

European attitudes towards ethical problems in intensive care medicine: results of an ethical questionnaire *

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Abstract. A questionnaire was sent to the 590 members of the European Society of Intensive Care Medicine to define both the current practices and the opinions of these specialists on various ethical issues. The answers from 242 (41%) European members were collected and analysed. The first part of the questionnaire was designed to define the criteria for admission to Intensive Care throughout Europe. Admissions to the ICU were generally or commonly limited by the number of available beds according to 57% of the respondents and sometimes or almost never according to 41% (100/242). Bed availability in the ICU was especially limited in Spain, Portugal, Italy and the United Kingdom. Despite limited bed availability, two thirds of the respondents did admit patients who were thought to have little or no hope of survival other than for a few weeks. When asked about what ought to be done in these circumstances, the number of respondents who supported the admission of such terminal patients to ICU was halved. These data illustrate the heterogeneity of admission practices in Europe and stress the need for all ICUs to define a policy for admission. The second part was designed to assess the information given to patients in the ICU. Only 24 (10%) of the respondents stated that they always delivered complete information to their patients and only 31 (13%) thought they should do so. When an iatrogenic incident occurred, only 39 (16%) claimed to relate exactly what had happened, to the patient or their relatives but 121 (50%) thought they should. Informed consent was usually required for surgery or gastroscopy and the administration of a new medication. In the case of a new drug, informed consent was still not required by 49 (20%) participants but the majority favored more stringent requirements (i.e. written informed consent). Most participants reported that they would accept the decision of a competent patient who wished to refuse some surgical intervention. Thus it appears that most Intensive Care doctors do aspire to re-

spect their patients' desires and some support the principle of informed consent. However, it seems that the critically ill patient is rarely fully informed about his condition. The third part was designed to assess current attitudes towards withholding and withdrawing life support. Orders not to resuscitate (DNR orders) were frequently used but were usually verbal. 31% discussed the DNR order with the patient whereas 57% discussed it with the family. Italy was the country in which DNR orders were the least frequently used. Withholding, withdrawing life support and euthanasia were a part of the practice of 83%, 63% and 36% of respondents, respectively. The majority supported the principle of 'limited care'. Withdrawal of all support (including intravenous fluids and feeding) was usually preferred to euthanasia. This was especially true for doctors of the Catholic faith. The entire staff of the ICU was involved in the decision to withhold/withdraw treatment according to 52% of respondents whereas 45% limited participation to the medical staff. However, some of these doctors favored the involvement of the entire staff of the ICU with the patient and/or the family in the decision making process. Only 38% felt that an Ethics Consultant (or committee) would help in this process. On occasions when the family insisted on withholding or withdrawing life support, this had little influence on the decision whereas it had a stronger effect when insisting on full support.

Key words: Ethics – Admission policy – Informed consent – Futile therapy – Withholding therapy – Decision-making process

Intensive care units (ICU) concentrate the technology and expertise to provide intensive therapy of critically ill patients and monitoring of high risk patients. The large human and financial resources required to maintain ICUs have created a debate about proper ICU utilization. As early as 1976, questions were raised in the United States about the resources spent on patients with short life expectation [1].

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In an attempt to improve the allocation of resources, the American Society of Critical Care Medicine has recently recommended each ICU to have its own admission guidelines that should be defined by a multidisciplinary team including not only doctors, but also nurses and hospital administrators [2]. General guidelines recommend avoiding admission of patients who refuse life-support therapy or patients with permanent vegetative state unrelated to trauma [2]. Western Europe should have enough resources to provide the appropriate care of its critically ill patients. However, the availability of ICU beds and the current policies for ICU admission in Western Europe have not been well defined.

A fundamental ethical principle in medicine is the principle of patient autonomy which entitles everyone to accept or refuse any diagnostic or treatment procedure. This is the basis for the informed consent which implies a positive collaboration between the doctor and the patient [3, 4]. In some countries, it has also had legal implications [5]. Informed consent has not been universally accepted. It has sometimes been considered a useless ritual taking time and effort without real impact on the patient care, or a means to protect the doctor rather than the patient [5, 6].

The principle of informed consent is more difficult to apply in the critically ill patient who might experience difficulty in understanding his disease process and its consequences [7, 8].

During the last decades, the dramatic progress of medicine has markedly increased our capabilities to support life. Unfortunately, the quality of life which is prolonged is sometimes so poor that the utility of this life support must be questioned.

Difficult decisions of initiating and withdrawing life support are often taken in the intensive care unit (ICU). Unfortunately, the criteria on which these decisions are based are also difficult to define. Some expanded guidelines have been formulated, especially in the United States where a strong legal influence has necessitated them [9, 10]. In Europe, legislation varies from country to country. The Netherlands have the most liberal legal status about withdrawal of life support [11–13]. Religious influences could be also important.

We sent a questionnaire, sponsored by the European Society of Intensive Care Medicine, to all its doctor members. We wished to define their present practices and also their personal opinions about ethical problems in intensive care.

Methods

A 13 page questionnaire was sent in February 1988 to each of the 590 members of the European Society of Care Medicine. The questions asked in this study are presented in the appendix. An accompanying letter explained the two aspects of the questionnaire, i.e. first to define what is currently done and second to define opinions as to what should be done. Each member was asked to reply anonymously. A total of 242 questionnaires (41%) were returned from European members with the following geographic distribution: Germany/Austria 51, Italy 34, Belgium 30, France 28, Spain/Portugal 27, the Netherlands 24, Switzerland 21, Scandinavia 15 and the United Kingdom 12. The participation of each country was proportional to the number of members in each

country. Ten additional questionnaires from extra-European countries were not analysed.

All data were analysed in the Department of Medical Biostatistics of the University of Brussels using SPSS. A Chi Square analysis was used to explore differences between the various answers. A *p*-value less than 0.05 was considered statistically significant.

Results

Table 1 presents the principal demographic data of the 242 European responders.

Table 1. Principal demographic data of the responders

Age	below 40	99
	40–49	108
	50 or more	35
Sex ^a	Male	229
	Female	12
Religious background ^a	catholic	121
	protestant	59
	other religions	10
	agnostic or atheist	51
Primary speciality	anaesthesiology	129
	internal medicine/cardiology	73
	surgery	12
	pediatrics	9
	other	19
Intensive care experience ^a	4 years or less	17
	5 to 10 years	68
	10 years or more	155
Proportion of total professional responsibilities devoted to intensive care*	less than 25%	27
	25–50%	63
	50–75%	39
	more than 75%	112
Hospital (closest affiliation) ^a	No. of beds	
	less than 500	59
	500–749	50
Type	750 or more	131
	university	150
	regional	71
No. of ICU beds	private	17
	6 or less	23
	7–12	139
Type ^a	13–18	35
	18 or more	42
	general	126
	surgical	61
	medical	27
Role in the ICU ^a	pediatric	8
	coronary	2
	Director	117
	senior staff	99
	fellow/resident	9
visiting consultant	10	
no formal role	1	

^a Incomplete answers

Table 2. Shortage of ICU beds in Europe - (239 responses)

	Limitation of ICU admissions by the beds availability	
	Generally or commonly	Sometimes or (almost) never
Scandinavia	4 (27%)	11 (73%)
The Netherlands	8 (33%)	16 (67%)
Belgium	15 (50%)	15 (50%)
Germany/Austria	31 (61%)	20 (39%)
Switzerland	12 (63%)	7 (37%)
France	18 (64%)	10 (36%)
Spain/Portugal	18 (69%)	8 (31%)
Italy	24 (71%)	10 (29%)
United Kingdom	9 (75%)	3 (25%)
Total	139	100

ICU admission

ICU admissions were "generally or commonly" limited by the number of beds according to 139 (57%) participants and "sometimes or (almost) never" according to 100 (41%) participants. Bed availability for ICU admissions is greater in Scandinavia and the Netherlands but more limited in Spain/Portugal, Italy and the United Kingdom (Table 2).

Policies for ICU admissions were relatively non-restrictive. Two thirds of responders admit patients who have no hope of survival for more than a few weeks (Table 3). No significant difference could be found between the various countries regarding these admission policies.

When asked about what should be done, the number of responders who would deny ICU admission doubled for each category of patients. In Spain and Portugal a significant majority felt that patients with very limited

Table 3. Admission of patients to ICU

	Are/should be admitted	Are not/ should not be admitted	No answer
Patients who may live for several years but whose quality of life is very poor according to the doctor's opinion	216/178	15/36	11/28
Patients who may live for several years but whose quality of life is very poor according to the patient's definition	194/134	33/79	15/29
Patients with very limited chances of survival (or poor prognostic index if calculated)	202/148	31/68	9/26
Patients with no hope of survival for more than a few weeks	164/80	70/137	8/25

Table 4. Determinant of type of medical information (diagnosis, treatment, prognosis) delivered to the patient (number of respondents for each response)

	Is	Should be
Depending on the type of patient (personality, perceived wishes...)	31	34
Depending on the type of disease and the severity of prognosis	27	18
Depending both on the type of patient and the type of disease	155	138
Always complete, without exception	24	31
No answer	5	21
Total	242	242

chances of survival ($p < 0.01$) or patients with no hope of survival ($p < 0.05$) should not be admitted into the ICU.

Information delivered

For the majority of physicians, the amount of information that is given to the patient depends on the type of patient and/or the type of disease. Only about 10% always give complete information. Only 31 (13%) think that the information provided for the patient should be always complete (Table 4).

When an iatrogenic incident had occurred, only 39 (16%) tell exactly what happened and the majority minimize the iatrogenic aspects. More catholic than non-catholic physicians minimize the iatrogenic aspects (Table 5). Only in Scandinavia is the complete information usually provided after the iatrogenic incident. Despite this, most participants felt they should tell exactly what happened (Table 5).

Informed consent

There is a general consensus that informed consent should be obtained before surgery, endoscopy or before administration of a new medication. In this latter case, the majority consider that consent should be written (Table 6).

Table 5. What is/should be told to the patient and/or his family when a iatrogenic incident (avoidable mistake) occurs (number of respondents for each response)

	Tell	(catholic/ non-catholic) ^a	Should tell
Exactly what happened, including that the complications were probably due to medical negligence	39	(9/30)	121
That a complication occurred but you minimize the iatrogenic aspects	179	(101/77)	94
Nothing about the complication whenever possible	15	(9/6)	6
No answer	9	(2/7)	21
Total	242	(121/120)	242

^a One participant did not provide this information

Table 6. Requirement of informed consent

	Written consent is/should be required	Oral consent is/should be required	No consent is/should be required	No answer
Administration of a new medication	76/122	103/75	49/19	14/26
Surgery	92/101	131/101	14/5	5/35
Endoscopy	40/53	163/138	31/15	8/36
Placement of an arterial catheter	7/17	107/129	116/68	12/28

Table 7. Reaction to a competent patient who refuses a surgical intervention that is considered necessary

	Vital intervention	(catholic/non-catholic)	Not vital intervention
You accept his decision	176	(76/100)	208
You treat correctly, contrary to his wishes	52	(36/16)	9
You will no longer take care of him	12	(8/3) ^a	21
No answer	2	(1/1)	4

^a One participant did not provide this information

When a competent patient refuses a surgical intervention, this decision is usually accepted even when this is a vital issue. However, catholic physicians are more often inclined to operate against the patient's wishes (Table 7).

"Do not resuscitate orders"

Where do not resuscitate (DNR) orders are used, they are usually verbal (Fig. 1). Among those respondents who favor the use of DNR orders, almost two thirds feel they should be written (121 vs 65) and 27 (11%) had no opinion about what should be done. There are significant differences in practices among the various European coun-

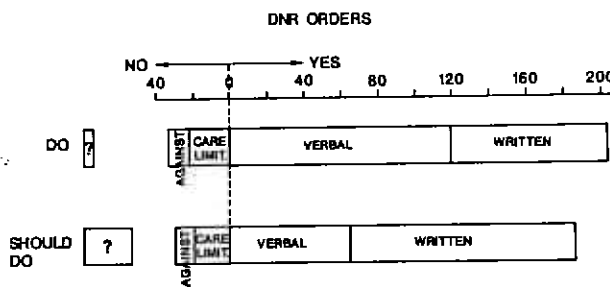


Fig. 1. Doctors practices ("do") and opinions ("should do") about DNR orders (written or verbal). The absence of DNR orders could be on the basis of the inherent risk of care limitation or the necessity to attempt resuscitation in every ICU patient. The question marks represent the absence of expressed opinion

tries (Table 8). In Scandinavia, the Netherlands, Belgium and Switzerland, DNR orders are most often written. Italy is the country where DNR orders are the least commonly applied. Only 7% of the participants discuss DNR orders with the patient but almost 25% of the participants consider that this should be the case (Table 9). The majority, however, involve the family in these discussions (57%). The family is consulted more often when the physician is older than 40 years (89/143 vs 50/99) or considers himself to be religious (76/106 vs 64/133).

Withholding and withdrawing life support

In patients judged to have no real chance of recovery, withholding sophisticated therapy is common. Withdrawing therapy is applied by 63% and active euthanasia by 36% (Table 10). With regard to what should be done, more than 10% do not express their opinion, and the number who do not withhold or withdraw therapy decreases (Table 10). Euthanasia is practised more commonly by younger doctors. Withdrawal of life support and euthanasia are less common in Italy, Spain and Portugal (Table 8). Withdrawal of minimal support (including intravenous fluids and feeding) is usually preferred to euthanasia, particularly amongst catholic doctors, whilst agnostic or atheist doctors have more equally divided opinions (Table 11).

Table 8. Current practices of European responders for DNR orders, withdrawal and euthanasia

	Total no. of responders	DNR orders				Withdrawal			Euthanasia		
		Present written	Present verbal	Absent	No answer	Yes	No	No answer	Yes	No	No answer
Scandinavia	15	11	3	0	1	13	2	0	7	8	0
United Kingdom	12	3	9	0	0	11	1	0	5	7	0
The Netherlands	24	21	2	1	0	21	3	0	9	12	3
Belgium	30	19	7	4	0	22	6	2	13	15	2
Germany/Austria	51	10	36	5	0	31	19	1	22	29	0
France	28	3	19	6	0	20	7	1	14	11	3
Switzerland	21	11	6	2	2	12	7	2	5	14	2
Spain/Portugal	27	6	17	3	1	12	14	1	5	21	1
Italy	34	0	27	12	1	10	22	2	7	26	1
Total	242	84	120	33	5	152	81	9	87	143	12

Table 9. Decision of DNR orders

	Discussion with			
	Patient		Family	
	Done	Should be done	Done	Should be done
Yes	18	55	139	161
No	210	165	89	59
No opinion	14	22	14	22

Table 10. Medical attitude towards patients with no real chance of recovering a meaningful life

	Done/should be done	Not done/should not be done	No opinion
To withhold therapy	202/194	32/22	8/26
To withdraw therapy	152/163	81/50	9/29
To practice euthanasia	87/86	143/127	12/29

Table 11. Medical attitude toward withdrawal of minimal support (i.e. intravenous fluids and feeding) versus euthanasia (administration of medication to provoke death)

	Total	Catholic	Protestant & other religions	Agnostic or atheist
1. The first is more acceptable than the second, because it is "letting die" rather than "killing"	111	66	25	20
2. Both surely lead to death, so that the second might be preferred to avoid suffering	49	18	12	19
3. Both are unacceptable	74 ^a	36	28	9
4. No opinion	8	1	4	3
Total	242	121	69	51

^a One participant in the group did not define his/her religious status

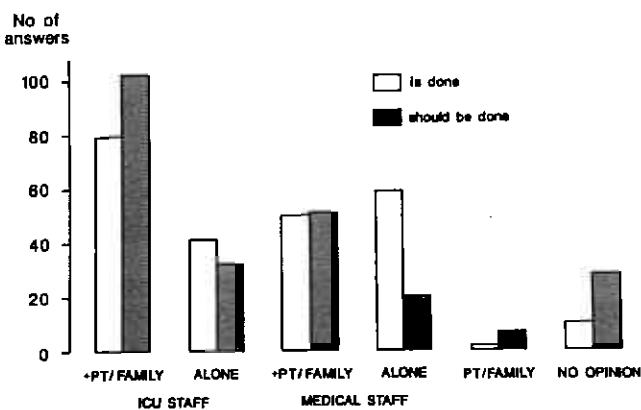


Fig. 2. Decision involvement in terminal care

Decision-making persons

Decisions about terminal care involve only medical staff in 109 (45%) and the entire ICU staff in 121 (52%) of cases, although medical staff are more often involved in Germany, Austria, Italy and Spain. Doctors older than 40 years more commonly involve the ICU staff (81 vs 52). The patient and/or family are involved by about half of the participants, more commonly when the entire ICU staff are involved (Fig. 2). Most participants felt that the ICU staff, patient and/or family should be involved in these decisions (Fig. 2). 144 (60%) felt that an ethics consultant (or committee) would be of no help in these decisions, except in Italy and Spain where the opposite was found. Doctors younger than 40 years of age felt more often that an ethics consultant might help (46/99 vs 45/143). A vast majority (214/242) felt that the medical education programs should include more discussions on ethical issues.

Example

An example was presented of a 50-year-old man with severe chronic obstructive pulmonary disease and postanoxic coma (see appendix). Thirty-six participants (15%) would continue full support with the possible exception of cardiopulmonary resuscitation, 119 (49%) would withhold therapy and 75 (31%) would withdraw therapy (Fig. 3). Decisions about life support were minimally influenced if the family insisted on withdrawal of therapy. However, when the family insisted that everything was done the influence was greater.

Discussion

This ethical questionnaire was designed to shed some light on the present attitudes of the European intensivists

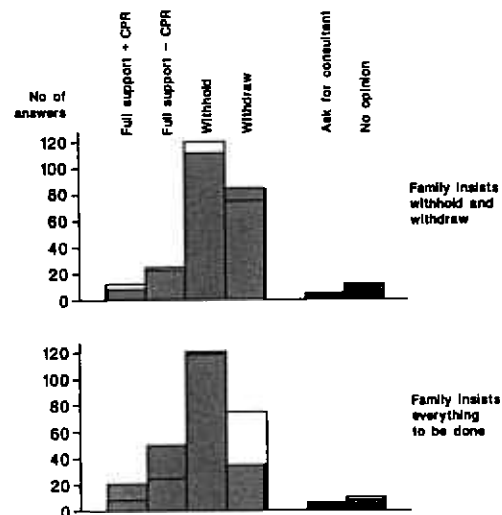


Fig. 3. Case presentation (see text for description). The open bars represent the attitudes if the patient has no family, and the hatched bars the attitudes when the family insists withhold and withdraw (upper diagram) or when the family insists everything to be done (lower diagram). The data indicate that the family influences the decision more in the latter case. CPR, Cardiopulmonary resuscitation; COPC, Chronic obstructive pulmonary disease

towards ethical questions. It has several limitations. Firstly only 41% of the intensive care members of the European Society of Intensive Care Medicine were surveyed. Although this percentage is felt representative of the European Society the actual number of intensivists in Europe is much greater. Secondly, it only addresses the ICU doctors' view, while the opinions of nurses, patients and ultimately the society might be different. Thirdly, data computerization does not allow full expression of complex feelings and opinions.

The first part of the survey was designed to define the logistic and ethical factors which influence ICU admission in Europe. The results showed that patient admissions in most ICUs are still commonly limited by the number of available beds. The ICU bed shortage seems greatest in the Southern countries (Spain/Portugal and Italy) and also in the United Kingdom. These differences are probably related to differences in health care budgets among various European countries.

If ICU bed availability is limited, two extreme categories of patients, perceived to benefit less from ICU care, are admitted with a lower priority: patients who are less ill but who could benefit from monitoring, and patients with a poor quality of life or with a very poor prognosis. Singer et al. [14] demonstrated that during a temporary drop in ICU bed availability, the rate of ICU admissions and patient's length of stay decreased without harmful consequences. Strauss et al. [15] studied the effects of the day-by-day variations in bed availability on admission criteria in their ICU in Seattle. As expected, patients admitted during periods of bed shortage were usually sicker and stayed for shorter periods, but the bed availability had no effect on mortality or ICU readmission [15]. Hence, rationing of ICU facilities might be warranted.

In view of the limited availability of ICU beds, one could expect a greater scrutiny of ICU patient admissions in Europe. Surprisingly, the opposite was found. The criteria for admission are not restrictive. Most ICU physicians admit patients to their ICU's with poor life quality, and/or very limited chances of survival. We separated the judgement of the quality of life into that based on the patient's definition and that based on the physician's definition because the two can differ [16]. The admission rate for patients with a poor quality of life expectancy was high in both cases.

Many admit patients with very limited chances of survival. This reflects the difficulty in accurately defining chances of survival. Various predictors of morbidity and mortality have been used to assess the severity of disease of ICU patients but they have not proved very useful in the selection of patients to be admitted [17, 18]. There is a substantial overlap of indices of severity of illness of patients admitted to an ICU and those admitted to a general ward [19]. Factors related to chronic health status, specific type of disease process or organ involvement can influence the outcome but are not easily quantified [20]. Physicians' perceptions might be accurate in assessing prognosis [21], but they are usually more accurate in predicting who will live than who will die [21-24]. These problems explain a relatively liberal attitude regarding the ICU admission of patients with poor prognosis.

Interestingly, two thirds of the responders admit patients with no hope of survival for more than a few weeks. These terminally ill patients are probably those who incur the least benefit but the highest costs in the ICU [1, 2, 14, 15]. A majority of the responders however, realize that this may be inappropriate and that these patients probably should not be admitted to an ICU. Spain/Portugal is the region where the largest number of participants feel ICU admission should be denied to patients with very limited chances of survival or no hope of survival for more than a few weeks. A stronger economical influence on health care is likely in these countries. The survey thus reveals the need for a better definition of those who *should* be admitted rather than who *should not* be admitted into the ICU. One recently suggested possibility in an "ICU treatment entitlement index" which is directly proportional to the probability of successful outcome, quality and length of life remaining and inversely related to the costs required to achieve therapeutic success [25]. Whether such an instrument would be useful in the triage of critically ill patients remains to be tested.

The data on attitudes toward patient's roles in decision-making indicate that only a minority of intensive care doctors present the entire information to their patient, and most doctors see this attitude as appropriate.

The occurrence of an iatrogenic incident brings a different reaction. Whilst the majority minimize the iatrogenic aspects most of them consider this attitude to be inappropriate. Intensivists desire to honestly inform the patient about errors in his/her management but simultaneously fear that it might alter the doctor-patient relationship.

Most participants do require informed consent prior to a procedure and consider it as appropriate. The decision of a competent patient refusing a surgical intervention is also usually respected even when the intervention is vital. Catholic doctors are more likely to fully treat the patient even if this is contrary to his/her wishes. The purpose of informed consent is to involve patients in the decision-making process. This principle entitles the patient to either veto any proposed diagnostic or treatment procedure or select from several options. However, in the intensive care setting the application of this principle can have limitations which may modify practices. The patient might not wish to know the complete details of the disease and its potential complications. An interview survey conducted in the United Kingdom revealed that most patients who did not appreciate the risks associated with cardiac catheterization would not have wanted to be informed about them [26].

A major problem with the use of informed consent in the critically ill is that the principle requires freedom and competency of the patient [27]. Some have questioned the complete freedom of the critically ill who becomes highly dependent of his environment [7]. More importantly, the critically ill patient might not be competent enough to fully understand the information or treat it rationally [8]. The discomfort experienced by the patient in an ICU setting can also lead to depressive reactions tending to limit therapy. Hence, intensive care staff may invoke a proxy decision-making process, leading to "paternalism with

permission" [27]. Finally, "informed consent" does not necessarily imply that the patient fully understands the information. In a recent study including 100 non-critically ill patients having signed an informed consent prior to surgery, 44 of these patients were unaware of the exact nature of the surgical procedure [28]. Accordingly, the French Society of Intensive Care recently stated that informed consent is a meaningless concept in the critically ill whose liberty of judgement is incomplete. This society further stated that relatives' consent could not represent a valid substitute, concluding that "there is thus no need to include informed consent in study protocols unless it can be valid and adequate or when minor persons or assimilated must enter the research protocol" [7]. Appelbaum and Grisso recently compromised "to begin with the presumption of competence but in life-threatening circumstances to lower the threshold at which a determination of probable incompetence is made" [8].

This survey thus reveals that intensive care doctors usually support the principle of informed consent and respect the patient's decisions. There are however, some inconsistencies in their attitudes, as the desire to respect the patient's autonomy is confronted by the limited disclosure of information. Most physicians feel they should inform more about iatrogenic incidents but not about the disease and its prognosis. Perhaps the intensive care doctor favors the release of selected information related to a specific complication or a particular procedure rather than the release of too complex and often unpleasant information. These issues are not simple to either define or resolve, however they need to be addressed based on data such as those described herein.

A large majority of the responders recognised that some kind of limit to intensive care should be applied to avoid futile therapy. Although problems have been recognized in the interpretation of DNR orders [29], these orders have become unavoidable in those with refractory circulatory shock or those with a prolonged downhill course of a chronic irreversible disease or with permanent brain damage [30]. When death occurs in the ICU, it is usually expected [31]. DNR orders are routinely applied in a large majority of the European ICU's even though they appear less common in Italy.

Despite the absence of a clear ethical distinction between withholding and withdrawing intensive therapy in the literature [10], the majority felt less comfortable with withdrawal than with withholding. Interestingly, 57% of the participants supported the principle of "limited care", despite the fact that the concept of extraordinary care has usually been rejected because it leads to more confusion than clarity [10].

Distinction between withdrawal and euthanasia has been a topic of debate [11-13, 32]. Some have considered that there is no clear distinction between the two, especially in the highly sophisticated ICU environment where both can hasten an ongoing unavoidable process. Others invoke the infinite value of human life and also the "slippery slope" argument. In the United States, a recent report of a personal description of euthanasia [33] has raised forceful reactions [34].

The present questionnaire revealed that withdrawal of minimal support is usually preferred to euthanasia and is considered as an extreme form of withdrawal still avoiding a killing act [35]. About 36 percent of the participants, especially the younger ones, sometimes practice euthanasia. As this questionnaire was totally anonymous and international, we trust that the participants responded honestly without fear of prosecution. These figures are close to those from a recent national survey in Britain showing that 30% of general practitioners accept the concept of euthanasia [36].

The patient is seldom involved in these decisions. Even in the DNR orders, the patient is involved by only 7% of the participants. Undoubtedly, these questions remain very difficult to ask. In a recent American study, about 20% of hospitalized patients were involved in the DNR decision [37]. The critically ill patient might experience difficulties in understanding the situation and making his own judgement [38]. However, the family is involved in the DNR orders by the majority of participants. The nurses and other members of the ICU staff are involved in these decisions in about half the cases. They are more often involved by older doctors and those who consider themselves as religious. The patient and/or the family are more commonly consulted when the entire ICU staff takes the decision.

A large majority of participants supported a larger discussion of ethical issues during medical education. More explicit attitudes towards withholding and withdrawing life support seem desired. Written DNR orders are usually preferred as well as a larger involvement of the entire ICU staff in these decisions.

An ethics committee has been set up in various institutions, to help physicians in these decisions [39, 40]. In this enquiry, 38% of the responders felt they could be helped by such an ethics committee or consultant. This indicates that most ICU doctors either prefer to remain responsible for these decisions or are insufficiently informed about the potential help provided by such a committee [39, 40].

Finally, this questionnaire highlighted differences among various countries. Spain, Portugal and Italy are the regions where DNR orders, withdrawal of life support and euthanasia are less commonly used. In these countries, the decisions about terminal care are also more often restricted to the medical staff, but the doctors usually consider that an ethical committee can help in these decisions. However, The Netherlands, often considered to have a permissive law on terminal care [11-13], do not have different practices from their neighbouring countries.

Appendix: Questionnaire

- A. Is the ICU admission limited by the number of available beds
 1. generally
 2. often, commonly
 3. sometimes, uncommonly
 4. (almost) never
- B. Do/should you sometimes admit to ICU a patient:
 1. yes
 2. no

- with no hope of survival for more than a few weeks
 - who may live for several years but whose quality of life is very poor according to *your* opinion
 - who may live for several years but whose quality of life is very poor according to the *patient's* definition
 - with very limited chances of survival (or poor prognostic index if calculated)
- C. The medical information (diagnosis, treatment, prognosis) given to the patient is/should be
1. always complete, without exception
 2. depends on the type of disease and the severity of prognosis
 3. depends on the type of patient (personality, perceived wishes...)
 4. 2+3
- D. When an iatrogenic incident (avoidable mistake) occurs, you do/should tell the patient and/or his family:
1. exactly what happened, including that the complications were probably due to medical negligence
 2. that a complication occurred but you minimize the iatrogenic aspects nothing about the complication whenever possible
- E. Before performing the following procedures, the *informed consent* of a conscious patient is/should be required:
1. yes, written consent
 2. yes, oral consent
 3. no consent
 - Surgery
 - Esogastroscopy
 - Placement of an arterial catheter
 - Administration of new medication (still undergoing trial)
- F. If a competent patient refuses the surgical intervention that you consider necessary *and vital*
1. you try to convince the patient but if insistant, accept his decision
 2. you treat the patient correctly, contrary to his wishes
 3. you advise the patient you will no longer take care of him
- G. Idem as D, but you consider the intervention necessary *and not vital*
- H. Do/should you currently apply DNR (do not resuscitate) orders in the event of cardiac arrest
1. yes, written DNR orders
 2. yes, verbal DNR orders
 3. no. These orders would limit the level of care to these patients
 4. no. One should attempt to resuscitate every patient in the ICU
- I. If DNR orders are used, are they/should they be as a general rule
- discussed with the patient?
 1. yes
 2. no
 - discussed with the family?
 1. yes
 2. no
- J. In patients with no real chance of recovering a meaningful life, *do/should you* sometimes:
1. yes
 2. no
 - withhold sophisticated therapy (i. e. not start mechanical ventilation, dialysis...)
 - withdraw sophisticated therapy (i. e. discontinue mechanical ventilation, dialysis...)
 - deliberately administer large doses of medication (ex. barbiturates or morphine) until death ensues
- K. Please select the most appropriate statement (read them all!) concerning attitudes towards hopeless patients:
- a) Withdrawal of minimal support (i. e. IV fluids and feeding) versus euthanasia (administration of medication to provoke death)
 1. the first is more acceptable than the second because it is "letting die" rather than "killing"
 2. both surely lead to death, so that the second might be preferred to avoid suffering
 3. both are unacceptable
 - b) "Limited care" (withholding therapy) versus withdrawal or euthanasia
 1. these have become unavoidable in some patients. Whenever possible withholding therapy is preferable
 2. these have become unavoidable in some patients. "Limited care" is generally very difficult and sometimes hazardous. Maximal treatment should be provided and withdrawn if the situation becomes hopeless.
 3. neither can be accepted. The ICU physician should preserve life at all costs.
- L. The decision about terminal care *does/should* involve
1. the medical staff
 2. the ICU staff (including nurses)
 3. the patient and/or family
 4. 1+3
 5. 2+3
- M. Can an ethics consultant (or committee) help in these decisions?
1. yes
 2. no
- N. Should medical education programs include more discussions on ethical issues?
1. yes
 2. no
- O. Consider the following example:
A 50 year old man has long-standing and severe COPD with several recent admissions for decompensated respiratory failure requiring prolonged mechanical ventilation. The patient presents with another episode of respiratory failure complicated by prolonged cardiac arrest. After 72 hours, the patient remains in profound coma and is still mechanically ventilated.
- Select your attitude
1. continue full support including CPR if cardiac arrest recurs
 2. continue full support except CPR
 3. continue present care but withhold sophisticated measures (i. e. dialysis, surgery if required)
 4. continue present care but withhold any additional therapy (i. e. antibiotics for infection)
 5. discontinue mechanical ventilation (allowing the patient to die)
 6. discontinue all treatments (IV fluids, feeding) except mechanical ventilation
 7. ask for an ethical consultant in the 3 following conditions
 - A. patient has no family
 - B. family insists withhold and withdraw
 - C. family insists everything to be done
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