Inappropriate Care in European ICUs Confronting Views From Nurses and Junior and Senior Physicians

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BACKGROUND: ICU care providers often feel that the care given to a patient may be inconsistent with their professional knowledge or beliefs. This study aimed to assess differences in, and reasons for, perceived inappropriate care (PIC) across ICU care providers with varying levels of decision-making power.

METHODS: We present subsequent analysis from the Appropricus Study, a cross-sectional study conducted on May 11, 2010, which included 1,218 nurses and 180 junior and 227 senior physicians in 82 European adult ICUs. The study was designed to evaluate PIC. The current study focuses on differences across health-care providers regarding the reasons for PIC in real patient situations.

RESULTS: By multivariate analysis, nurses were found to have higher PIC rates compared with senior and junior physicians. However, nurses and senior physicians were more distressed by perceived disproportionate care than were junior physicians (33%, 25%, and 9%, respectively; P = .026). A perceived mismatch between level of care and prognosis (mostly excessive care) was the most common cause of PIC. The main reasons for PIC were prognostic uncertainty among physicians, poor team and family communication, the fact that no one was taking the initiative to challenge the inappropriateness of care, and financial incentives to provide excessive care among nurses. Senior physicians, compared with nurses and junior physicians, more frequently reported pressure from the referring physician as a reason. Family-related factors were reported by similar proportions of participants in the three groups.

CONCLUSIONS: ICU care providers agree that excessive care is a true issue in the ICU. However, they differ in the reasons for the PIC, reflecting the roles each caregiver has in the ICU. Nurses charge physicians with a lack of initiative and poor communication, whereas physicians more often ascribe prognostic uncertainty. Teaching ICU physicians to deal with prognostic uncertainty in more adequate ways and to promote ethical discussions in their teams may be pivotal to improving moral distress and the quality of patient care.

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Department of Anaesthesiology and Critical Care Medicine (Dr Michalsen), Tettnang Hospital, Tettnang, Germany; Serviço Cuidados Intensivos 1 (Dr Azevedo Maia), Hospital Santo António, Centro Hospitalar do Porto, Porto, Portugal; the Department of Anaesthesiology and Intensive Therapy (Dr Owczuk), Medical University of Gdansk, Gdansk, Poland; Imperial College NHS Trust (Dr Rubulotta), Centre for Perioperative Medicine and Critical Care Research, Charing Cross Hospital, London, England; Service des Soins Intensifs Medico-Chirurgicaux et Oncologie Thoracique (Dr Meert), Institut Jules Bordet, Brussels, Nurses and physicians may feel that the level of care given to a patient is inappropriate or inconsistent with their professional knowledge or personal beliefs.^{1,2} ICU workers who provide care that they consider inappropriate may experience acute moral distress. If not acknowledged, this distress may result in overt conflicts³ or, worse, in indirect manifestations such as burnout,^{4,6} depression,⁷ substance abuse,⁸ or a decision to change jobs.^{4,9-11}

Moral distress is highly prevalent in nurses because of their lack of decision-making authority.^{9,10,12,13} Junior physicians also have limited decision-making power and may feel that some decisions made by senior physicians are morally unacceptable.¹⁴⁻¹⁶ Surprisingly, the Appropricus study showed that one-third of senior ICU physicians also reported instances of perceived inappropriate care, of which the most common type was excessive care.¹¹ That physicians with decision-making power were troubled by perceptions of inappropriate care deserved further analysis.¹⁷

This report adds to the initial publication by looking in more detail at the differences among ICU care providers who have different levels of decision-making power, in the perceived inappropriate care. New in this study is that we separated the answers of junior physicians from those of senior physicians. Additionally, we assessed not only the frequency of perceived inappropriate care, but also the reasons for which the ICU staff members ascribed that perceived inappropriate care.

Materials and Methods

Study Design and Procedure

We conducted a cross-sectional study among nurses (defined as registered nurses, including head nurses and also including, in France, nursing assistants), junior physicians (defined as physicians in training), and senior physicians (including heads of ICUs) in European adult ICUs on a single day (Tuesday, May 11, 2010, at 8:00 AM to Wednesday, May 12, 2010, at 8:00 AM).¹¹

Instruments

Each care provider working in the ICU on the day of the survey completed a questionnaire regarding personal characteristics (including age, sex, religion, role, and work experience) and perceived work characteristics (including job strain). The respondent indicated the number of patients he/she was in charge of on the survey day and the number of patients perceived as receiving inappropriate care. Perceived inappropriate care was defined as a patient-care situation perceived by the respondent to fit one or more of the following statements or scenarios: (1) there was a disproportion between the amount of care given and the expected prognosis (too much or too little care), (2) there was persistent nonadherence of the patient to prescriptions, (3) other patients would benefit more from ICU care, (4) inaccurate information was given to the patient or family, (5) the patient's wishes concerning treatment preferences were known but not respected, (6) one of the parties involved

Belgium; and the Department of Medical Oncology (Dr Reyners), University Medical Center Groningen, Groningen, The Netherlands. These data were presented at the 12th European Association for Palliative Care Congress, May 18-21, 2011, Lisbon, Portugal, and at the 24th European Society of Intensive Care Medicine Annual Congress, October 1-5, 2011, Berlin, Germany.

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did not participate in decision-making related to the patient, and (7) the patient was not receiving good-quality care.¹¹ The perceived inappropriate care rate for each participant was defined as the ratio of the number of patients with perceived inappropriate care reported by the provider over the total number of patients cared for by the same provider.

To complete the perceived inappropriate care questionnaire for each patient considered to be receiving inappropriate care, participants chose statements applicable to that individual patient and indicated the reasons underlying their choices. For example, participants who felt that a patient was receiving disproportionate care were asked to specify the factors that contributed to the mismatch between level of care and prognosis (eg, family request, attending physician request, fear of litigation, or poor communication¹⁸⁻²⁰).

In each participating ICU, the local investigator completed a questionnaire regarding the ICU characteristics (type of hospital and ICU, mortality rate, number of ICU staff members, and availability of an ethics consultant and/or psychologist) and end-of-life practices (symptom control, decision making, and discharge of dying patients to wards). The study questionnaires were developed by a panel of experts in intensive care, palliative care, and communication. The experts used a Delphi method to develop a consensus about the seven inappropriate-care scenarios and the reasons that might produce each scenario. The original English-language questionnaire was translated into the first languages of the participating countries, then back-translated into English (the Brislin method). All the questionnaires used can be downloaded from the online appendix of the previous publication.¹¹ The study was approved by the appropriate institutional review boards for all participating ICUs and countries (e-Appendix 1).

Statistical Analysis

Values are presented as No. (%). The χ^2 test and compare median test were used to assess differences among nurses, junior physicians, and senior physicians. To assess the association between higher perceived workload and perceived inappropriate care rates among nurses and junior and senior physicians, a hierarchical multivariate model was built. We modeled the correlation between participants working in the same ICU by including a random ICU effect, nested within a given country, to take into account a possible correlation among ICUs in the same country. The full model included all the variables collected in the ICU and the participant questionnaires. A stepwise backward selection procedure with a significance level of 5% was used to build the final model. All statistical analyses were performed with SAS (SAS Institute Inc) and SPSS (IBM).

Results

Participants and ICUs

Of the 1,651 staff members of 82 ICUs who completed the participant questionnaire and filled out the perceived inappropriate care question, 1,218 were nurses, 180 were junior physicians, and 227 were senior physicians; 26 failed to indicate their job titles. Basic demographic characteristics of the participating clinicians are given in Table 1. Participation rates, ICU characteristics, and participant characteristics are described in more detail in a previous article.¹¹

In all, ICU clinicians completed 445 perceived inappropriate care questionnaires. Nurses reported 289 perceived inappropriate care cases, junior physicians reported 54, and senior physicians reported 90; in 12 cases, the professional role was missing.

Differences Among Care Providers Regarding Types of Scenarios of Perceived Inappropriate Care

Table 2 shows the distribution of the responses of each of the three participant groups on the seven scenarios of perceived inappropriate care. A significant difference was found among nurses, junior physicians, and senior physicians for three of the seven scenarios. First, a lack of involvement of one of the parties involved in decision-making was reported significantly more often by nurses and senior physicians than by junior physicians. Nurses most frequently indicated that family members (41%) and ICU nurses (40%) were insufficiently involved; senior physicians mainly reported a lack of participation of families (48%). Second, among nurses perceiving inappropriate care, 20% reported insufficient quality of care (compared with only 7% of junior and 3% of senior physicians), which they ascribed chiefly to understaffing (63% of nurses indicating insufficient quality of care). Finally, nurses, compared with junior and senior physicians, more often reported inaccurate information given to the patient or family (Table 2).

Nurses, junior physicians, and senior physicians ascribed similar proportions of perceived inappropriate care to disproportionate care, other patients benefitting more from ICU care, patient nonadherence, and patient's wishes concerning treatment preferences not being respected (Table 2). The three participant groups ascribed similar proportions of perceived inappropriate care to patient nonadherence (Table 2). Overall, 27% of participants reported failure to take prescribed medication, 18% reported continued smoking, and 13% reported continued substance abuse.

In nurses, junior physicians, and senior physicians, the most commonly reported reason for perceiving care as inappropriate was a perceived mismatch between level of care and prognosis (Table 2). Of the 235 questionnaires for which this information was available, 154 (66%) (95% CI, 55%-76%) stated that disproportionate care

	ICU Clir	nicians (N = 1,651 [26 Job Titles M	1issing])	
Characteristic	Nurses (n = 1,218)	Junior Physicians (n = 180)	Senior Physicians (n = 227)	P Value
Age, median (IQR), y	34 (28-43)	29 (28-32)	41 (36-48)	<.001
Female sex	873 (72)ª	103 (57)	81 (36) ^b	<.001
Country				<.001
Belgium	291 (23. 9)	26 (14. 4)	48 (21. 1)	
France	69 (5. 7)	16 (8. 9)	24 (10. 6)	
Germany	150 (12. 3)	23 (12. 8)	24 (10. 6)	
Israel	29 (2. 4)	2 (1. 1)	2 (0. 9)	
Italy	173 (14. 2)	31 (17. 2)	19 (8.4)	
Malta	119 (9. 8)	18 (10. 0)	10 (4. 4)	
Poland	49 (4. 0)	7 (3. 9)	19 (8. 4)	
Portugal	117 (9. 6)	17 (9. 4)	22 (9. 7)	
Switzerland	194 (15. 9)	40 (22. 2)	56 (24. 7)	
The Netherlands	27 (2. 2)	0 (0. 0)	3 (1. 3)	

TABLE 1] Clinician Characteristics

Data are presented as No. (%) unless indicated otherwise. IQR = interquartile range.

°1,126 respondents reported their sex.

^b226 respondents reported their sex.

Scenario	Nurses (289 PIC cases)	Junior Physicians (54 PIC Cases)	Senior Physicians (90 PIC Cases)	P Value
Lack of proportion between level of care and prognosis (disproportionate care)	184 (64)	36 (67)	63 (70)	. 532
	85% excessive	93% excessive	94% excessive	. 205
Other patients would benefit more from ICU care	100 (35)	22 (41)	42 (47)	. 107
Lack of involvement of one of the parties in decision-making	85 (29)	6 (11)	23 (26)	. 019
Persistent patient nonadherence with prescribed treatment	65 (23)	7 (13)	19 (21)	. 288
Insufficient quality of care	57 (20)	4 (7)	3 (3)	<.001
Inaccurate information to the patient or family	56 (19)	6 (11)	7 (8)	. 019
Patient's wishes concerning treatment preferences known but not respected	37 (13)	7 (13)	7 (8)	. 417

TABLE 2	Differences on	Types of So	cenarios of	Perceived I	nappropriate	Care by 1	Type of ICU	Care Provider
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Data are presented as No. (%). PIC = perceived inappropriate care.

was common in the ICU. Recurrence of similar disproportionate-care situations was reported more often by nurses (78%) than by senior physicians (54%) or junior physicians (23%) (P < .001). More nurses than physicians reported marked distress due to perceived disproportionate care (33% of nurses, 25% of senior physicians, and 9% of junior physicians; P = .026).

Multivariate analysis demonstrated that a higher perceived workload was independently associated with higher perceived inappropriate care rates in nurses (OR, 1.50; 95% CI, 1.08-2.08; P = .0015) but not in junior physicians (OR, 0.71; 95% CI, 0.40-1.27; P = .249) or senior physicians (OR, 0.98; 95% CI; 0.74-1.30; P = .867).

Differences Among Care Providers in the Reasons for Disproportionate Care

Reasons for perceived disproportionate care were divided into four categories: ICU-related factors, inadequate communication, patient- or family-related factors, and referring physician-related factors. The highest frequency of perceived reasons fell into the ICU-related factors category, followed by patient- or family-related factors. The most commonly reported reasons for disproportionate care were prognostic uncertainty (141 of 290, 49%), lack of consensus among the ICU staff regarding the prognosis (95 of 290, 33%), no one in the ICU team taking the initiative to challenge inappropriate care (92 of 290, 32%), inadequate communication within the ICU team (98 of 290, 34%), families not ready to withdraw therapy (106 of 290, 37%), and families asking to continue disproportionate care (92 of 290, 32%).

Significant differences among care provider groups were found in four of the ICU-related factors: prognostic uncertainty, no one taking the initiative to challenge the inappropriateness of care, an ICU member exerting pressure to continue care, and financial advantage (Table 3). Both junior and senior physicians more often reported prognostic uncertainty as a reason for continued disproportionate care, whereas nurses more often reported failure to challenge inappropriate care, pressure by an ICU member to continue the same level of care, and financial incentives (Table 3). Nurses also more often reported inadequate communication within the ICU team (Table 3). There were no differences among nurses, junior physicians, and senior physicians regarding the contribution to disproportionate care of family-related factors, whereas pressure from the referring physicians was reported more often by the senior physicians than by the two other groups (Table 3).

Discussion

We found that ICU care providers throughout Europe more or less agree on what the main issues of inappropriate care are. Nurses and junior and senior physicians indicate that a mismatch between level of care and prognosis (disproportionate care) is the most common cause of inappropriate care in the ICU. Remarkably, factors inside the ICU were the most important reasons for perceived disproportionate care. This perceived disproportionate care was more often ascribed to prognostic

TABLE 3] Differences in Reasons Underlying Perceived Disproportionat	e Care Amor	ng ICU Nurse	s, Junior Ph	ysicians, anc	d Senior Phy.	sicians	
	290 Case	s of Perceived Di	sproportionate C	are (Job Title Mis	sing in 7 Reporte	ed Cases)	
	Nurses (n = 184)	Junior Physic	ians (n = 36)	Senior Physic	cians (n = 63)	
Reason	%	No.	%	No.	%	No.	P Value
ICU-related factors							
1. A discussion about appropriateness of care is not considered a priority by the majority of the ICU team	23	42	11	4	27	17	. 180
 A discussion about appropriateness of care is not considered a priority by an ICU team member who exerts pressure to continue care 	22	40	ω	m	11	7	. 047
3. No one in the ICU team takes initiative to challenge the appropriateness of care in this patient (laisser-faire)	38	70	17	9	21	13	. 005
 Prognostic uncertainty contributes to perpetuate inappropriate care in this patient 	42	77	67	24	57	36	. 007
Lack of consensus among ICU staff members regarding the prognosis contributes to perpetuate inappropriate care in this patient	34	62	31	11	32	20	. 914
No one decides to take action to withdraw or withhold therapy despite a consensus within the ICU team that such action is needed	31	57	28	10	30	19	. 929
7. There is a fear of litigation	22	41	8	С	22	14	.154
8. There is hospital hierarchy pressure	19	34	8	m	10	9	.109
9. There is financial advantage to providing futile care	15	27	ю	1	ю	2	.010
Inadequate communication							
 Inadequate communication within the ICU team contributes to perpetuate inappropriate care in this patient 	42	78	19	2	19	12	<. 001
a. Between physician and physician	29	53	19	7	21	13	. 286
b. Between nurse and physician	32	58	8	ю	8	5	<. 001
c. Between physician and superior	15	28	11	4	8	£	. 312
d. Between head nurse and physician	5	10	ю	1	0	0	. 146
e. Between nurse and nurse	m	9	9	2	0	0	. 231
f. Between nurse and head nurse	ε	D	m	1	0	0	. 461
							(Continued)

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	290 Case	es of Perceived Di	sproportionate C	are (Job Title Mis	sing in 7 Reporte	d Cases)	
	Nurses (n = 184)	Junior Physic	ians (n = 36)	Senior Physic	cians $(n = 63)$	
Reason	%	No.	%	No.	%	No.	P Value
2. Inadequate communication/information to the family or patient contributes to perpetuate inappropriate care in this patient	27	49	14	ß	16	10	. 086
3. There is/was inadequate communication between the ICU team and the referring physician concerning this patient	20	36	14	ß	14	6	. 521
Patient or family related							
1. Patient and/or family asks to continue care that is inappropriate	29	54	28	10	38	24	. 389
Patient and/or family exerts pressure to continue care that is inappropriate	21	38	17	9	30	19	. 202
3. Patient and/or family does not wish to be involved in the decision-making	6	16	8	m	11	7	. 834
4. Patient and/or family does not want to start the proposed care	ß	10	9	2	ß	c	. 976
5. Patient and/or family is not ready to withdraw	34	63	36	13	43	27	.471
Referring physician related							
1. Referring physician asks to continue disproportionate care	27	50	25	6	32	20	. 718
2. Referring physician exerts pressure to continue disproportionate care	10	19	11	4	24	15	. 023
3. Referring physician does not want to be involved in decision-making	8	15	8	ю	с	2	. 392
4. Referring physician does not want to start proposed care	4	8	0	0	0	0	. 109

TABLE 3] (continued)

uncertainty by junior and senior physicians than by nurses. Nurses, in contrast, more often incriminated poor communication within the ICU team, failure to challenge disproportionate care, and pressure from an ICU staff member. Senior physicians, compared with nurses and junior physicians, more frequently reported pressure from the referring physician as a reason for disproportionate care. These differences clearly reflect the different roles each care provider has in the ICU. Family-related factors were equally brought forward as an important issue by the three groups. Marked distress due to perceived disproportionate care was reported by 33% of nurses and 25% of senior physicians, compared with 9% of junior physicians.

Perceived inappropriate care can exist only when the perceiver feels unable to change the plan of care.^{1,21} Among ICU staff members, nurses have the least decision-making power, spend the most time at the bedside, and have the greatest emotional engagement with the patient's suffering.9,10,12,22 Perceived inappropriate care for a substantial number of patients by staff members with little decision-making power may affect quality of care^{10,22} and job continuation rates.¹¹ In our study, marked distress due to perceived inappropriate care was reported more often by nurses than by physicians. Furthermore, as in our earlier study,¹¹ a higher perceived workload was associated with higher perceived inappropriate care rates in nurses, suggesting that a frequent perception that care is inappropriate may increase the perceived work burden. Alternatively, nurses who face severe time pressure may be particularly averse to the provision of care they feel is excessive or unneeded. Giving nurses opportunities to voice their opinions about appropriateness of care, together with improved communication regarding reasons for care-level choices, may improve the working environment in the ICU.^{3,9-11,13,23-26}

Junior physicians also have little decision-making power and may struggle with decisions of senior physicians that seem morally unacceptable to them.¹⁴⁻¹⁶ However, in our study, the junior physicians did not have higher rates of perceived inappropriate care compared with the senior physicians. Furthermore, they had the lowest rate of marked distress due to perceived disproportionate care. Physicians in training may lack adequate knowledge about the prospects of ICU therapies and may be very involved in learning the highly technical work, making them think less about the global meaningfulness of the care they are providing. Health-care professionals who neglect their emotions may be at risk of disengagement and poor judgment, overt conflicts, and, in the long term, burnout and depression.^{5,8,27-34} Therefore, it seems important that junior physicians be stimulated to open up to, reflect on, and communicate their emotions concerning difficult patient care situations.

Senior physicians are expected to assume the leading role in discussions and decisions about treatment limitations. Nevertheless, excessive care was the most common inappropriate-care scenario perceived by our participating senior physicians. The extent to which this perception reflected failure to choose the best level of care based on objective considerations is unclear. The most commonly reported reason for disproportionate care was prognostic uncertainty, reflecting the wellknown difficulties raised by mortality prediction in ICU patients. In addition, even for senior physicians, it is hard to argue against family members who want care that is perceived as disproportionate and even harmful by the senior physician. Furthermore, nearly one-quarter of the senior physicians reported that pressure from the referring physician was a factor in perceived disproportionate care, reflecting poor communication or power struggles among seniors.

Many physicians, as shown in this study, thus seem to retreat to the world of "prognostic uncertainty," in which everything remains possible, so that waiting seems the best and safest option.^{27,35} However, in this way, physicians may fail to recognize that this "wait and see" strategy is often perceived by the team and the relatives as an alibi for physicians to avoid having to take a decision.35-37 Nurses in this study often blamed physicians for a lack of initiative and bad communication with the families and the ICU team as to why they postpone decision-making. Convincing evidence shows that this type of strategy leads to extended grief processes (complicated grief) among relatives following the death of their loved one.³⁶⁻⁴¹ It also creates distrust among team members, leading to intra- and interpersonal conflicts.^{3,4,6,7,13,28,30,31} Therefore, systematically using this "wait and see" strategy is inadequate and even harmful; however, when there are good reasons to postpone decisions, better communication of the prognostic uncertainty to the team and the families is warranted. Teaching ICU physicians to deal with prognostic uncertainty in more adequate ways⁴²⁻⁴⁴ and to become better leaders, who dare to take decisions closer to their emotions⁴²⁻⁴⁸ and who promote open and in-depth ethical discussions in their teams,^{11,23,24,44-49} would be a far-reaching intervention to improve moral distress and thereby the quality of patient care.11,24-26,50

This study provides preliminary data on the reasons for perceived inappropriate care among ICU nurses, junior physicians, and senior physicians. Its main strengths are its excellent response rate (median response rate of 93%)⁵¹ and its originality; it is the first to study subjective perceptions from bedside clinicians related to real patient care situations. However, there are some limitations. Its observational nature does not allow us to determine causality. More in-depth qualitative and longitudinal studies are now in order to elucidate the intrapersonal and interpersonal processes that underlie perceived inappropriate care. In addition, the cross-sectional design of our study precluded the collection of patient outcome measures. Future studies will have to compare perceptions of inappropriate care with the presence of inappropriate care as determined by objective criteria, including patient outcomes.

Conclusions

In conclusion, ICU care providers feel that excessive care is a true issue in their daily ICU practice. Nurses charge physicians with a lack of initiative and poor communication, whereas physicians more often ascribe prognostic uncertainty as a reason as to why disproportionate care is continued. These are important targets for efforts to improve care for patients and working environments for clinicians.

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Additional information: The e-Appendixes can be found in the Supplemental Materials section of the online article.

References

- Schwenzer KJ, Wang L. Assessing moral distress in respiratory care practitioners. *Crit Care Med.* 2006;34(12):2967-2973.
- Ulrich CM, Hamric AB, Grady C. Moral distress: a growing problem in the health professions? *Hastings Cent Rep.* 2010;40(1):20-22.
- Azoulay E, Timsit JF, Sprung C, et al; Conflicus Study Investigators and for the Ethics Section of the European Society of Intensive Care Medicine. Prevalence and factors of intensive care unit conflicts: the Conflicus study. Am J Respir Crit Care Med. 2009;180(9):853-860.
- Meltzer LS, Huckabay LM. Critical care nurses' perceptions of futile care and its effect on burnout. *Am J Crit Care*. 2004;13(3):202-208.
- Embriaco N, Azoulay E, Barrau K, et al. High level of burnout in intensivists: prevalence and associated factors. *Am J Respir Crit Care Med*. 2007;175(7):686-692.

- Poncet MC, Toullic P, Papazian L, et al. Burnout syndrome in critical care nursing staff. Am J Respir Crit Care Med. 2007;175(7):698-704.
- Mealer ML, Shelton A, Berg B, Rothbaum B, Moss M. Increased prevalence of posttraumatic stress disorder symptoms in critical care nurses. *Am J Respir Crit Care Med.* 2007;175(7):693-697.
- Blanchard P, Truchot D, Albiges-Sauvin L, et al. Prevalence and causes of burnout amongst oncology residents: a comprehensive nationwide cross-sectional study. *Eur J Cancer*. 2010;46(15):2708-2715.
- 9. Hamric AB, Blackhall LJ. Nursephysician perspectives on the care of dying patients in intensive care units: collaboration, moral distress, and ethical climate. *Crit Care Med.* 2007;35(2): 422-429.
- 10. Corley MC. Nurse moral distress: a proposed theory and research agenda. *Nurs Ethics*. 2002;9(6):636-650.
- 11. Piers RD, Azoulay E, Ricou B, et al. APPROPRICUS Study Group of the Ethics Section of the ESICM. Perceptions of appropriateness of care among European and Israeli intensive care unit nurses and physicians. JAMA. 2011;306(24):2694-2703.
- Oberle K, Hughes D. Doctors' and nurses' perceptions of ethical problems in end-of-life decisions. *J Adv Nurs*. 2001;33(6):707-715.
- Gutierrez KM. Critical care nurses' perceptions of and responses to moral distress. *Dimens Crit Care Nurs*. 2005;24(5):229-241.
- McDougall R, Sokol DK. The ethical junior: a typology of ethical problems faced by house officers. *J R Soc Med.* 2008;101(2):67-70.
- Quarini CJ. A day in the life of a junior doctor: everyday ethical encounters. *Postgrad Med J.* 2010;86(1021):632-635.
- 16. Jones JW, McCullough LB, Richman BW. Clinical disagreements between residents

and faculty surgeons. J Vasc Surg. 2004;39(1):270-272.

- Halpern SD. Perceived inappropriateness of care in the ICU: what to make of the clinician's perspective? *JAMA*. 2011;306(24):2725-2726.
- Palda VA, Bowman KW, McLean RF, Chapman MG. "Futile" care: do we provide it? Why? A semistructured, Canada-wide survey of intensive care unit doctors and nurses. J Crit Care. 2005;20(3):207-213.
- Sibbald R, Downar J, Hawryluck L. Perceptions of "futile care" among caregivers in intensive care units. *CMAJ*. 2007;177(10):1201-1208.
- Rivera S, Kim D, Garone S, Morgenstern L, Mohsenifar Z. Motivating factors in futile clinical interventions. *Chest.* 2001;119(6):1944-1947.
- Raines ML. Ethical decision making in nurses. Relationships among moral reasoning, coping style, and ethics stress. JONAS Healthc Law Ethics Regul. 2000;2(1):29-41.
- 22. Epstein EG, Hamric AB. Moral distress, moral residue, and the crescendo effect. *J Clin Ethics*. 2009;20(4):330-342.
- Jensen HI, Ammentorp J, Erlandsen M, Ording H. Withholding or withdrawing therapy in intensive care units: an analysis of collaboration among healthcare professionals. *Intensive Care Med*. 2011;37(10):1696-1705.
- Rushton CH. Defining and addressing moral distress: tools for critical care nursing leaders. AACN Adv Crit Care. 2006;17(2):161-168.
- Wåhlin I, Ek AC, Idvall E. Staff empowerment in intensive care: nurses' and physicians' lived experiences. *Intensive Crit Care Nurs.* 2010;26(5):262-269.
- Puntillo KA, McAdam JL. Communication between physicians and nurses as a target for improving end-of-life care in the intensive care unit: challenges and opportunities for moving forward. *Crit Care Med.* 2006;34(suppl 11):S332-S340.
- Meier DE, Back AL, Morrison RS. The inner life of physicians and care of the seriously ill. *JAMA*. 2001;286(23): 3007-3014.

- Maslach C, Jackson SE, Leiter M. Maslach Burnout Inventory Manual. 3rd ed. Palo Alto, CA: Consulting Psychologist Press; 1996.
- Prins JT, Hoekstra-Weebers JE, Gazendam-Donofrio SM, et al. Burnout and engagement among resident doctors in the Netherlands: a national study. *Med Educ*. 2010;44(3): 236-247.
- Figley CR. Compassion fatigue: psychotherapists' chronic lack of self care. J Clin Psychol. 2002;58(11):1433-1441.
- Vanheule S, Lievrouw A, Verhaeghe P. Burnout and intersubjectivity: a psychoanalytical study from a Lacanian perspective. *Hum Relat.* 2003;56(3): 321-338.
- Neumann M, Edelhäuser F, Tauschel D, et al. Empathy decline and its reasons: a systematic review of studies with medical students and residents. *Acad Med.* 2011;86(8):996-1009.
- Hojat M, Vergare MJ, Maxwell K, et al. The devil is in the third year: a longitudinal study of erosion of empathy in medical school. *Acad Med*. 2009;84(9):1182-1191.
- Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet*. 2009;374(9702): 1714-1721.
- Smith AK, White DB, Arnold RM. Uncertainty—the other side of prognosis. N Engl J Med. 2013;368(26):2448-2450.
- Apatira L, Boyd EA, Malvar G, et al. Hope, truth, and preparing for death: perspectives of surrogate decision makers. *Ann Intern Med.* 2008;149(12):861-868.
- Evans LR, Boyd EA, Malvar G, et al. Surrogate decision-makers' perspectives on discussing prognosis in the face of uncertainty. *Am J Respir Crit Care Med.* 2009;179(1):48-53.
- Wright AA, Zhang B, Ray A, et al. Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustment. *JAMA*. 2008;300(14):1665-1673.

- Murray SA, Kendall M, Boyd K, Sheikh A. Illness trajectories and palliative care. *BMJ*. 2005;330(7498):1007-1011.
- 40. End-of-life care: the neglected core business of medicine. *Lancet*. 2012;379(9822):1171.
- 41. Nevalainen MK, Mantyranta T, Pitkala KH. Facing uncertainty as a medical student—a qualitative study of their reflective learning diaries and writings on specific themes during the first clinical year. *Patient Educ Couns.* 2010;78(2):218-223.
- Shapiro J, Astin J, Shapiro SL, Robitshek D, Shapiro DH. Coping with loss of control in the practice of medicine. *Fam Syst Health*. 2011;29(1):15-28.
- Tubbs EP, Elrod JA, Flum DR. Risk taking and tolerance of uncertainty: implications for surgeons. *J Surg Res.* 2006;131(1):1-6.
- 44. Caplan LR. Handling conflict in end-oflife care. *JAMA*. 2000;283(24):3199.
- Lind R, Lorem GF, Nortvedt P, Hevrøy O. Family members' experiences of "wait and see" as a communication strategy in end-of-life decisions. *Intensive Care Med.* 2011;37(7):1143-1150.
- 46. Goleman D. What makes a leader? *Harv Bus Rev.* 1998;76(6):93-102.
- Goleman D. Emotional Intelligence: Why It Can Matter More Than IQ. New York, NY: Bantam Books; 1995.
- Bovier PA, Perneger TV. Stress from uncertainty from graduation to retirement—a population-based study of Swiss physicians. *J Gen Intern Med.* 2007;22(5):632-638.
- Kets de Vries MF. Putting leaders on the couch. A conversation with Manfred F. R. Kets de Vries. Interview by Diane L. Coutu. *Harv Bus Rev.* 2004;82(1):64-71.
- Thomas EJ, Sexton JB, Helmreich RL. Discrepant attitudes about teamwork among critical care nurses and physicians. *Crit Care Med.* 2003;31(3):956-959.
- Piers RD, Azoulay E, Benoit DD. Perceptions of appropriateness of care in the intensive care unit: Reply. *JAMA*. 2012;307(13):1371-1372.