Medical futility: Predicting outcome of intensive care unit patients by nurses and doctors—A prospective comparative study*

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Objective: First, to assess the pattern of the prediction of intensive care unit patients’ outcome with regard to survival and quality of life by nurses and doctors and, second, to compare these predictions with the quality of life reported by the surviving patients.

Design: Prospective opinion survey of critical care providers; comparison with follow-up for survival, functional status, and quality of life.

Setting: Six-bed medical intensive care unit subunit of a 1,000-bed tertiary care, university hospital.

Patients: All patients older than 18 yrs, admitted to the medical intensive care unit for >24 hrs over a 1-yr period (December 1997 to November 1998).

Interventions: Daily judgment of eventual futility of medical interventions by nurses and doctors with respect to survival and future quality of life. Telephone interviews with discharged patients for quality of life and functional status 6 months after intensive care unit admission.

Measurements and Main Results: Data regarding 521 patients including 1,932 daily judgments by nurses and doctors were analyzed. Disagreement on at least one of the daily judgments by nurses and doctors was found in 21% of all patients and in 63% of the dying patients. The disagreements more frequently concerned quality of life than survival. The higher the Simplified Acute Physiology Score and the longer the intensive care unit stay, the more divergent judgments were observed (p < .001). In surviving and dying patients, nurses gave more pessimistic judgment and considered withdrawal more often than did doctors (p < .001). Patients only rarely indicated bad quality of life (6%) and severe physical disability (2%) 6 months after intensive care unit admission. Compared with patients’ own assessment, neither nurses nor doctors correctly predicted quality of life; false pessimistic and false optimistic appreciation was given.

Conclusions: Disagreement between nurses and doctors was frequent with respect to their judgment of futility of medical interventions. Disagreements most often concerned the most severely ill patients. Nurses, being more pessimistic in general, were more often correct than doctors in the judgment of dying patients but proposed treatment withdrawal in some very sick patients who survived. Future quality of life cannot reliably be predicted either by doctors or by nurses. (Crit Care Med 2003; 31:456–461)

Key Words: medical futility; withdrawal; withholding; quality of life; outcome; functional status; intensive care; doctors; nurses; telephone interview

Clinical decision making is a complex and dynamic process, accomplished by the experienced clinician as a subconscious and highly subjective gestalt process (1). In intensive care unit (ICU) practice, decisions concerning initiation, continuation, extension, and termination of diagnostic and therapeutic interventions are required daily. Decisions to withhold or withdraw intensive life support to avoid futile medical treatment are particularly delicate. Of course, the patient’s wishes—or, if the patient is no longer competent, his or her family’s or surrogate’s wishes—have to be respected. In addition, clinical decision making is based on medical evidence, taking into account the probability of survival (closely related to the premorbid health status), type and severity of the underlying disease, severity of the acute insult, and intensity of the treatment (2–5). Scoring systems, such as the Simplified Acute Physiology Score (SAPS) II, Acute Physiology and Chronic Health Evaluation III, or Mortality Probability Models II, can provide important input for human judgment, but their value is very limited in the individual patient (6–11). The stage of an individual ICU patient, where the probability of survival becomes dismal, is difficult to define most of the time. The Study to Understand Prognoses and Preferences for Outcome and Risks of Treatment (SUPPORT) showed that more accurate prognostic estimates did not influence treatment decision making as strongly as one would expect (12–13). It has been postulated recently that practice style may influence the decision-making process much more than precise estimation of survival (4, 14). Very little is known, however, about the sensitivity and specificity of this approach (15), and unmeasured patient and professional factors are very influential in determining such decisions (5, 16–17).

During the last few years, aspects of quality of life (QOL) more and more entered into the decision-making armamentarium. However, QOL is a very personal perception, and prospective estimation of future QOL is a major challenge (18–20).

A large body of literature has been published in the last few years about the assessment of QOL (21–23), and several questionnaires have been developed and validated for intensive care patients (24–27). Most of these questionnaires evaluate QOL 3–6 months after ICU discharge.

*See also p. 646.

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Supported, in part, by grant 32-49585.96 from the Swiss National Science Foundation (DEU).

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DOI: 10.1097/01.CCM.0000049945.69373.7C
and are of no help for the daily prospective decision-making process during ICU stay.

Different appreciation of survival chances or future QOL of a patient can lead to disagreements about management strategies, eventually resulting in conflicts between physicians and nurses, healthcare worker frustration culminating in burn-out syndrome, and impaired patient care. Several studies have shown various results concerning disparity of nurses’ and physicians’ attitudes (28–32). In our personal experience, survival chances and future QOL of ICU patients are often perceived more negatively by nurses than by physicians. We are not aware of any study comparing prospective estimation of future QOL assessed by healthcare personnel during ICU stay with actual QOL as assessed by former patients some time after ICU discharge.

We therefore designed a prospective study to investigate the pattern and reliability of judgment concerning the outcome of ICU patients by critical care nurses and doctors, respectively, comparing their judgments to the patients’ individual appreciation of QOL and functional status 6 months after ICU admission.

METHODS

Study Protocol. During 1 yr, from December 1997 to November 1998, all patients admitted for >24 hrs to our six-bed adult medical ICU were included in the study. The ICU was one of two identical units representing the medical ICU of an European University Hospital of medium size with 1,000 hospital beds, >35,000 admissions per year, and 250 medical beds. The patients were admitted via the emergency department or the wards or by transfers from other hospitals. There was no specific coronary care unit in the hospital.

The study design consisted of a prospective daily prognostic judgment on the patient’s eventual outcome by ICU nurses and doctors. The following questions had to be answered by both nurses and doctors: “First, do you consider treatment futile with regard to a) survival, and b) QOL, and second, do you think that treatment should be withdrawn?” Possible answers were “yes,” “no,” or “questionable” for each question. Medical futility was defined as medical strategy that would not accomplish the goals of survival on one hand and acceptable QOL on the other hand. QOL was defined as the presumed satisfaction of an individual patient with regard to his or her physical, psychological, and social situation. The questions had to be answered daily for each patient.

A special questionnaire was added to the patient’s chart at the day of admission to the ICU and remained there throughout the ICU stay, always visible and accessible to all ICU personnel. Questions were answered daily by nurses and doctors, usually after the morning medical ward rounds. The assessments, once noted, were not changed and were not subject to discussion between the healthcare providers in order to respect each answer as such.

Nurses’ judgments were made by the nurse in charge of the patient during the day shift, which involved 30 nurses overall. All nurses were either ICU-certified personnel or were undergoing their postgraduate education of 2 yrs’ duration. Moreover, they had a professional, nonintensive care experience of ≥5 yrs. Physicians’ judgment was made by the staff physician who directed the daily medical rounds. To cover 365 days, ten staff physicians with variable ICU experience were involved; in about 60% of the days the judgment was made by the head of the unit. Whenever feasible, physicians’ discussions with the patients and their families were performed in the presence of the nurses. No withdrawal, withholding, or major modification of treatment was performed on QOL arguments alone or without consent of the patient or, if the patient was no longer competent, his or her surrogate.

Outcome Measures. Survival was assessed for all patients at ICU discharge, at hospital discharge, and at 6 months. QOL and functional status as judged by the patients were assessed by telephone interviews 6 months after ICU admission. The telephone interviews lasted ≥10 mins and were performed by one of the authors who had not had any previous contact with the patients. To assess functional status, all patients were asked about their independence with regard to three distinct activities of daily living: personal body care, household management, and outdoor mobility. Patients who were independent with respect to all three activities were considered “completely independent,” those who were limited with one or two of the three activities were considered “partially dependent,” and those who needed help with all three activities were considered “fully dependent.” QOL was assessed by asking the patients open questions such as, “How are you? How are you pleased with your present life considering all important aspects? How would you judge then the overall quality of your present life?” Patients were allowed to explain in their own words how they felt. At the end of the interview, the investigator summarized the patient’s statements and let the patient estimate his or her QOL as good, fair, or bad. The technique of assessment of QOL and health status by phone interview as compared with assessment by another QOL measure, the Sickness Impact Profile (33), has recently been validated (unpublished data).

Data collected from the patient charts included patients’ gender, age, SAPS II, diagnosis on admission, length of ICU stay, hospital stay, and mortality. They were analyzed first as one patient population and post hoc stratified into survivors and nonsurvivors. The nonsurvivors were further divided into patients who had died in the ICU (ICU deaths), patients who had died on the ward (in-hospital deaths), and patients who had died after hospital discharge (out-hospital deaths). Patients were further grouped into those who received divergent and those who received nondivergent judgments. The different subgroups were compared with regard to admission diagnosis, age, SAPS II, and length of ICU and hospital stay.

The reliability of nurses’ and doctors’ judgment for all patients was evaluated by comparing their predictions with the actual outcome and patients’ subjective assessment of their well-being.

The study was approved by the Institutional Review Board and the Local Ethics Committee.

Statistical Analysis. The software package Systat was used for data analysis (Systat 8.0; SSPS, Evanston, IL). Methods included nonparametric statistics (Mann-Whitney U statistic for two levels and Kruskal-Wallis analysis of variance) and 2 × 2 and 2 × k cross-tables, respectively, for the comparison of frequencies between groups. Values are given as median and ranges.

RESULTS

Overall Results. Initially 547 patients were included; 26 were lost to follow-up, and data of 521 patients could be analyzed. Overall data of these 521 patients are given in Table 1. In 79% of the patients, nurses and doctors agreed in all their 969 daily judgments, whereas in 21% of the patients, discordant predictions were given on at least one of the 963 daily judgments. There were significantly more divergent opinions on patients who eventually died than on survivors (p < .001) and on in-hospital deaths compared with out-hospital deaths (p < .01; Table 2). The patients judged differently had a higher SAPS II score (p < .001) and a longer ICU stay (p < .001) than those judged identically. The age of the patients did not influence the degree of concordance between nurses and doctors (Table 3). Admission diagnosis was a determinant of the frequency of divergent judgment: There were hardly any differences in judgment by nurses and doctors about patients with unstable angina or acute myocardial infarction, whereas patients hospitalized for cardiopulmonary arrest, cardiogenic shock, sepsis, or septic shock were prone to induce divergent judgment (Table 4).

Judgment of Outcome of Dying Patients by Nurses and Doctors. The 45 patients who died in the ICU spent a total of 284 days in the ICU and therefore un-
 ICU, intensive care unit.

### Table 1. Overall Data

<table>
<thead>
<tr>
<th></th>
<th>n (%)</th>
<th>Age in Yrs, Median (Range)</th>
<th>SAPS II, Median (Range)</th>
<th>ICU Days, Median (Range)</th>
<th>Hospital Days, Median (Range)</th>
<th>Daily Judgments, n</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td>521 (100)</td>
<td>64 (18–95)</td>
<td>27 (6–127)</td>
<td>2 (1–42)</td>
<td>14 (1–215)</td>
<td>1,932</td>
</tr>
<tr>
<td>Survivors</td>
<td>409 (78.5)</td>
<td>62 (18–91)</td>
<td>24 (6–89)</td>
<td>2 (1–42)</td>
<td>15 (1–215)</td>
<td>1,273</td>
</tr>
<tr>
<td>ICU deaths</td>
<td>45 (8.6)</td>
<td>68 (19–90)</td>
<td>55 (15–127)</td>
<td>3 (1–36)</td>
<td>3 (1–37)</td>
<td>284</td>
</tr>
<tr>
<td>In-hospital deaths</td>
<td>49 (9.4)</td>
<td>68 (24–95)</td>
<td>39 (12–105)</td>
<td>4 (1–25)</td>
<td>13 (3–155)</td>
<td>297</td>
</tr>
<tr>
<td>Out-hospital deaths</td>
<td>18 (3.5)</td>
<td>72 (28–86)</td>
<td>32 (20–60)</td>
<td>2 (1–31)</td>
<td>22 (4–151)</td>
<td>78</td>
</tr>
<tr>
<td>All deaths</td>
<td>112 (21.5)</td>
<td>68 (19–95)</td>
<td>44 (12–27)</td>
<td>3 (1–36)</td>
<td>10 (1–155)</td>
<td>659</td>
</tr>
</tbody>
</table>

### Table 2. Overview of Divergent Opinions in the Different Patient Groups

<table>
<thead>
<tr>
<th></th>
<th>n (%)</th>
<th>+ Δ n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td>521</td>
<td>111 (21)</td>
</tr>
<tr>
<td>Survivors</td>
<td>409</td>
<td>47 (12)*</td>
</tr>
<tr>
<td>ICU deaths</td>
<td>45</td>
<td>30 (67)*</td>
</tr>
<tr>
<td>In-hospital deaths</td>
<td>49</td>
<td>29 (59)*</td>
</tr>
<tr>
<td>Out-hospital deaths</td>
<td>18</td>
<td>5 (28)*</td>
</tr>
<tr>
<td>All deaths</td>
<td>112</td>
<td>64 (57)*</td>
</tr>
</tbody>
</table>

+ Δ, patients for whom divergent judgment between nurses and doctors was found on at least 1 day.

*p < .001 for the comparison of frequency of divergent judgment between survivors and dying patients; \( p < .001 \) for the comparison of frequency of divergent judgment between in-hospital deaths and out-hospital deaths.

Divergent opinions were noted in 30 of the 45 patients on at least 1 day with significantly more pessimistic appreciation by nurses than by doctors: Treatment was considered questionably or definitely futile with respect to survival on 168 of the 284 days by nurses and on 99 of 284 days by doctors and on 202 and 135 of the 284 days, respectively, with respect to QOL (\( p < .001 \) for survival and QOL). Withdrawal was advocated affirmatively (“do you consider withdrawal?” answered by “yes”) and questionably (“do you consider withdrawal?” answered by “maybe”) more often by nurses than by doctors (123 vs. 26 of the 284 days, \( p < .001 \)). The affirmative readiness to withdraw treatment (answering the question, “do you think that treatment should be withdrawn?” by “yes”) when medical intervention was judged to be futile with regard to survival was significantly less present in nurses (69%) than in doctors (100%; \( p < .001 \)). Some 297 daily judgments were available from the 49 patients who survived the ICU but died in the hospital (Table 2). Again, treatment was considered questionably or definitely futile with respect to survival on more days by nurses than by doctors (92 vs. 61 of 297 days) and on 119 vs. 70 of the 297 days, respectively, with respect to QOL (\( p < .001 \) for survival and QOL). Withdrawal was advocated affirmatively (“do you consider withdrawal?” answered by “yes”) and questionably (“do you consider withdrawal?” answered by “maybe”) more often by nurses than by doctors (61 vs. 26 of the 297 days; \( p < .001 \)). For out-hospital deaths, survival and QOL were only very rarely called in question and withdrawal was considered only exceptionally; but again, the nurses’ judgment was more pessimistic.

Survivors’ Own Assessment and Comparison With Nurses’ and Doctors’ Predictions. Six months after ICU admission, 94% of the former patients considered their QOL as good (64%) or as fair (30%), whereas full physical dependence was indicated in only 2.4% and partial physical dependence in 19%. Compared with the survivors’ statements, nurses’ (\( p < .001 \)) as well as doctors’ (\( p < .05 \)) predictions had been too pessimistic: of the 1,273 daily evaluations, nurses had considered medical treatment to be questionably or definitely futile with regard to QOL on 175 days (45 patients) compared with 105 days (26 patients) by doctors; with regard to survival, nurses had considered medi-

### Table 3. Characteristics of the Various Subgroups of Survivors and Non Survivors

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Age in Yrs, Median (Range)</th>
<th>SAPS II, Median (Range)</th>
<th>ICU Days, Median (Range)</th>
<th>Hospital Days, Median (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survivors, no ∆</td>
<td>362</td>
<td>63 (18–91)</td>
<td>23 (6–73)*</td>
<td>2 (1–26)*</td>
<td>14 (1–182)*</td>
</tr>
<tr>
<td>Survivors, + ∆</td>
<td>47</td>
<td>60 (21–86)</td>
<td>40 (13–89)*</td>
<td>7 (1–42)*</td>
<td>31 (5–215)*</td>
</tr>
<tr>
<td>ICU deaths, no ∆</td>
<td>15</td>
<td>64 (20–81)</td>
<td>56 (24–92)</td>
<td>1 (1–4)*</td>
<td>1 (1–13)*</td>
</tr>
<tr>
<td>In-hospital deaths, no ∆</td>
<td>20</td>
<td>68 (28–77)</td>
<td>27 (12–94)*</td>
<td>3 (1–5)*</td>
<td>15 (4–155)*</td>
</tr>
<tr>
<td>In-hospital deaths, + ∆</td>
<td>29</td>
<td>64 (24–95)</td>
<td>49 (20–105)*</td>
<td>6 (2–5)*</td>
<td>13 (3–102)*</td>
</tr>
</tbody>
</table>

SAPS, Simplified Acute Physiology Score; ICU, intensive care unit; no ∆, no divergent judgment between nurses and doctors; + ∆, divergent judgment between nurses and doctors.

* \( p < .001 \) for the comparison of SAPS II, ICU length of stay, and hospital length of stay between patients who got divergent (+ ∆) vs. those who did not get divergent judgment (no ∆).
cal treatment to be questionably or definitely futile on 63 days (24 patients) and doctors on 24 days (7 patients). Only 15% of survivors for whom nurses and 9% for whom doctors had considered treatment eventually futile with regard to future QOL reported bad QOL 6 months later. None of the survivors for whom withdrawal had been considered on one or several days (25 days by nurses, 1 day by doctors) reported bad QOL 6 months later. Physical dependence was much more frequent in patients for whom there had been doubt for survival or QOL, more so in the survivors in whom doctors had had doubts than in the group where nurses had had doubts (Figs. 1 and 2).

On the other hand, for the 24 patients who qualified their QOL as “bad” 6 months after ICU, treatment had been predicted to be futile with respect to QOL in only 8% by the nurses and 4% by doctors and as questionably futile in 25% by the nurses and in 12.5% by doctors.

Among the survivors for whom neither nurses nor doctors had expressed any doubt about survival or future QOL, 5% still considered their QOL as bad and 28% as fair, as did the surviving group as a whole. The same was true for physical handicap.

**DISCUSSION**

Nurses and doctors agreed in most cases in their daily judgment about patient outcome. However, the sicker the patients were and the longer they stayed in the ICU, the more the judgments diverged. Differences concerned future QOL more frequently than survival. Age of the patients had no impact on divergent opinions. Nurses were more pessimistic than doctors with respect to all patients. In the very sick patients who were going to die, nurses seemed to be more realistic and were willing to withdraw treatment more often and earlier than doctors. On the other hand, this more pessimistic view led nurses occasionally to consider treatment withdrawal in some very sick patients who finally survived and ultimately described their QOL as good as the rest of the survivors. Neither nurses nor doctors could reliably predict who would be satisfied with his or her QOL 6 months after ICU admission.

The finding that outcome was appreciated differently in patients with severe illnesses such as cardiogenic or septic shock than in patients with more benign disease like unstable angina seems to follow common sense. The longer a patient stays in the ICU and the sicker he or she is, the more questions may be raised. However, it is definitely alarming that in two thirds of patients ultimately dying in the ICU or on the ward, there is some kind of disagreement with respect to treatment strategy. Because optimal patient care needs a cohesive team approached, reasons for this gap have to be sought and eliminated. The divergent judgment of healthcare providers may reflect their difficulty of assessing and weighing different elements, such as prognostic factors or supposed future disability and QOL. Ideally, the ICU team should recognize the stage where survival becomes impossible and where the prospect of enjoying an acceptable QOL after ICU stay becomes so poor that even if the patient does survive, further treatment must be considered inappropriate and/or futile. There are two main obstacles with respect to this ideal situation: the ambiguous definition of futility and the difficulty of adequate prospective estimation of future QOL.

As to futility, according to the Consensus Statement of the Society of Critical Care Medicine, treatment is defined as futile when it does not accomplish its intended goal, that is, beneficial physiologic effect (34). Even if this definition is much debated, the concept of futility cannot be ignored in real clinical life. It is implicit in many decisions to start or to stop treatment and preoccupies most ICU physicians almost every day (35). Several recent North American and European studies have demonstrated that 70–90% of patients dying in an ICU did so during the withholding and withdrawing of life support, futility being the main reason for withdrawal (14, 36–40).

We consider the fact that the term “medical futility” may not have been interpreted in the same way by all healthcare workers to be one of the main reasons of divergent judgment in our study. According to our everyday experience, it was probably taken in the broader sense by the nurses, comprising not only treatment that offers no physiologic benefit but also treatment in which the benefit was controversial, whereas it was rather

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**Table 4. Divergent Judgment in Function of Admission Diagnosis**

<table>
<thead>
<tr>
<th>Diagnostic Category</th>
<th>Diagnostic Subgroup</th>
<th>n</th>
<th>% of Patients With Divergent Opinion Between Nurses and Doctors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular</td>
<td>Unstable angina/MI</td>
<td>285</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Shock/CPR</td>
<td>143</td>
<td>3</td>
</tr>
<tr>
<td>Pulmonary</td>
<td></td>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>Neurologic</td>
<td></td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>GI/liver</td>
<td></td>
<td>60</td>
<td>25</td>
</tr>
<tr>
<td>Infectious</td>
<td>Sepsis</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Septic shock</td>
<td>53</td>
<td>10</td>
</tr>
<tr>
<td>Various</td>
<td></td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td></td>
<td>66</td>
<td>14</td>
</tr>
</tbody>
</table>

MI, myocardial infarction; CPR, cardiopulmonary resuscitation; GI, gastrointestinal.
taken in the narrow sense of “close to zero probability of success” by the physicians. Furthermore, the threshold for calling a situation futile may be lower for healthcare personnel who do not have the responsibility for the final decision of withdrawal or withholding. This hypothesis is supported by the finding that nurses did not propose withdrawal in patients for whom they thought that treatment might be futile in as straightforward a way as doctors did. On the other hand, nurses spend much more time with the patients than physicians and are asked to journey with them through emotionally very burdensome circumstances. They may be more aware of the suffering of the patients, may therefore believe less in patient recovery, and may admit treatment failure more easily than doctors. Furthermore, a bias is probably given by the fact that the nurses represented a much more heterogeneous group than the physicians.

The findings of this study may be somewhat limited by its open design, that is, the fact that all providers had knowledge of all other previous and current assessments. The ICU where this study was performed had a closed format with a relatively small team. Physicians and nurses are used to openly discussing all treatment strategies and major decisions. In other words, there has always been a “public dissemination” of physicians’ and nurses’ attitudes. We therefore consider that the open design did not induce a major bias, even if physicians were often first to complete the questionnaires. We cannot formally exclude the possibility that the second person completing the questionnaire either deliberately expressed an alternative viewpoint or tended to give the same answer as the first person; for the previously mentioned reasons, however, we do not believe that this was the case. The open assessment itself facilitated, if anything, the open discussion, since it took place before completing the questionnaire and not vice versa; a divergent opinion, once noted on the answering sheet, was not a matter of discussion thereafter. Furthermore, the completion of the assessment forms very quickly became a routine part of the daily ward round.

The observed differences between nurses and doctors found in our study were those that remained despite discussions about the optimal care of the patient. It is impossible to collect truly independent opinions from team members caring for the same patient and interacting continuously. Independent opinions and decisions between members of different professional groups can be assessed and compared by the presentation of fictive case-vignettes to each member. Results from such studies are independent, but interpretation of these results are limited by the hypothetical character of the presented samples and by the nonrepresentative nature of the samples under study (41). Therefore, we considered the open handling of the assessments as the most natural and most relevant way to detect persistent differences between nurses and doctors.

Most patients were satisfied with their QOL and their functional status 6 months after ICU discharge. Compared with the patients’ own assessment, nurses as well as doctors had been too pessimistic but in some cases also too optimistic concerning future QOL. From those patients in whom treatment had been considered potentially futile with respect to survival or future QOL, only few complained about bad QOL; they indicated, however, more physical handicap than patients in whom futility had never been considered. Nurses and doctors had obviously equated presumed future physical handicap with bad future QOL and had not considered bad QOL in patients with no foreseeable physical handicap. It is well known, however, that QOL does not depend on physical well-being alone (18, 42). It includes different aspects of daily life, such as physical, mental, and social well-being, but also employment, economic status, spirituality, and more (43). Perceptions of health and its meaning vary between individuals and within an individual over time (43–46). Functional impairment translating into QOL is experienced differently by young versus elderly patients, physical handicaps being more easily accepted by elderly than by younger patients (47). Such reasons probably explain why patients’ subjective judgment of QOL did often not correlate with their physical handicap.

Despite these difficulties, QOL is considered an important determinant for treatment decision. In a survey by the Ethics Committee of the Society of Critical Care Medicine (48), four factors were considered very important in making decisions to withdraw treatment: patients’ QOL, the likelihood of surviving hospitalization, chronic disorders, and reversibility of the acute illness. In another study, faculty members placed their highest values on disease-based information whereas students and house-staff preferred QOL factors (3). Our study, however, tells us that we must not use future QOL—as presumed by nurses or doctors—as an argument for treatment withholding or withdrawal. Admitting that we cannot reliably predict our patients’ future QOL, we should not include this aspect in terminal decision making, except in situations where the patients themselves describe their QOL as miserable or intolerable. By doing so, we could considerably lessen the frequency of divergent judgment and thereby lower tension and frustration in the healthcare team. The question of how many additional days of prolonged suffering we are allowed to impose on very sick dying patients in order not to lose lives of very sick but potentially surviving patients remains one of our major challenges.

**CONCLUSION**

In the present investigation, we assessed for the first time nurses’ and doctors’ prospective judgment of the futility of medical treatment with respect to presumed survival and future QOL of ICU patients. In addition, the prediction of QOL by nurses and doctors was compared with the QOL reported by the surviving patients 6 months after ICU admission.

Nurses and doctors agreed in their appreciation of eventual futility of medical interventions in the vast majority of patients but only in half of their daily judgments. The sicker the patients were and the longer they stayed in the ICU, the more the judgments diverged. Overall, nurses were more pessimistic than doctors. Nurses’ and doctors’ appreciation of their patients’ future QOL proved to be

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**U**most caution has to be applied when future quality of life as presumed by nurses and doctors is used as an argument for withholding or withdrawing further treatment.
unreliable. Utmost caution has to be applied when future QOL as presumed by nurses and doctors is used as an argument for withholding or withdrawing further treatment.

ACKNOWLEDGMENTS

We thank the staff of the Medical ICU of the University Hospital of Bern, Switzerland, for their active participation in the study. We also thank Martin Sauter for his help in data collection and analysis.

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