrated a large thrombus occluding the left ICA with a subtle filling defect of the left middle cerebral artery collaterals. Intra-arterial thrombolysis was planned by the interventional radiology team, which is a costly procedure. The patient's family had financial constraints and refused this treatment, knowing that the outcome of the young previously healthy patient might be adversely affected. The physicians and the family understood that the patient might not be able to speak or move as she had previously. The family eventually decided to move the patient to a government hospital where interventional radiology expertise was not available.

Ethical challenges and resolution

Let this discussion begin with a little perspective: after the landmark 1986 passage of the Emergency Medical Treatment and Labor Act (EMTALA), the emergency care of patients in the United States was revolutionized [20]. There are three basic provisions for hospital and emergency medical services (EMS) as per EMTALA. First, any patient presenting to a hospital ED must undergo an "appropriate" medical screening examination by qualified medical personnel to determine if they have an "emergency medical condition." Second, patients who have an "emergency medical condition" must be "stabilized" within the capabilities of the facility. If definite treatment is not available, then the patient should be timely moved to another facility with the required capabilities, only after "stabilization." Third, if the patient with the "emergency medical condition" cannot be "stabilized," they can be moved to another facility only if the physician decides that the benefits of treatment far outweigh the risks of unsafe transfer. Hospitals in the United States are mandated by the EMTALA to accept Medi-

care funding. EDs are required by law to follow all these three provisions regardless of the ability or inability of the patient to pay for their emergency care [21,22]. In their policy statement titled Code of Ethics for EPs, the American College of Emergency Physicians (ACEP) reaffirms that EPs shall respond promptly and expertly, without prejudice or partiality, to the need for emergency medical care [23]. The ethical principle of justice means the quality and level of emergency care should not be dictated by the financial capabilities of the patient.

This is a shared responsibility of the EPs and society at large to ensure that there is sensible resource allocation such that the medical benefits and financial burdens of each patient should be balanced against each other [24–27]. This means that the EP plays a central role in deciding when to limit treatments if the cost outweighs the cure [28]. The country must invest in a robust emergency care infrastructure consisting of EMS, hospitals, and relevant healthcare policies. Emergency care should be widely available (especially in the remote areas of Pakistan), easily accessible (patients should safely reach definitive care), and universally acceptable (the quality and level of emergency care should be maintained in both public and private sectors). The obligation to provide resources for emergency care should lie either with a governmental health service or single-payer insurance. A distinction between patients requiring emergent and nonemergent care should be made in the context of limited resources so that only the subset of patients in the former category can be accommodated by the ED. In short, in the unique case that we have highlighted, patient management would not have been compromised if the provision of care in a low- and middle-income country like Pakistan was to a standard that it should be, affordable, and equal for all.

However, while this is the ideal scenario, ground realities are what the EP must face every day. What options do they have on an individual level and how can emergency care be strengthened at an institutional level to prevent such patients from falling through the net? Individually, the physician can determine if any charity is available. If not, then they will either lower the standard of care, refer the patient to a safety net provider (as was done in this case), reduce their fees, or force the patient to go into debt. Although whatever options can be exercised in the short term should be used, it is unsustainable to do so over a long period. Therefore, addressing patient financial concerns should be done at an institutional level. Some options include ensuring the financial status early in the treatment process so that arrangements can be made before embarking on a long route of expensive investigations and treatment. The hospital can make a list of lifesaving procedures that come under "stabilization" as outlined by EMTALA that will be covered by a built-in financial mechanism. Having a system in

place, no matter how minimalistic, ensures that the ethical burden is removed from the shoulders of the physician and placed on those of the institution [29].

Case 3: what does futility mean to bereaved parents?

A 17-year-old boy with no prior known comorbid conditions was brought to the ED by his parents with complaints of fever for 4 days and altered sensorium for 1 day. The patient was hemodynamically unstable with a Glasgow Coma Scale score of 3 out of 15 upon arrival. He was intubated in the resuscitation room. He was diagnosed with septic shock, acute kidney injury, acute liver failure, disseminated intravascular coagulopathy, and acute myocardial injury. He remained hemodynamically unstable despite the use of dual vasopressors and an inotrope. He was moved immediately for head CT, which demonstrated diffuse cerebral edema and tonsillar herniation. The parents were counseled about their son's prognosis by intensivists and EPs, but they still had high hopes for his revival. The patient went into cardiopulmonary arrest in the ED. CPR was initiated as per advanced cardiac life support (ACLS) guidelines and carried out for 20 minutes. The parents were counseled regarding physiologic futility, but they insisted on continued resuscitative efforts. No return of spontaneous circulation was achieved, and the death of the patient was subsequently declared to the family.

Ethical challenges and resolution

DNR has been a source of great controversy across the world. A DNR code status theoretically means that in the event of a cardiopulmonary arrest, no CPR as described in the ACLS guidelines should be attempted [30]. Maintaining the principles of autonomy, this decision solely lies with the patient unless they are either incapacitated or underage, in which case, the patient's surrogate will decide in their place [31,32]. The problem with obtaining code status in the ED is obvious: both time and information have limits that the EPs cannot overcome. This often creates a conflict between physicians and families: withholding CPR in cardiopulmonary arrest is misinterpreted as withholding other treatments and interventions. Families see it as physicians giving up on their patients. In 1988 Jennett [33] distinguished three reasons why CPR might be withheld: "CPR would be futile because it is very unlikely to be successful, the quality of life after CPR is likely to be changed to so poor a level as to be a greater burden than the benefit gained from the prolongation of life, and the quality of life is already so poor due to chronic or terminal disease that life should not be prolonged by CPR." This remains to be one of the most relevant descriptions, even today. Several acronyms are currently in use to inform the physician and nursing staff of a pa-

patient's resuscitation status, such as DNR, DNI (do not intubate), DNAR (do not attempt resuscitation), AND (allow natural death), etc. [34]. Choice of language is important. A simple "no CPR" would be more useful than other confusing options. It should be clearly stated in the medical records of the patient that only in the event of pulselessness and apnea, no CPR as per ACLS guidelines will be initiated. There should be no confusion among the physicians and staff that all other life-sustaining therapies up till the point of CPR will be provided.

How can physicians better communicate the concept of futility? "Preserving life at all costs" is often paid with the price of compromising a patient's dignity [35–43]. In deciding a management plan, physicians must consider the patient's objectives in seeking treatment as well as their objectives in administering that treatment. Quantitative futility refers to the unlikely chance that a proposed intervention will benefit the patient. Qualitative futility is when the proposed intervention, if successful, will probably produce such a poor outcome that it is deemed best not to attempt it. In simple terms, quantitative futility implies that the treatment is not going to work while qualitative futility indicates that the goal itself is undesirable. In complex cases such as the one mentioned above, it is best to avoid all this unnecessary medical jargon. To ensure clarity and build rapport, culturally appropriate terms should be used instead.

A compassion exception to accommodate the wishes of two grieving parents to see their dying son live a few hours longer, knowing his imminent death, can go a long way in easing their suffering. There are a lot of gray areas when it comes to life and death and physicians should decide on a case-by-case basis.

Case 4: God forbids it

A 36-year-old woman was brought in by her nephew with complaints of black stools and bloody vomiting for 3 days. She had a history of chronic use of nonsteroidal anti-inflammatory drugs for her knee pain. Upon arrival at the ED, the patient was found to be hemodynamically unstable. The gastroenterology team was brought on board and an emergent endoscopy was planned. Blood products were timely arranged and just as the on-call resident went to obtain the patient's consent, she refused. The patient explained that she was a Jehovah's Witness and that the transfusion of blood products was forbidden in her religion. This led to a great tumult in the resuscitation room. EPs and gastroenterologists spent the better part of the afternoon trying to convince the patient that her life was in imminent danger if she did not give consent. Jehovah's Witnesses are a religious minority in Pakistan. Statistically, most of us will spend our entire lives without encountering even one of them. The family eventually got fed up with

the aggressive attitude of the doctors and took the patient to another hospital.

Ethical challenges and resolution

Most of the ethical dilemmas we encounter during our medical careers can be examined in the context of the four basic principles of medical ethics defined by Beauchamp and Childress [44]: respect for autonomy, beneficence, nonmaleficence, and justice. Physicians should always respect their autonomy when deciding on a management plan for their patients [45–47]. This means they should accept the informed decisions of their patients, even when they refuse recommended treatment. To give informed consent, certain conditions should be met: the patients must retain the capacity to decide, and they should be able to understand the nature of the proposed procedure, along with its risks, benefits, suitable alternatives, and likely outcomes. There should be no hint of coercion on the part of the treating physician [48,49]. The patient must not feel threatened, bullied, or subjected to irresistible pressure to accept a decision that under normal circumstances they would not make. Should we as EPs uphold the rights of adult patients who refuse a particular intervention based on religious beliefs, even when such an intervention would be lifesaving? This is a challenging situation, indeed.

In this case, we should have ensured that the patient understood all the risks and benefits associated with accepting a blood transfusion. This includes the common risks of blood incompatibility, allergic reactions, transmission of bloodborne diseases, and volume overload. Did we communicate to her without coercion that a transfusion would improve her hemodynamic parameters? The patient's state of acute blood loss meant that there were no viable alternatives that we could offer her. The patient and her family should have been given a safe space to decide, knowing that the team of doctors would not abandon them in their time of need. They should not be ridiculed or seen as social outcasts just because they do not belong to a mainstream religion. Discussing the outcomes of the patient with her family would have made them come up with more viable solutions. There are several precedents in the medical literature concerning this ethical dilemma that the treating physicians could have used to help the patient and her family make a better-informed decision [50,51].

MOVING FORWARD

Throughout the article, a recurrent theme in the solutions to the ethical challenges presented is the need for the strengthening of the institution. This can be achieved with the internal ethical committee of the hospital or the health regulations of the gov-

ernment. What is important is that a set of guidelines be developed based on the principles of autonomy, beneficence, non-maleficence, honesty, and justice while incorporating cultural and societal factors as well, such as the EMTALA in the United States. Governments of low- and middle-income countries can then include the enforcement of these guidelines as part of the accreditation process for healthcare facilities. To promulgate these national standards further and bring them into daily usage in healthcare facilities, they should be included in medical curricula in both physician and nursing schools. This would ensure that all healthcare professionals are aware of the rights of their patients and how best to safeguard them in a wide variety of scenarios.

CONCLUSION

Ethical issues are faced by EPs daily. However, due to the chaotic nature of the ED and the cognitive burden on EPs, physicians may not be able to make the most ethical decisions for their patients. Therefore, having a set of clear ethics guidelines by which the physician can abide would be the best solution for the emergency medicine practitioner.

ETHICS STATEMENTS

Not applicable.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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