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Ethical attitudes of intensive care physicians in Hong Kong: questionnaire survey

在香港醫院進行的一項問卷調查：深切治療部醫生對醫療道德的態度

Objectives. To examine the practice and ethical attitudes of intensive care doctors in Hong Kong and to compare findings with those from European studies.
Design. Structured questionnaire survey, modified from a similar questionnaire used in Europe.
Setting. Eleven publicly funded intensive care units in Hong Kong.
Participants. Ninety-five doctors practising in intensive care units.
Results. Of the sixty-five respondents, sizeable proportions indicated that the admission of patients to the intensive care unit is often (25%) or sometimes (51%) limited by bed availability. About 69% to 86% of doctors admit patients with limited prognosis or poor quality of life, although all felt that these admissions should be more restricted. 'Do-not-resuscitate' orders are applied by almost all respondents, and 52% and 89% of respondents would discuss such orders with the patient or with the family, respectively. The withholding and withdrawal of therapy from patients with no chance of recovery to a meaningful life is common in Hong Kong (99% and 89%, respectively). A total of 83% respondents involved patients or families in the decision to limit therapy, compared with less than half in Europe overall. When the family wanted aggressive life-support despite doctors' recommendations to limit therapy, 62% of the respondents would still withhold therapy while only 9% would withdraw therapy. More than 60% of doctors feel comfortable talking to patients' relatives about limitation of therapy. Approximately 75% felt that euthanasia is unacceptable. Most respondents (94%) reported that medical programmes should include more extensive discussion on ethical issues.
Conclusion. The ethical attitudes of intensive care doctors in Hong Kong are similar to those of counterparts in Europe. However, Hong Kong doctors tend to involve families more often in the discussion of end-of-life issues.

目的：檢視香港醫院深切治療部醫生處理病人的做法及他們對醫療道德的態度，並與歐洲的情況作比較。
設計：以一份曾於歐洲使用的問卷修訂而成的結構性問卷調查。
安排：香港 11 所公立醫院的深切治療部。
參與者：95 位在深切治療部工作的醫生。
結果：共有65位醫生回應。當中有25%認為深切治療部是否接收病人經常受制於床位的空缺，51%則認為有時受床位限制，比例相當高。不過，69%至86%的醫生卻承認會接收生存機會渺茫或生活質素欠佳的病人，儘管他們都認為這類病人的接收必須有所限制。幾乎所有醫生都會作出「不作心肺復甦」的決定，其中 52% 受訪者會與病人討論有關決定，89% 會與病者家人商量。對於沒有機會復原或重過有意義生活的病人，限制進一步治療或撤銷治療措施的情況頗為普遍，前者高達 99% ，後者也有 89% 。83% 受訪醫生會與病者家人商量是否給予病人有限的治療，而在歐洲只有少於一半醫生會採取同樣措施。如果家人不同意醫生提出只作有限治療的建議，並要求盡一切辦法維持病人生命， 62%醫生仍然會限制進一步的治療，只有9%的醫生會撤銷治療措施。超過60%的醫生表示與病者家人講解限制治療時並沒有困難。約有75%醫生認為安樂死不可接受。大部分回應的醫生(94%)認為醫學課程應更廣泛地討論與道德有關的課題。

Key words:
Decision making;
Ethics, medical;
Euthanasia, passive;
Intensive care units;
Withholding treatment

關鍵詞：
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結論：香港醫院深切治療部的醫生對醫療道德的態度，和歐洲同業的態度相若；有關結束生命的問題上，香港醫生會與病者家人參與較多的討論。

Introduction

With the advancement of science and technology for organ support, demands for intensive care services have been escalating; however, owing to limited resources, difficult end-of-life ethical issues often arise in the intensive care unit (ICU). Often, uncertainty and anxiety about legal consequences also complicate ethical decision-making. Much has been published delineating European and North American doctors' attitudes towards ethical problems in intensive care medicine.[1-11] In contrast, data from local or Chinese populations are scanty,[12,13] and would be expected to be quite different from data from western nations because of the different cultural backgrounds. This study was performed to examine the ethical attitudes and current practice of ICU doctors in Hong Kong and to compare them with those of European counterparts, as published in the available literature. The study focused on the following three aspects: ICU bed availability and admission policies, including triage considerations; 'do-not-resuscitate' (DNR) orders; and the withholding and withdrawal of therapy.

Methods

This study was approved by the Ethics Committee of the Chinese University of Hong Kong, and used a structured questionnaire that was modified from two questionnaires designed to study the ethical views of intensive care physicians in Europe in 1990[7] and 1999.[8] All the core questions from the two European questionnaires were included, and some additional questions on local issues were added, thereby allowing us to compare physicians' practices and attitudes between Hong Kong and Europe. The questionnaire for the study is shown in the Appendix.

Table 1. Demographic characteristics of the respondents in this study and in published European studies

Characteristic	Hong Kong No. (%)	Europe No. (%)	P value*
Age (years)			
<40	58 (89)	161 (32)	<0.001
40-49	6 (9)	238 (47)	
≥50	1 (2)	105 (21)	
Sex			
Male	40 (62)	437 (87)	<0.001
Female	25 (38)	67 (13)	
Intensive care background (years)			
≤4	45 (69)	46 (9)	<0.001
5-10	15 (23)	170 (34)	
>10	5 (8)	287 (57)	
Religious background			
Catholic	10 (15)	226 (45)	<0.001
Protestant	14 (22)	120 (24)	
Other	6 (9)	41 (8)	
Agnostic or atheist	35 (54)	113 (22)	
Primary specialty			
Anaesthesiology	42 (65)	288 (57)	0.001
Internal medicine	21 (32)	109 (22)	
Others	2 (3)	105 (21)	
Type of hospital			
University	17 (26)	NA†	
Regional	17 (26)	NA	
District	31 (48)	NA	
Hospital size (beds)			
<250	0 (0)	47 (9)	0.003
250-499	6 (9)	103 (20)	
500-749	24 (37)	122 (24)	
≥750	35 (54)	230 (46)	
Size of intensive care unit (beds)			
≤6	2 (3)	62 (12)	0.05
7-12	29 (45)	243 (48)	
13-18	15 (23)	102 (20)	
>18	19 (29)	96 (19)	
Grade of respondents			
Director	6 (9)	NA	
Senior staff	23 (35)	NA	
Registrar	14 (22)	NA	
Intensive care unit trainee	22 (34)	NA	

* P values for comparisons between Hong Kong and European data[8]
† NA not available

Table 2. Admission practice for patients with limited prognoses, and comparison between Hong Kong and European studies*

Country	No hope of survival for more than a few weeks		Poor quality of life according to physician		Poor quality of life according to patient	
	Are admitted	Should be admitted	Are admitted	Should be admitted	Are admitted	Should be admitted
Hong Kong (n=65)	69	45	86	66	81	51
Europe (n=504)	73	33	95†	79‡	88	57

* Data are percentages; P values are comparisons between Hong Kong and corresponding European data[8]
† P=0.004
‡ P=0.022

Table 3. Application and discussion of do-not-resuscitate (DNR) orders, and comparison between Hong Kong and European studies*

Country	Written DNR orders		Discuss with patient		Discuss with family	
	Apply	Should apply	Yes	Should do	Yes	Should do
Hong Kong (n=65)	60	79	52	88	89	92
Belgium (n=71)	79†	92†	16§	48§	80	80†
United Kingdom (n=48)	81†	85	39	70†	91	93
Germany (n=72)	39†	60†	29‡	49§	86	89
France (n=49)	27§	61†	12§	32§	68‡	76†
Italy (n=36)	8§	55†	0§	45§	68‡	82
Netherlands (n=45)	91§	97‡	77‡	90	96	98
Europe (n=504)	58	80	25§	53§	77†	85

* Data are percentages; P values are comparisons between Hong Kong and corresponding European data[8]
† P<0.05
‡ P<0.01
§ P<0.001

A total of 95 questionnaires were sent by mail in October 2000 to 11 ICUs in Hong Kong—all in hospitals under the Hong Kong Hospital Authority. A letter was attached with each questionnaire explaining the objectives of the survey. All doctors working in each ICU were invited to participate in the study, and the directors of the individual units were requested to distribute the questionnaires. Each study participant was asked to reply anonymously and to return the completed questionnaire in a return envelope.

The results of the survey were compared with those of a survey of intensive care physicians in Europe, which were published in 1999.[8] All results were analysed with Statistical Package for the Social Sciences, version 10 (SPSS, Chicago [IL], US). Categorical variables were compared using two-tailed Chi squared tests and Fisher's exact tests. Continuous and ordinal variables were compared using two-tailed *t* tests and Mann-Whitney *U* tests, respectively. A P value of <0.05 (two-tailed) was considered statistically significant.

Results

A total of 65 of 95 originally posted questionnaires were returned (return rate, 68%) and considered valid for analysis. The demographic data of the respondents are shown in Table 1. Twenty-nine (45%) respondents were senior staff (director and senior grade), and 22 (34%) were ICU trainees. Compared with European ICU doctors, a larger proportion of local doctors are younger than 40 years (89% versus 32%), have less than 5 years of intensive care experience (69% versus 9%), are from the specialty of anaesthesiology (65% versus 57%), and have no religious background (54% versus 22%).

Admission practices, policy, and guidelines

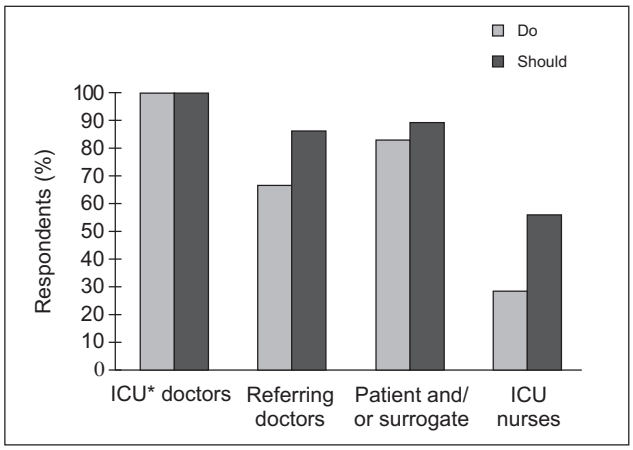
Some 31% and 51% of respondents indicated that ICU admission is often or sometimes limited by bed availability, respectively, whereas 18% replied that ICU admission is seldom or almost never limited by bed availability. Most respondents (69%-86%) admitted patients who have a poor quality of life or poor prognosis, although fewer respondents felt that these patients should be admitted (Table 2), and this finding is similar to the European study.[8] Nearly all respondents (>90%) said that their ICU has its own admission policy and guidelines. Only 39% of respondents said that they have written policy and guidelines; 52% said that their admission policy is understood but not written.

Do-not-resuscitate orders

Almost all the ICU doctors who replied said they apply DNR orders. Written and verbal DNR orders are applied by 60% and 35% of respondents, respectively. Large proportions of respondents indicated that written DNR orders should be applied (79%) and that they discuss DNR orders with the patient's family (89%), or directly with the patient (52%). Different countries in Europe have very different practices, but overall, Hong Kong respondents more frequently discuss DNR issues with the patient and family than do European respondents (Table 3).

Withholding and withdrawal of therapy

Limitation of therapy from patients with no chance of recovery to a meaningful life is a common practice in Hong Kong. Our data showed that 99% of respondents would sometimes or often withhold therapy, and 89% would sometimes or often withdraw therapy. Religious respondents were as likely as non-religious respondents to withhold (97% versus 100%, P=0.622) or withdraw (93% versus 86%,



* ICU intensive care unit

Fig. Who makes or should make decisions regarding limitation of therapy

P=0.437) therapy. In Hong Kong, 50% of respondents indicated that withholding and withdrawing therapy are ethically equivalent. Still, most respondents (70%) preferred withholding to withdrawing therapy. When asked about the perceived proportion of ICU deaths that were preceded by limitation of therapy, about 70% of the respondents replied that this was less than 40%.

For patients with no real chance of recovering a meaningful life, when asked whether they would deliberately administer large doses of a drug until death ensued, 23% of respondents said they would do so, either sometimes or more frequently, and 52% said they would never do so. Non-religious respondents were more likely than religious respondents to say that they would do this (41% versus 13%, P=0.02). On the other hand, when asked on their views on euthanasia, 75% of local respondents said that it is unacceptable; there was no difference between the proportions of religious and non-religious groups giving this response (80% versus 71%, P=0.424).

Concerning the decision to limit therapy (Fig), 83% of respondents involved patients or families in the discussion, and 89% said that such decisions should involve patients or families. Only 28% of respondents involve ICU nurses in the decision-making, although more respondents (55%) cited that ICU nurses should be involved. When asked about family's acceptance of limitation of therapy, 60% of respondents replied that families eventually would accept the ICU's recommendations to limit therapy. Furthermore, 66% said they always feel comfortable talking to relatives about limiting therapy; 22% said sometimes, and 12% said seldom. No respondents replied that they were never comfortable.

If a family requests full, aggressive treatment despite medical recommendations to limit therapy, 69% of respondents said they would still withhold therapy, although 82% replied that they should do so. In contrast, only 8% of respondents would withdraw therapy, and 40% replied that they should. The majority (83%) of respondents said patients or families sometimes or often request inappropriate therapy. Only 18% of the respondents said that their ICU had policies to override a patient's or surrogate's inappropriate request. About half (52%) of the respondents said that an ethics consultant or committee might be helpful in decisions concerning limitation of therapy.

In an example scenario presented in the questionnaire, a 50-year-old man with a poor pre-morbid status suffered post-anoxic coma after cardiac arrest, and had a poor prognosis for survival. Three hypothetical situations of different family status or wishes were given, and the replies of the respondents are shown in Table 4. If the patient had no family members or if family members insisted that therapy be limited, the majority of respondents (more than 90%) indicated that they would either withhold or withdraw therapy. However, when the family expressed the wish that everything should be done, only about 70% would withhold or withdraw therapy. These attitudes are similar to those found in European studies overall.[8]

Finally, the majority of respondents (94%) indicated that medical programmes should include more extensive discussion on ethical issues.

Discussion

Our results showed that the ethical attitudes of Hong Kong ICU doctors are similar to those of European counterparts towards ICU admission policies, DNR orders, and limitation of therapy. However, the main difference is that Hong Kong doctors tend to involve families more often than European doctors in discussions of end-of-life issues.

The finding that ethical attitudes of local ICU doctors are similar to those who come from a western European culture is unexpected, because most of the doctors and patients in Hong Kong are Chinese and have a strong

Table 4. Decision-making in the example of a 50-year-old man with post-anoxic coma, according to family wishes*

	Full support	Withhold therapy	Withdraw treatment	Ethics consultation	P value†
No family	1 (2)	36 (55)	24 (37)	4 (6)	-
Family insists limitation of therapy	0 (0)	21 (32)	33 (65)	2 (3)	0.094
Family insists full support	8 (12)	40 (62)	6 (9)	11 (17)	<0.001

* Data are shown in No. of patients (%)
† P value is for comparison with when there is no family member

Chinese cultural background. The lack of a difference may be a consequence of two factors. Firstly, our mainstream medical practice has evolved around western medicine, and doctors are taught western ethical philosophy. Secondly, Hong Kong was under British colony rule until 1997, and has a substantial western influence in its history and cultural development.

Limitation of therapy for patients with no chance of recovery to a meaningful life is common in Hong Kong. In our ICU, about 61% of the deaths occur after limitation of life-sustaining therapies.[14] In Hong Kong, both the Medical Council[15] and the Hospital Authority[16] have published guidelines on withholding and withdrawal of therapy. Although most authorities believe that there is no ethical difference between withholding and withdrawing therapy,[17] only half of the respondents in our study share this view. Most respondents prefer withholding to withdrawing therapy, as is the situation in Europe. Regarding euthanasia, 75% of local respondents felt that it is unacceptable. In fact, there was a heated debate among care providers, patients, and politicians in the year 2000, when the Hong Kong Medical Council planned to include guidelines on 'passive' euthanasia in its code of conduct for doctors.[18] In general, the medical profession was against the term 'passive euthanasia', and the final guidelines did not include euthanasia. Currently in Hong Kong, euthanasia is illegal.

In Hong Kong, 83% of ICU doctors involve the patient or the family in decisions on the limitation of therapy, and about 90% involve the family in DNR orders. In contrast, in Europe overall, only half of ICU doctors involve the patient or family in decisions on limitation of therapy and 77% involve the family in DNR orders.[8] The high degree of family involvement in our locality probably reflects a perception that patients' families need to be involved, as well as doctors' respect for traditional Chinese values. In traditional Chinese culture, great emphasis is placed on community and family values such as harmony, responsibility, function, and respect for parents and ancestors.[12] Chinese societies are still strongly family-centred, and health-care decisions are considered the responsibility of the family. In situations in which the family insists on 'full therapy' against medical advice, very few physicians would withdraw therapy against the family's wishes. This strong preference for family involvement in decision-making is echoed in a recent local study evaluating the attitudes of non-medical Chinese teachers towards life-sustaining treatment among dying patients.[19]

In our survey, many respondents felt at ease discussing limitation of therapy with patients or families. This finding is unexpected. Firstly, end-of-life discussions are potentially sensitive—especially among the older generation of Chinese, who believe that openly acknowledging death or openly discussing end-of-life issues is taboo—and sometimes hostility can arise. Secondly, there is little formal training on end-of-life issues in local medical programmes, and the topic is often poorly covered in textbooks.[20] The ease felt by doctors should not, however, be interpreted as showing that they communicate well. Physicians sometimes perceive themselves as communicating better than they actually do.[21,22] Certainly, most respondents view that medical programmes should include more discussion on ethical issues.

Our data on ICU admissions suggest that there is a perceived shortage of ICU beds in many centres, and this may have an important bearing on ethical attitudes to the triage of ICU admissions. Still, many doctors admit patients who have a poor quality of life or poor prognosis. This finding may reflect the difficulty in accurately defining chances of survival; in cases of doubt, it becomes appropriate to admit the patient and assume that patients will more likely benefit from ICU care than they will from non-ICU care. It may also reflect the large temporal variations in demand for ICU beds, so that patients with a poor prognosis are admitted at times when ICU occupancy is low and beds are readily available but may be refused at times when occupancy is high and insufficient beds are available.

One of the limitations of the study is that we do not know how many doctors in each ICU responded. Given the importance of maintaining anonymity, we did not record the hospital of each respondent, lest he or she could be identified with other demographic details, such as staff grade, religious background, primary specialty, and age. However, the data showed that a fair number of staff of each grade had responded. Given that ICUs have only a few members of staff of each grade, our findings strongly suggest that there was no gross overrepresentation of one or two units.

Conclusion

This study showed that the ethical attitudes of ICU doctors in Hong Kong are similar to those of ICU doctors in western Europe. Compared with ICU doctors in the West, those in Hong Kong more often involve the patient and his or her family in discussions of end-of-life issues; and there is a tendency towards more explicit attitudes on issues such as ICU admission policy, DNR orders, and limitation of therapy.

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Appendix. Ethics questionnaire

1. How often is admission to the intensive care unit (ICU) limited by the number of beds available?
2. *Do* you and *should* you admit to ICU a patient
   - a with no hope of survival for more than a few weeks
   - b with no hope of survival for more than a few months
   - c who may live for several years but whose quality of life is very poor according to your opinion
   - d who may live for several years but whose quality of life is very poor according to the patient's opinion
3. Do you have an admission policy in your ICU?
   - a Yes, a written policy and guidelines
   - b Yes, a general policy that is understood but not written
   - c No, depends on individual physician's discretion
   - d No, admission is on a 'first come, first served' basis
4. Concerning the medical information (diagnosis, treatment, prognosis) given to the patient and/or family, the information *is* and *should be*
   - a always complete, without exception
   - b depends on the type of disease and the severity of prognosis
   - c depends on the type of patient or family (educational level, perceived wishes...)
   - d b + c
5. When an iatrogenic incident (avoidable mistake) occurs, you *do* tell the patient and/or his family and you *should* tell the patient and/or his family
   - a exactly what happened, including that the complications were probably due to medical negligence
   - b that a complication occurred but you minimise the iatrogenic aspects about the complication whenever possible
6. A. If a competent patient refuses the surgical intervention that you consider *necessary and life-saving*
   - a you try to convince the patient but if insistent, accept his decision
   - b you treat the patient correctly, contrary to his wishes
   - c you advise the patient you will no longer take care of him

   B. If a competent patient refuses the surgical intervention that you consider *necessary but not life-saving*
   - a you try to convince the patient but if insistent, accept his decision
   - b you treat the patient correctly, contrary to his wishes
   - c you advise the patient you will no longer take care of him

7. In the event of a cardiac arrest, *do* you and *should* you currently apply do-not-resuscitate (DNR) orders?
   a Yes, written DNR orders
   b Yes, verbal DNR orders
   c No, these orders would limit the level of care to these patients
   d No, one should attempt to resuscitate every patient in the ICU
8. If DNR orders are used, *are* they and *should* they, as a general rule, be discussed with the patient and with the family?
9. For patients with no real chance of recovering a meaningful life, how often do you
   a withhold sophisticated therapy (ie not start ionotropes, dialysis...)
   b withdraw sophisticated therapy (ie discontinue ionotropes, dialysis...)
   c deliberately administer large doses of medication (eg barbiturates or morphine) until death ensues
10. Please select the most appropriate statement (read them all please) concerning attitudes towards hopeless patients
    A Limitation of therapy (withholding or withdrawal of therapy) versus euthanasia (administration of medication to provoke death)
      a I think limitation is a form of passive euthanasia, because both processes lead to death.
      b Limitation of therapy is not euthanasia, passive or active. Euthanasia has the intention to kill, whereas limitation of therapy is not done with the intention of killing the patient.
    B Regarding limitation and euthanasia,
      a Both are acceptable
      b Both are unacceptable
      c Euthanasia is unacceptable, whereas limitation of therapy is acceptable
    C When limitation of therapy is practised, withholding therapy and withdrawal of therapy are
      a Ethically the same because both processes lead to death
      b Not ethically the same because withholding means not escalating the current level of support, while withdrawing means actively reducing the level of support
    D In your practice, limitation of therapy
      a has become unavoidable in some patients. Whenever possible, withholding therapy is preferable
      b has 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.
      c Neither can be accepted. The ICU physician should preserve life at all costs.
11. In your unit, approximately how many deaths are preceded by some form of limitation of therapy?
12. In your unit, the decision to limit therapy (withhold or withdraw), *does* involve and *should* involve (you can choose more than one answers)
    a ICU doctors
    b ICU nurses
    c Parent team doctors
    d Patients or surrogates
13. In your experience, what is the estimated proportion of relatives who will finally accept the ICU's recommendations to limit therapy?
14. Do you feel comfortable or at ease when talking to relatives about limitation of therapy?
15. If the family insists on full aggressive therapy despite your recommendations to withhold or withdraw, *do* you still practise and *should* you still practise withhold-therapy or withdraw-therapy?
16. How often, in your ICU practice, does a patient or surrogate request medically inappropriate therapy? (eg request aggressive support in a dying comatose patient)
17. Does your ICU have a policy or mechanism to override what was perceived to be inappropriate patient or surrogate requests?
18. Can an ethics consultant (committee) help in decisions concerning limitation of therapy?
19. Should medical education programmes include more discussions on ethical issues?
20. A 50-year-old man has long-standing and severe chronic obstructive pulmonary disease 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 in the following conditions
    A Patient has no family
    B Family insists withhold- and withdraw-therapy
    C Family insists everything to be done
      a continue full support including cardiopulmonary resuscitation (CPR) if cardiac arrest recurs
      b continue full support except CPR
      c continue present care but withhold sophisticated measures (ie dialysis, surgery if required)
      d continue present care but withhold any additional therapy (ie antibiotics for infection)
      e discontinue mechanical ventilation (allowing the patient to die)
      f discontinue all treatments (intravenous fluids, feeding), except mechanical ventilation
      g ask for an ethical consultation