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ORIGINAL ARTICLE

Ethical issues associated with in-hospital emergency from the Medical Emergency Team's perspective: a national survey

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ABSTRACT

BACKGROUND: Medical Emergency Teams (METs) are frequently involved in ethical issues associated to in-hospital emergencies, like decisions about end-of-life care and intensive care unit (ICU) admission. MET involvement offers both advantages and disadvantages, especially when an immediate decision must be made. We performed a survey among Italian intensivists/anesthesiologists evaluating MET's perspective on the most relevant ethical aspects faced in daily practice.
METHODS: A questionnaire was developed on behalf of the Italian scientific society of anesthesia and intensive care (SIAARTI) and administered to its members. Decision making criteria applied by respondents when dealing with ethical aspects, the estimated incidence of conflicts due to ethical issues and the impact on the respondents' emotional and moral distress were explored.
RESULTS: The questionnaire was completed by 327 intensivists/anesthesiologists. Patient life-expectancy, wishes, and the quality of life were the factors most considered for decisions. Conflicts with ward physicians were reported by most respondents; disagreement on appropriateness of ICU admission and family unpreparedness to the imminent patient death were the most frequent reasons. Half of respondents considered that in case of conflicts the final decision should be made by the MET. Conflicts were generally recognized as causing increased and moral distress within the MET members. Few respondents reported that dedicated protocols or training were locally available.
CONCLUSION: Italian intensivists/anesthesiologists reported that ethical issues associated with in-hospital emergencies are occurring commonly and are having a significant negative impact on MET well-being. Conflicts with ward physicians happen frequently. They also conveyed that hospitals don't offer ethics training and have no protocols in place to address ethical issues.

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KEY WORDS: Hospital rapid response team - Ethics - Terminal care.

Medical emergency teams (METs) were introduced to improve the care of hospitalized patients with unexpected clinical deterioration, possibly preventing avoidable cardiac arrests and unanticipated intensive care unit (ICU) admission.[1, 2] A growing number of reports suggest that MET is frequently involved in relevant ethical issues, such as decisions on end-of-life (EOL) care, appropriateness of cardiopulmonary resuscitation (CPR) and ICU admission.[3, 4] MET involvement in ethical aspects can offer several advantages, as METs commonly include physicians trained and experienced in critical care medicine (like ICU physicians) who could have a better understanding of critical illness, of the limits and burdens of organ support, and finally of the prognosis of patients in severe conditions compared to non-intensivists.[4] Moreover, MET's physicians could be more skilled in discussing ethical issues with patients and their relatives.[4] On the other hand, the MET may not know the patient well enough to evaluate his/her prognosis quickly and reliably, in particular when facing an emergent life-threatening event; furthermore, a shared decision with the patient, relatives and the ward healthcare staff requires time and collaborative consultation, and conflicts are possible when an immediate decision must be made under time pressure.[4] To the best of our knowledge no study investigated the opinions and feelings of MET's physicians about the ethical issues encountered in their daily activity.

In Italy, MET commonly include an intensivist/anesthesiologist (in Italy, as in other European Countries, a single specialty includes both anesthesia and intensive care). The national scientific society of anesthesia and intensive care (Società Italiana di Anestesia, Analgesia Rianimazione e Terapia Intensiva, SIAARTI) published recommendations for organizing responses to in-hospital emergencies in 2007 [5]. On behalf of the Emergency and on Bioethics SIAARTI task forces we performed a postal survey among Italian intensivists/anesthesiologists addressing the most relevant ethical aspects faced by MET in daily practice.

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Materials and methods

We performed a national cross-sectional anonymous web-based survey directed to intensivists/anesthesiologists practicing in Italy. The survey was developed according to a published method.[6] A review of literature was performed to identify the most relevant items and the areas of uncertainty in the field of intra-hospital emergencies and ethics. Survey items were generated according to the results and to the author's experience in the field. To identify new items and to improve the relevance, clarity and completeness of the questionnaire the survey draft was shared with a group of more than 50 experts composing the two SIAARTI task forces involved in the study (Emergency and Bioethics).

The questionnaire was designed to explore both descriptive and informative data, and included items to collect information on hospital characteristics, the estimated incidence of intra-hospital emergencies, the criteria applied by the respondent when dealing with ethical aspects, the estimated incidence of conflicts due to ethical issues and their documentation, the relation with the patient and the family, the impact of these issues on the respondent's professional emotional and moral well-being. A 5-point Likert scale and frequency/proportions were employed according to the item. A pilot questionnaire was tested among a small sample of intensivists/anesthesiologists not previously involved and among the members of the study groups, to assess content validity, utility, clarity, and discriminability. In the last version all the reported criticalities were addressed.

The questionnaire was approved by the SIAARTI Scientific Committee for Research and endorsed by the same scientific society. The questionnaire is freely available from the corresponding author.

The survey took place between October and December 2014. The final version the questionnaire could be completed anonymously and online only, and it was distributed using the freely available Limesurvey website (www.limesurvey.org). An e-mail was sent to all the members of the SIAARTI; moreover, the Au-

thors used personal mailing-lists of Italian intensivists/anesthesiologiststo increase the sample size. The results of the filled questionnaires were exported in an Excel worksheet (Microsoft, Redmond, Washington). Analysis were performed in Excel.

Results

The questionnaire was sent to all the members of SIAARTI (about 4000); moreover, it was sent to other intensivists/anesthesiologists (whose actual number could not be recorded) through personal mailing-lists. Overall, 327 filled questionnaires were received (almost one third of these only partially). Respondents worked mainly (205/327, 63 %) in non-teaching hospital. Half of respondents (159/327, 49%) had been working for more than 15 years; 195/327 60% were males. Forty-six percent worked mainly in the ICU, 43% in the operating theatre. Two thirds reported to be Christian (213/327; 65%), while 97/327 (26%) were atheist.

Most respondents (150/235, 64%) reported to face 0-10 in-hospital emergencies/month, the others more frequently. Involvement of the MET in EOL decisions or treatments withdrawal was reported as common by 194/235, 82% and 155/235 66% of respondents respectively.

Half of respondents 119/235 (50.1%) reported that in evaluating the appropriateness of ICU admission or CPR, the patient was involved always or often, while 63/235 (27%) stated that the patient was never or only rarely involved. Patient's relatives were involved more often (often or always: 170/235 72%). Respondents were asked to rate the relevance they attribute to some key factors when deciding the appropriateness of CPR or ICU admission in daily practice (Table I). Patient's life expectancy, wishes, and pre-event quality of life were the major key factors impacting MET decision of appropriateness of intervention.

A 50% probability of at least 6 months of life-expectancy was the most common minimal requirement to consider appropriate CPR or ICU admission (Table II). However, most respondents (160/235, 68%) reported that their considerations would not be agreed on by ward clinicians: in the respondents' opinions, ward clinicians would have considered appropriate CPR or ICU admission also in the instance of a shorter life-expectancy or a lower probability of this life-expectancy. Moreover, most respondents reported that the level of agreement 147/235 (63%) had not improved over the years.

In Table III the reported estimated incidences of conflicts of the MET with ward physicians or nurses, the patient and his/her rela-

TABLE I.—*Relevance attributed to key factors when deciding the appropriateness of cardiopulmonary resuscitation (CPR) and intensive care unit (ICU) admission in daily practice (Likert-scale: 1=no relevance; 5=maximal relevance) (respondents n. 235). Data are presented as median (interquartile range).*

Which relevance do you attribute to the following factors when deciding the appropriateness of CPR or ICU admission in your daily practice?	Median (IQR)
The likely patient life-expectancy with the best care	4 (4-5)
Patient's wishes if known	4 (3-5)
Pre-event quality of life	4 (3-5)
The likely future quality of life	4 (3-5)
Uncertainty of diagnosis at the decision-making moment	4 (3-4)
Patient's relatives wishes	3 (3-4)
Uncertainty of prognosis at the decision-making moment	4 (3-4)
Ward clinicians opinions	3 (2-4)
Fear of medical and legal consequences	3 (2-4)
The available resources (human, technical, etc) at the decision-making moment	2 (2-3)
Ward nurses opinions	2 (1-3)
ICU bed avaibility	2 (1-3)
The expected costs/benefits ratio	2 (1-3)

TABLE II.—*Minimal required life-expectancy and minimal required probability (the degree of certainty) for life-expectancy to consider CPR or ICU admission appropriate. Data are presented as number (%).*

	≥10%	≥25%	≥50%	≥75%	Other	Total
ICU discharge	7 (20)	7 (20)	12 (34.3)	4 (11.4)	5 (14.3)	35
Hospital discharge	8 (17.0)	5 (10.7)	23 (48.9)	8 (17.0)	3 (6.4)	47
6 months	9 (13.4)	16 (23.9)	34 (50.8)	8 (11.9)	0	67
12 months	2 (3.9)	6 (11.7)	33 (64.7)	10 (19.6)	0	51
36 months	0	2 (10.5)	7 (36.8)	10 (52.6)	0	19
Other	1 (6.7)	3 (20)	4 (26.7)	0	7 (46.7)	15
Total	27 (11.5)	39 (16.7)	113 (48.3)	40 (17.1)	15 (6.4)	234

TABLE III.—*Reported estimated incidences of conflicts of the MET with ward physicians or nurses, the patient and his/her family for ethical issues (respondents n. 235). Data are presented as number (%).*

	Never	Rarely	Often	Always	Unknown	Total
With ward clinicians	11 (4.7)	75 (31.9)	135 (57.4)	12 (5.1)	2 (0.8)	235
With nurses	86 (36.6)	120 (51.1)	26 (11.1)	2 (0.8)	1 (0.4)	235
With patients	97 (41.3)	128 (54.5)	8 (3.4)	1 (0.4)	1 (0.4)	235
With patients' relatives	14 (6)	135 (57.4)	76 (32.3)	9 (3.9)	1 (0.4)	235
With other Intensivists/anesthesiologists	39 (16.6)	146 (62.1)	45 (19.2)	4 (1.7)	1 (0.4)	235

TABLE IV.—*Causes of MET conflicts with ward clinicians and patient's families about ethical aspects. Data are presented as number (%).*

Which is the most common reason of conflict with ward clinicians:	N. (%)
Clinicians have not informed patient and family about the possibility of a rapid disease worsening	109 (46.4)
Clinicians are more pessimistic about the possibility of treating patient in their ward (and they insist on his/her admission in ICU)	76 (32.3)
Clinicians are more optimistic about prognosis	42 (17.9)
Other	3 (1.3)
Clinicians are more optimistic about the possibility of treating patient in their ward	2 (0.8)
Clinicians are more pessimistic about prognosis	1 (0.4)
Unknown	2 (0.8)
	Tot. 235
Which is the most common reason of conflict with the patient or his/her family:	**N. (%)**
They are more pessimistic about the possibility of treating patient in his/her current ward (and they insist on his/her admission in ICU)	84 (35.7)
They are more optimistic about prognosis	76 (32.3)
There are different opinions in the family	47 (20)
Other	19 (8.1)
They are more optimistic about the possibility of treating patient in his/her current ward	7 (3)
They are more pessimistic about prognosis	1 (0.4)
Unknown	1 (0.4)
	Tot. 235

tives for ethical issues are presented. Conflicts with ward clinicians appear common, and to a lower degree also with the patient's family.

The most common causes of MET conflicts with ward clinicians and a patient's family about ethical aspects are reported in Table IV. Pressure for ICU admission and the patient's family being unprepared for the imminent death of a patient were estimated as the most frequent. Conflicts were recognized as causing increased emotional and moral distress by 108/235 (77%) of respondents; increased emotional and moral distress was the most common feeling (79/235, 34% of respondents), followed by the fear of having made a wrong decision (62/235 26%), anger (29/235, 12%) and fear of legal consequences (27/235 11%). Twenty percent of respondents affirmed to be aware of colleagues who suffered legal or disciplinary consequences related to ethical decisions.

Most respondents reported that in case of conflicts the MET should make the final decision (115/234, 49%) while 28/234 (12%) answered that the decision should be made by both the Heads of the ICU and of the ward, and 36/234 (15%) that the patient should be the one taking the decision. Only 8/234 (3%) reported that the final decision had to be made by ward clinicians; furthermore, 161/234 (69%) of respondents reported that ward clinicians delegated to the MET the decision on ethical issues, while only 17/235 (7%) reported that ward clinicians are always part of the decision process.

The large majority of respondents (193/230, 84%) reported that shared local protocols addressing ethical issues associated to in-hospital emergency where not available. Only 16/232 (7%) reported that training on these issues was currently offered in their hospital; on the other hand, 231/235 (98% of respondents) considered potentially useful or very useful the presence of local protocols and training on ethical aspects.

Finally, 129/233 (55%) of respondents reported that decisions with relevant ethical aspects were always or often documented in medical charts, while 22/233 (9%) reported that they were never documented; on the contrary, respondents estimated themselves as documenting such decisions more commonly (always or often: 191/232, 82%). Conflicts or divergences of opinion were seldom documented, as 66% reported that they were never or rarely documented; again, respondents reported themselves as documenting differences of opinion more commonly (always or often: 96/232, 41%).

Discussion

This is the first survey investigating the characteristics and relevance of ethical issues associated to in-hospital emergencies from the MET's perspective. Ethical issues are estimated as quite common and causing a relevant negative impact on the professional emotional and moral well-being. Hospitals (at least in Italy) seem to not be aware of the problem yet, as only few respondents reported educational programs or protocols addressing ethical topics in this context.

Respondents reported to face ethical aspects (and in particular decisions about EOL care) often. Previous retrospective and prospective studies showed that a decision about limitation of care during a MET call was made in a percentage ranging from 2% up to 30%.[3] In a recent multicenter, international prospective study, EOL care and limitations of care were instituted after MET call in 11% of patients.[7] Such decisions are complex and should be discussed well before an adverse event like cardiac arrest.[4] Accordingly, Chen and coauthors found that the number of not for resuscitation (NFR) orders issued during an adverse event-free MET call was double (8%) than NFR orders issued during a true adverse event.[8] Previous studies reported that in Italy NFR orders were uncommon compared with North America or other European Countries:[9, 10] our findings might suggest a national cultural change with a more frequent recourse to EOL decisions. It should be noted that Italy lacks laws regulating NFR orders, withholding or withdrawal of treatments and patient advanced directives.

Factors most considered by the surveyed intensivists/anesthesiologists while dealing with ethical issues were the present and future quality of patient's life, the expected prognosis, the uncertainty of the diagnosis and of the prognosis, and the patient's wishes. The role of the ward healthcare staff, of the family, and the available resources appeared less relevant. Patient's age, comorbidities, cancer, peripheral vascular disease and hemiplegia have been reported as positively associated with MET decision of limitation of care.[7, 11-14] Patient's age, comorbidities, functional status, wishes and a low expectancy of life (2-3 months) were identified as associated with NFR orders and EOL decisions also in studies addressing critically ill patients not cared by a MET, admitted on wards or ICU.[15-17] On the contrary, in a scenario-based trial conducted in 179 U.S. hospitals patient's wishes had no effect on the decision to discuss withdrawal of life support.[17] In con-

trast, more than 70% of seriously ill hospitalized patients would at least participate to the decision process.[18] Even if only one third of respondents reported to be influenced by the availability of an intensive bed, the relevance of this factor in EOL decisions has been repeatedly demonstrated also in Italy.[19, 20]

Conflicts due to ethical issues with the ward physicians were reported as common. Moreover, conflicts on ethical issues were reported to impact negatively and severely on the professional emotional and moral well-being, causing mainly increased emotional and moral distress. The ward physicians' request to admit the patient in the ICU was one of the two main reported causes of conflict: this finding could confirm that the MET must often apply a sort of "civil triage",[21] facing the need to choose which patient admit in the ICU among all the patients that should be admitted, due to the shortage of available intensive beds compared to the number of critically ill patient outside the ICU.[22] An alternative explanation might be a lack of agreement between the MET and ward physicians about the patient's prognosis, the MET having a more pessimistic opinion and considering not appropriate an ICU admission. Accordingly, respondents reported that most ward clinicians had less restrictive opinions on the minimal required life-expectancy or survival probability to admit patients in the ICU. Our findings are consistent with previous studies reporting a less "aggressive" approach of intensivists compared to ward clinicians when treating a deteriorating patient.[16] In contrast, an Australian study showed a high level of agreement between intensivists and ward physician on NFR orders.[23] It should be noted that most respondents to our survey considered themselves as the most qualified to make the final decision in case of conflict, while ward clinicians were perceived by the respondents as delegating to the MET: these opinions could be erroneous and misleading, and could partly explain the incidence of conflicts. In a recent multicenter Italian survey only 16% of ward physicians stated that MET should decide about the appropriateness of CPR.[24] The second most commonly reported cause of conflict was the unpreparedness of the relatives to accept a limitation of care. In Italy, family discussion and patient involvement on EOL care on wards are uncommon.[24, 26] Similar findings were reported also from Italian ICUs.[27] On the other hand, EOL discussions are associated with less aggressive medical care, better patient quality of life, and better caregiver bereavement adjustment.[28] Relevant barriers to improve family discussion on EOL care include insufficient physician training in communication and insufficient available time.[29]

Finally, Italian hospitals seem not yet prepared to address ethical aspects associated to in-hospital emergencies. Protocols and training are largely absent. Hospital initiatives to create a shared cultural ground among all health care staff could improve the quality of patient care and reduce conflicts. Recently, some Italian scientific societies (following a SIAARTI initiative) published a document on end-stage organ failures, offering the basis and a protocol to develop shared interdisciplinary EOL decisions.[30] National or local initiatives like this could be of great help, in particular if addressing the EOL decisions and ICU admission criteria.[25, 31-33]

Intensivists could play a beneficial role during in-hospital emergencies: they are familiar with critical illness, the pros and cons of organ-support technologies, and EOL discussions.[4] On the other hand, MET may not know the patient in depth, so the validity of the MET evaluation may be compromised and conflicts may arise.[4] An early, adverse event-free MET call, in contrast to late calls, is advisable.[8, 12, 34] However, the introduction of a MET is not automatically beneficial:[35] institutional support with shared protocols and training is required.[7]

Limitations of the study

The present study has limitations. The response rate was low; the invitation could be sent only once, and this could partly explain the low response rate. The questionnaire was mailed only to intensivists/anesthesiologists, and this may limit the generalizability of the results. The survey aimed to assess the estimated impact of ethical issues on MET activity,

so their true incidence and characteristics are not known. Despite these limitations the present study offers original and useful data on the perspective of intensivists/anesthesiologists on the ethical aspects faced during MET shifts.

Conclusions

Italian intensivists/anesthesiologists involved as MET reported that ethical issues associated with in-hospital emergencies are occurring commonly and are having a significant negative impact on MET emotional and moral condition. Conflicts with ward physicians happen frequently. Respondents have also conveyed that hospitals don't offer ethics training and have no protocols in place to address ethical issues Initiatives to improve the level of agreement between MET and ward healthcare staff are needed.

Key messages

— METs are frequently involved in ethical issues associated with in-hospital emergency, like decisions about EOL care and ICU admission. We performed the first national survey among Italian intensivists/anesthesiologists evaluating METs perspective on the most relevant ethical aspects faced in daily practice.

— Italian intensivists/anesthesiologists involved as MET reported that ethical issues associated with in-hospital emergencies are occurring commonly and are having a significant negative impact on MET emotional and moral condition.

— Patient life-expectancy, wishes, and the quality of life were the factors most considered for decisions. Conflicts with ward physicians were reported by most respondents; disagreement on appropriateness of ICU admission and unpreparedness of the relatives to the imminent patient death were the most frequent reasons.

— Hospitals should offer training and protocols addressing ethical topics in this context.

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