REVISTA DA ESCOLA DE ENFERMAGEM DA USP
JOURNAL OF SCHOOL OF NURSING · UNIVERSITY OF SÃO PAULO

ORIGINAL ARTICLE

DOI: http://dx.doi.org/10.1590/S1980-220X2017023203342

Predictors of death in an Intensive Care Unit: contribution to the palliative approach*

Fatores preditores de óbito em Unidade de Terapia Intensiva: contribuição para a abordagem paliativista

Factores predictivos de defunción en Unidad de Cuidados Intensivos: aporte para el abordaje paliativista

Juliana El Hage Meyer de Barros Gulini[1], Eliane Regina Pereira do Nascimento[2], Rachel Duarte Moritz[3], Mara Ambrosina de Oliveira Vargas[4], Darlan Laurício Matte[5], Rafael Pigozzi Cabral[1]

How to cite this article:
Gulini JEHMB, Nascimento ERP, Moritz RD, Vargas MAO, Matte DL, Cabral RP. Predictors of death in an Intensive Care Unit: contribution to the palliative approach. Rev Esc Enferm USP. 2018;52:e03342. DOI: http://dx.doi.org/10.1590/S1980-220X2017023203342

ABSTRACT

Objective: To identify predictors of death in the Intensive Care Unit and relate eligible patients to preferential palliative care. **Method:** A prospective cohort study that evaluated patients hospitalized for more than 24 hours, subdivided into G1 (patients who died) and G2 (patients who were discharged from hospital). For identifying the predictors for death outcome, the intensivist physician was asked the "surprise question" and clinical-demographic data were collected from the patients. Data were analyzed by descriptive/inferential statistics ($p<0.05$ significance). **Results:** 170 patients were evaluated. The negative response to the "surprise question" was related to death outcome. A greater possibility of death ($p<0.05$) was observed among older and more frail patients with less functionality, chronic cardiac and/or renal insufficiencies or acute non-traumatic neurological insult, with multiorgan failure for more than 5 days, and hospitalized for longer. **Conclusion:** Predictors of death were related to a subjective evaluation by the physician, the clinical condition of the patient, underlying diseases, the severity of the acute disease and the evolution of the critical illness. It is suggested that patients with two or more predictive criteria receive preferential palliative care.

DESCRIPTORS

Intensive Care Unit; Death; Palliative Care; Palliative Care Nursing.

* Extracted from the thesis: "Protocolo interdisciplinar para o controle da dor, dispneia e hipersecreção em pacientes sob cuidado paliativo na Unidade de Terapia Intensiva", Programa de Pós-Graduação em Enfermagem, Universidade Federal de Santa Catarina, 2016.

[1] Universidade Federal de Santa Catarina; Hospital Universitário, Florianópolis, SC, Brazil.

[2] Universidade Federal de Santa Catarina, Departamento de Enfermagem, Programa de Pós-Graduação em Enfermagem, Florianópolis, SC, Brazil.

[3] Universidade Federal de Santa Catarina, Departamento de Medicina, Florianópolis, SC, Brazil.

[4] Universidade Federal de Santa Catarina, Departamento de Enfermagem, Florianópolis, SC, Brazil.

[5] Universidade do Estado de Santa Catarina, Departamento de Fisioterapia, Florianópolis, SC, Brazil.

Corresponding author:
Juliana El Hage Meyer de Barros Gulini
Rua Professora Maria Flora Pausewang, s/nº, Campus Universitário – Trindade
CEP 88036-800 – Florianópolis, SC, Brazil
julianagulini75@gmail.com

Received: 06/04/2017
Approved: 01/31/2018

INTRODUCTION

Population aging associated to technological advancements in the current world has provided a change in the profile of patients who are admitted to Intensive Care Units (ICUs), increasing the need for the discussion on Palliative Care (PC) in these units[1].

PC consists of the care promoted by a multidisciplinary team, which aims to improve the quality of life of the patient and their relatives in face of a life threatening disease, through the prevention and relief of suffering, early identification, impeccable assessment and treatment of pain and other physical, social, psychological and spiritual symptoms[2].

Considering that PC is primarily aimed at promoting quality of life, it is imperative that the autonomy of the patient is preserved, that their symptoms are adequately controlled and that death occurs at the right time, also defined as orthothanasia. However, it should be noted that high technological environments such as ICUs (on many occasions) do not have the possibility of providing the restitution of life, but instead the prolongation of death, meaning dysthanasia[1].

Therefore, identifying patients who will really benefit from intensive treatment becomes necessary, as well a discussion on care goals, and appropriate communication about the change from a curative/restorative therapeutic plan for preferential or exclusive palliative care[3]. Corroborating this statement, one study defines performing an interdisciplinary meeting with the relatives up to the fifth day of hospitalization of a patient with a high risk of death, in which the diagnosis and prognosis of the patient are evaluated, treatment goals are proposed, and the needs and preferences of the patients/family are identified, with the certification of their understanding regarding the information as part of a set of PC measures in ICUs[4].

Some criteria have been defined for identifying patients with a high risk of dying in hospital environments. These criteria include age[5] and the answer to the "surprise question", which corresponds to the question proposed to the doctor who attends the patient of whether they would be surprised if the patient died within the next 6 months[6].

Another criterion adopted as a factor of poor prognosis is the Palliative Performance Scale (PPS). This is a tool that allows for measuring the patient's functional status and it is based on five dimensions: ambulation, activity and extent of disease, self-care, intake, and level of consciousness. Its score varies from 0 to 100 in intervals of 10 points, and the higher the score, the better their performance[7].

Frailty is characterized by loss of physiological and cognitive reserves that confers vulnerability to adverse events, and it is often detected in critical patients aged 50 years or older[8-9].

Other important factors in both defining a poor prognosis for the critically ill patient and for the quality of life after ICU discharge are age, the severity of underlying diseases, length of stay in the ICU and in the hospital, and prolonged organ failure[10].

It should be noted that PC is increasingly accepted as an essential component of comprehensive care for critically ill patients, regardless of the diagnosis or prognosis. Such care can also help prepare and support patients and families for the challenges during and after discharge from the ICU, requiring a complex approach that aims to meet all dimensions of being cared for[11-13].

Added to this is the fact that health professionals who work in caring for end-of-life patients feel unprepared for an adequate palliative approach, and there should be better communication and elucidation of the patients eligible for PC[14].

In this sense, it is important to identify the characteristics of patients who die in the ICU and those who are discharged from the hospital, as well as the factors predicting death in the ICU. It can be inferred that this identification will provide that PC is adequately proposed to critical patients, preferably to those with a high risk of death, and without prolonging death of these patients, which will avoid their suffering and of their family members[15].

In view of the above, this study aims to identify predictors of death in the ICU and to relate eligible patients for preferential PC.

METHOD

This is a prospective cohort quantitative study approved by the Human Research Ethics Committee under number 959.555/2015 and CAAE 36643714.1.0000.0118, in accordance with Resolution 466/12 of the National Health Council. The relative or person in charge of the patient admitted to the ICU authorized the data collection from the medical record after signing the clear and Informed Consent Form.

The study included all patients aged 18 years or more who were admitted to the ICU of the University Hospital of the Universidade Federal de Santa Catarina, Florianópolis/SC, Brazil for a period longer than 24 hours, so that the researchers could follow the evolution of the critical illness of these patients until hospital discharge. Exclusion criteria were patients admitted to the ICU without family members present who could agree to their participation.

A survey on how many patients were admitted to the ICU of the present study in the previous year was carried out in order to calculate the population. Regarding this, 289 patients were hospitalized over 1 year, and 139 over 6 months. Thus, the required sample size for the study was calculated based on this. For the sample number, a calculation of finite population with a confidence level of 1.96 (95% confidence interval) and a tolerable error of five percentage points was adopted. According to these parameters, the minimum sample size calculated was 152 patients[16]. Data were then collected in the period between March and October 2015 in order to reach this minimum number in the sample, thereby reaching 170 patients who met the inclusion criteria.

The analyzed sample was then subdivided into two groups to analyze the predictors of death in the ICU: G1 (patients who died) and G2 (patients who were discharged). First, we compared the clinical-demographic profile of patients who died with those who were discharged from the hospital. The impact of the predictors was subsequently analyzed with the death outcome.

Demographic (gender, age, origin) and clinical data (functionality, frailty, life-threatening conditions, severity, progression and length of stay in the ICU and hospital) were collected from the medical records in order to identify the profile of the patients and the predictive factors that could influence the evolution of the critical disease.

The functionality level of patients was evaluated according to the PPS Scale, elaborated with criteria related to the previous functionality of the patient 30 days prior to ICU admission, and whose information was obtained from the patient's family members. Values equal to or below 60 were used to classify the patient with low functionality as cut-off points for the value of this variable[17].

For this study, patients with a score ≥5 according to the Clinical Frailty Scale were considered as frail. This information was obtained from the patient's family members[18].

Patients with previous diagnosis of congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), cirrhosis with Child-Pugh C, chronic renal failure, cerebral vascular disease with functional dependence, feeding difficulty and/or the presence of advanced malignant neoplasia were considered as life-threatening conditions[19].

The severity of the acute disease was verified according to the *Simplified Acute Physiology Score* (SAPS III), collected from the patient's medical chart.

Regarding patients' evolution in the ICU, the presence of two or more organ failure for over 5 days, the need for unscheduled dialysis, the presence of *delirium* and death/hospital discharge outcomes were collected from the medical records. Regarding episodes of *delirium*, data recorded by the attending physician on the medical records were collected.

The "surprise question" (would you be surprised if this patient died in the next 6 months?) was asked to the intensivist physician 24 hours after the patient's hospitalization. This is considered an effective and feasible tool to predict mortality in the 6-month period among ICU patients[20].

The data obtained were inserted into a spreadsheet with the help of Excel® 2007 software. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS), version 20.0, in two stages. In the first stage, the t-test for numerical variables and the Chi-Square test (χ^2) for categorical variables were used. The Kolmogorov-Smirnov normality test was performed for the t-test. In the second stage, Pearson's χ^2 test was applied to evaluate the association between the explanatory variables. Next, the Poisson regression analysis was performed to evaluate the prevalence ratio of the variables whose p values were less than 0.05. Finally, adjusted regression analysis was performed by the input of the explanatory variables using the hierarchical model. A level of significance of 0.05 was considered for all calculations.

RESULTS

This study had a population composed of 244 individuals who were admitted to the ICU at the university hospital (UH) between March and October 2015, of whom 170 remained hospitalized for more than 24 hours and constituted the study sample. The mortality rate of the sample studied was 29%, meaning that 50 patients died in the hospital, comprising G1. Of these, 35 died in the ICU and 15 in the nursing wards. One hundred and twenty patients (120) were discharged and thus comprised G2.

The clinical and demographic characteristics of the patients studied are shown in Table 1. We emphasize that the patients who died were older, stayed longer in the ICU, presented a higher SAPS, lower functionality according to the PPS and were frailer. These results were statistically significant (p<0.05).

Table 1 – Comparison of clinical and demographic characteristics of patients who died (G1) and those who were discharged from the hospital (G2) – Florianópolis, SC, Brazil, 2015.

Clinical-demographic characteristics	Total number of patients n=170	G1* n=50	G2† n=120	Statistical test p‡
Gender				
Male	87	30	57	Teste χ^2§
Female	83	20	63	0,27
Age				
Mean ± Standard deviation	57 ±15.6	61 ±14.09	55 ±15.9	Teste tǁ
Minimum/Maximum	19/87	19/84	19/87	0,01
Hospitalization time in the ICU¶				
Mean ± Standard deviation	9.41 ± 7.74	11.5 ± 8.2	8.5 ± 7.4	Teste tǁ
Minimum/Maximum	2/49	2/39	2/49	0,02
Hospitalization Time				
Mean ± Standard deviation	29.43 ± 25.61	26.2 ± 21.9	30.8± 27	Teste tǁ
Minimum/Maximum	2/169	2/87	3/169	0,29
Simplified Acute Physiology Score (SAPS)				
Mean ± Standard deviation	64.12 ±18.80	73.9 ± 19.2	60.1 ± 16.8	Teste tǁ
Minimum/Maximum	27/118	33/118	27/102	<0.001
Palliative Performance Scale (PPS)				
Mean ± Standard deviation	68.4± 20.3	61.6± 18.9	71.2± 20.3	Teste tǁ
Minimum/Maximum	10/100	10/100	10/100	0,005
Clinical Frailty Scale (³5)**	91 (53.2%)	36 (72%)	55 (46%)	Teste χ^2§ 0,001

* Reference category G1 (patients who died); †G2 patients who were discharged from the hospital; ‡p: p-value (significant for p<0.05); §χ^2 Test: Chi-square Test; ǁ t-test: Student's t-test; ¶ICU: Intensive care unit; **Patients considered frail with a score ≥5 in the Clinical Frailty Scale.

Table 2 shows the association between the predictive factors related to patient admission, the underlying diseases and the clinical evolution with death outcome. In relation to the "surprise question", it should be noted that the response was negative (I would not be surprised) for 89 patients (52.4%). Of these, 41 responses were negative for G1 (46.06%) and 48 (53.93%) for G2 (p <0.001).

Table 2 shows that nine of the variables tested had a significant association with the death outcome: age greater than 60 years, PPS below 60, frailty scale greater than 5, negative "surprise question", patients with congestive heart failure, chronic kidney disease, acute non-traumatic neurological insult, hospitalization time in the ICU greater than 5 days and patients with failure of more than two organs for more than 5 days.

Table 2 – Comparison between the predictive factors related to patient admission, underlying diseases and clinical evolution with the death outcome – Florianópolis, SC, Brazil, 2015.

Predictive Factors	Total number of patients n=170		G1* n=50		χ^2 Test† p‡
	n	%	n	%	
Admission					
Age greater than 60 years	79	46.5	30	(37)	0.02
PPS below 60§	77	46.1	32	(41)	0.004
Frailty scale ³5‖	91	53.2	36	(39)	0.002
Negative Surprise Question¶	89	52.4	41	(46)	0.001
Underlying diseases					
Congestive Heart Failure	50	29.4	21	(42)	0.02
Chronic Obstructive Pulmonary Disease	15	8.8	5	(33)	0.72
Chronic Liver Disease	20	11.8	9	(45)	0.26
Chronic Kidney Disease	21	12.4	12	(57)	0.003
Malignant neoplasm	14	8.2	6	(42)	0.24
Patients with HIV**	12	7.1	3	(25)	1.00
Acute non-traumatic neurological insult	52	30.6	21	(40)	0.03
Clinical evolution					
Delirium in the ICU††	84	49.4	30	(35)	0.07
ICU†† stay longer than 5 days	120	70.6	42	(35)	0.01
Tracheostomy	10	5.9	3	(30)	1.00
Dialysis in the ICU††	26	15.3	10	(38)	0.27
Multiorgan failure for more than 5 days	57	33.5	36	(63)	0.001

*G1(patients who died): Reference category; †Test χ^2: Chi-square Test; ‡p: p-value (significant at p <0.05); §PPS: *Palliative Performance Scale* with value below 60; ‖ patients with a score ≥5 on the Clinical Frailty Scale were considered frail; ¶ Negative surprise question: "I would not be surprised if this patient died in the next 6 months"; **HIV: Human Immunodeficiency Virus;†† ICU: Intensive Care Unit.

These variables were positively associated with death and statistically significant, and were analyzed using linear and multivariate regression analysis, aiming to detect which predictive factors were more strongly associated with death.

A new analysis was subsequently performed using hierarchical adjusted analysis (Table 3), which according to the Prevalence Ratio (PR) and the Confidence Interval (CI) at 95% allowed for determining that the two variables more strongly related to death were the failure of two or more organs for more than 5 days and the doctor's negative response to the "surprise question".

Table 3 – Evaluation of the predictors more strongly related to the death outcome – Florianópolis, SC, Brazil, 2015.

Clinical and demographic variables of the patients who died	Adjusted Hierarchical Analysis	
	p*	PR†CI 95%‡
Age >60 years	0.03	1.68 (1.0-2.6)
PPS <60§	0.57	1.16 (0.6-1.9)
Frailty	0.36	1.45 (0.6-3.2)
Congestive Heart Failure	0.37	1.25 (0.7-2.0)
Chronic Kidney Disease	0.01	1.86 (1.1-2.9)
Acute non-traumatic neurological insult	0.01	1.74 (1.1-2.7)
ICU stay greater than 5 days	0.04	1.96 (1.0-3.8)
Multiorgan failure for more than 5 days	0.001	3.49 (1.9-6.2)
Negative surprise question‖	0.009	2.56 (1.2-5.2)

*p: p-value (significant for p<0.05); †PR: Prevalence Ratio; ‡CI95%: Confidence Interval (95%); §PPS<60: value below 60 in the Palliative Performance Scale; ‖ Negative surprise question: "I would not be surprised if this patient died in the next 6 months".

DISCUSSION

It was found that patients who died in the ICU were older, frailer, had less functionality and remained hospitalized longer in this unit with multiple organ failure, thus corroborating other studies[21-22], and evidenced a good relation between the possibility of death outcome through the negative response to the "surprise question". The more closely related diseases to death were kidney disease, acute non-traumatic neurological insult (stroke and coma after cardiac arrest) and CHF. In view of these results, it could be inferred that patients with the indicated profile would benefit from an introduction of preferential PC in the ICU.

With regard to predictive criteria at admission in this study, age greater than 60 years, low functionality (PPS <60) and the presence of frailty (^{3}5) were significantly related to the higher mortality rate. Studies show that advanced age is directly related to the increase in death and low functionality after ICU discharge, although there is no single factor influencing decisions. This generates discussion about the real benefit of intensive care for very elderly patients. A Canadian study of 1,670 patients aged 80 years or older showed that one-third of these patients died in hospital receiving aggressive interventions, even after a prolonged ICU stay[23].

Another fact worth mentioning is that elderly (over 65) and fragile patients are more likely to die in the ICU[24]. Although the age group of the study population in the present study did not correspond to the elderly (mean age of 57 years), the group of patients aged 60 years or older had a significantly higher mortality rate than the total mortality rate of the study (37% *versus* 29%). The reality pointed out in the literature generates the discussion about dysthanasia and therapeutic futility, and brings forth the growing need for implementing PC in general hospitals, and more specifically in the ICUs.

It was found that frailty was identified in 53% of the patients and was significantly related to death. Thus, this factor in critical care settings can be a predictor of death and allow shared decision-making, in addition to identifying vulnerable subgroups with specific needs that may benefit from preferential PC[25].

Although the use of PPS for evaluating the functionality and predictor of death in chronic degenerative diseases has increased, this is still an uncommon method in the ICU. In this investigation, patients who died had significantly lower levels of PPS than patients who were discharged from hospital (61.6 *versus* 71.2), and the mortality rate of patients with PPS levels £60 was 41% regardless of age, while that of the general population was 29%. Higher rates were found in a study with 466 patients admitted to hospice and without neoplastic disease. In these patients, the 6-month mortality for the three categories of PPS was 96% for PPS with scores between 10 and 20; 89% for PPS with scores of 30 to 40; and 81% for PPS scores greater than or equal to 50[26].

In the present study, the underlying diseases detected in more than half of the patients were CHF (n=50, 29.4%) and non-traumatic neurological insult (n=52; 30.6%). These diseases had a significant association with death, as well as the presence of chronic kidney disease (n=21).

Regarding neurocritical care, mortality rates, including intracerebral hemorrhage and anoxic brain injury, were above 50%, and many patients never recovered functional independence and often experienced significant cognitive loss and deterioration in quality of life. For these reasons, CP is a determining component of high quality care for neurocritical patients[27].

Other chronic degenerative diseases tested such as patients with COPD, chronic liver disease, neoplasms and HIV (n=61) showed no significant association with death outcome. This condition may have occurred due to the small number of patients affected by each of these diseases depending on the characteristics of the hospital and of the studied ICU.

With regard to the predictive evaluation of death of patients undergoing intensive treatment, SAPS is a validated score as an in-hospital mortality discriminator[28]. The results of this study confirm this statement. Also, regarding the evolution during hospitalization in ICU, it was detected that a hospitalization time greater than 5 days and the failure of more than two organs for more than 5 days significantly influenced the mortality of the evaluated patients. However, no significant association between episodes of *delirium* and need for tracheostomy or dialysis and patient death was found. These findings may be due to the small number of patients who presented these complications. Moreover, the diagnosis of *delirium* was not performed by validated scales for this purpose, but rather by the clinical evaluation of the intensivist physician, which may have generated bias.

It was evidenced that the two factors more strongly related to death outcome were the failure of more than two organs for more than 5 days and the doctor's prediction (to the "surprise question"), with p=0.001 and p=0.009, respectively. Regarding the "surprise question", a study with 500 patients admitted to ICU showed that the 6-month mortality rate was 36% in total, 62.2% for the "No" group, and 12.2% for the "Yes" group. In the present study, because they had not followed the patients for a period of 6 months, intensivist physicians may have been less successful in responding to the "surprise question".

Regarding organ dysfunction or failure, a study evaluated patients with multiple organ dysfunction after 24 hours of ICU admission and 1 year later found that mortality was 52.9% at 1 year. The factors that influenced hospital mortality were advanced age and generally decreased functional status, with both factors being non-modifiable. After discharge, the general functional status remained diminished along with re-hospitalizations[29].

One of the limitations of this investigation is the lack of follow-up of the patients in the study for a minimum period of 6 months after discharge which may constitute a study bias, as the death rate of patients who were discharged from ICU could be higher, and the "surprise question" could have presented even greater correct prediction. Another limitation was that imposed by the profile of patients attended in the ICU of the hospital due to the intensive care structure of the city, which directs patients to certain institutions according to underlying diseases, so the distribution of patients is probably not representative of intensive care patients in the

city and region. Among the strengths of the study, we can highlight the sample which, although not representative of the city and region, was greater than that predicted by the sample calculation, and the use of validated instruments that address several aspects of patients hospitalized in ICU.

CONCLUSION

The results found in this study allow us to affirm that the causes of higher mortality incidence in critically ill patients are related to: the patient's clinical condition (age greater than 60 years, low functionality, presence of frailty, subjective assessment of the attending physician through the "surprise question"); the underlying diseases (CHF, chronic kidney disease and acute non-traumatic neurological insult); the severity of the acute disease (SAPS); and the evolution of the critical illness (ICU hospitalization time greater than 5 days and failure of more than two organs for more than 5 days). The two more strongly related factors to the ICU patient death outcome were failure of more than two organs for more than 5 days and the subjective evaluation by the intensivist physician.

The results suggest that there are a number of patients who are admitted to the ICU who would require palliative evaluation and approach from the moment of their admission in order to establish therapeutic limits, and to avoid providing false hope to the family and the team that attends the patient. Therefore, we expect that this study will contribute to professional reflection on the need for more scientific bases in decision-making regarding patients' eligibility for PC.

RESUMO

Objetivo: Identificar preditores de óbito na Unidade de Terapia Intensiva e relacionar pacientes elegíveis para cuidados paliativos preferenciais. **Método:** Coorte prospectivo que avaliou pacientes internados por mais de 24 horas, subdivididos em G1 (pacientes que morreram) e G2 (pacientes com alta hospitalar). Para a identificação dos fatores preditores para o desfecho óbito, foi feita ao médico intensivista a "pergunta-surpresa" e foram coletados dados clínico-demográficos dos pacientes. Os dados foram analisados por estatística descritiva/inferencial (significante p<0,05). **Resultados:** Foram avaliados 170 pacientes. A resposta negativa à "pergunta-surpresa" foi relacionada ao desfecho óbito. Houve maior possibilidade de óbito (p<0,05) entre os pacientes mais velhos, mais frágeis, com menor funcionalidade, com insuficiências cardíaca e/ou renal crônicas ou insulto neurológico agudo não traumático, com falência multiorgânica por mais de 5 dias, internados por mais tempo. **Conclusão:** Preditores de óbito foram relacionados à avaliação subjetiva do médico, à condição clínica do paciente, às doenças de base, à gravidade da doença aguda e à evolução da doença crítica. Sugere-se que pacientes com dois ou mais critérios preditores recebam cuidados paliativos preferenciais.

DESCRITORES

Unidade de Terapia Intensiva; Morte; Cuidados Paliativos; Enfermagem de Cuidados Paliativos.

RESUMEN

Objetivo: Factores predictivos de defunción en la Unidad de Cuidados Intensivos y relacionar a pacientes elegibles para cuidados paliativos preferentes. **Método:** Cohorte prospectivo que evaluó a pacientes hospitalizados por más de 24 horas, subdivididos en G1 (pacientes que fallecieron) y G2 (pacientes con alta hospitalaria). Para la identificación de los factores predictivos para el resultado defunción, se hizo al médico intensivista la "pregunta sorpresa" y fueron recogidos datos clínico-demográficos de los pacientes. Los datos fueron analizados por estadística descriptiva/inferencial (significante p<;0,05). **Resultados:** Fueron evaluados 170 pacientes. La respuesta negativa a la "pregunta sorpresa" fue relacionada con el resultado defunción. Hubo mayor posibilidad de defunción (p<;0,05) entre los pacientes mayores, más frágiles, con menor funcionalidad, con insuficiencias cardiaca y/o renal crónicas o evento neurológico agudo no traumático, con fallo multiorgánico por más de cinco días, hospitalizados por más tiempo. **Conclusión:** Predictores de defunción fueron relacionados con la evaluación subjetiva del médico, la condición clínica del paciente, las enfermedades de base, la severidad de la enfermedad aguda y la evolución de la enfermedad crítica. Se sugiere que pacientes con dos o más criterios predictivos reciban cuidados paliativos preferentes.

DESCRIPTORES

Unidad de Cuidados Intensivos; Muerte; Cuidados Paliativos; Enfermería de Cuidados Paliativos.

REFERENCES

1. Moritz RD, coordenadora. Cuidados paliativos nas Unidades de Terapia Intensiva. São Paulo: Atheneu; 2012.
2. World Health Organization. Palliative care for older people: better practices [Internet]. Geneva: WHO; 2011 [cited 2015 June 11]. Available from: http://www.euro.who.int/__data/assets/pdf_file/0017/143153/e95052.pdf
3. You JJ, Fowler RA, Heyland DK. Just ask: discussing goals of care with patients in hospital with serious illness. CMAJ [Internet]. 2014 [cited 2015 Nov 11];186(6):425-32. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3971028/
4. Nelson JE, Mulkerin CM, Adams LL, Pronovost PJ. Improving comfort and communication in the ICU: a practical new tool for palliative care performance measurement and feedback. Qual Saf Health Care [Internet]. 2006 [cited 2017 Sep 25];15(4):264-71. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2564022/
5. Herridge MS, Chu LM, Matte A, Tomlinson G, Chan L, Thomas C, et al. The RECOVER Program: disability risk groups and 1-year outcome after 7 or more days of mechanical ventilation. Am J Respir Crit Care Med. 2016;194(7):831-44.
6. Moroni M, Zocchi D, Bolognesi D, Abernethy A, Rondelli R, Savorani G, et al. The 'surprise' question in advanced cancer patients: a prospective study among general practitioners. Palliat Med. 2014;28(7):959-64.
7. Seow H, Barbera L, Dudgeon D, Howell D, Husain A, Atzema C, et al. The association of the palliative performance scale and hazard of death in an ambulatory cancer population. J Palliat Med. 2013;16(2):156-62. DOI: 10.1089/jpm.2012.0239

8. Zeng A, Song X, Dong J, Mitnitski A, Liu J, Guo Z, et al. Mortality in relation to frailty in patients admitted to a specialized geriatric Intensive Care Unit. J Gerontol A Biol Sci Med Sci[Internet].2015[cited 2015 Nov 29];70(12):1586-94.Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4631107/

9. McDermid RC, Stelfox HT, Bagshaw SM. Frailty in the critically ill: a novel concept. Crit Care [Internet]. 2011 [cited 2016 Jan 13];15(1):301. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222010/

10. MacIntyre NR. Chronic critical illness: the growing challenge to health care. Respir Care. 2012;57(6):1021-7. DOI: https://doi.org/10.4187/respcare.01768

11. Aslakson RA, Curtis JR, Nelson JE. The changing role of palliative care in the ICU. Crit Care Med [Internet]. 2014 [cited 2015 Nov 13];42(11):2418-28. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4695994/

12. Vargas MAO, Vivan J, Vieira RW, Mancia JR, Ramos FRS, Ferrazzo S, et al. Ressignificando o cuidado em uma unidade especializada em cuidados paliativos: uma realidade possível? Texto Contexto Enferm[Internet]. 2013 [citado 2016 nov. 13];22(3):637-45. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072013000300009

13. Cardoso DH, Muniz RM, Schwartz E, Arrieira ICO. Cuidados paliativos na assistência hospitalar: a vivência de uma equipe multiprofissional. Texto Contexto Enferm [Internet]. 2013 [citado 2016 out. 13];22(4):1134-41. Disponível em: http://www.scielo.br/pdf/tce/v22n4/32.pdf

14. Araújo MMT, Silva MJP. Communication strategies used by health care professionals in providing palliative care to patients. Rev Esc Enferm USP [Internet]. 2012 [cited 2016 Nov 13];46(3):623-9. Available from: http://www.scielo.br/scielo.php?pid=S0080-62342012000300014&script=sci_arttext&tlng=en

15. Silva MCM, Sousa RMC, Padilha KG. Patient destination after discharge from Intensive Care Units: wards or intermediate care units? Rev Latino Am Enfermagem [Internet]. 2010 [cited 2016 Oct 15];18(2):224-32. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-11692010000200013

16. Luiz RR, Magnanini MMF. A lógica da determinação do tamanho da amostra em investigações epidemiológicas. Cad Saúde Coletiva [Internet]. 2000 [citado 2015 nov. 24];8(2):9-28. Disponível em: http://www.cadernos.iesc.ufrj.br/cadernos/images/csc/2000_2/artigos/csc_v8n2_09-28.pdf

17. Myers J, Kim A, Flanagan J, Selby D. Palliative performance scale and survival among outpatients with advanced cancer. Support Care Cancer [Internet].2015[cited 2016 Jan 13]; 23(4):913-8. Available from: http://link.springer.com/article/10.1007%2Fs00520-014-2440-8

18. Hope AA, Hsieh SJ, Petti A, Hurtado-Sbordoni M, Verghese J, Gong MN. Assessing the usefulness and validity of frailty markers in critically III adults. Ann Am Thorac Soc. 2017;14(6):952-9. DOI: 10.1513/AnnalsATS.201607-538OC

19. Nelson JE, Curtis JR, Mulkerin C, Campbell M, Lustbader DR, Mosenthal AC, et al. Choosing and using screening criteria for palliative care consultation in the ICU: a report from the Improving Palliative Care in the ICU (IPAL-ICU) Advisory Board. Crit Care Med. 2013;41(10):2318-27. DOI: 10.1097/CCM.0b013e31828cf12c

20. Silva GM, Braun A, Stott D, Wellsted D, Farrington K. How robust is the 'surprise question' in predicting short-term mortality risk in haemodialysis patients. Nephron Clin Pract. 2013;123(3-4):185-93.

21. Bezerra GKA. Unidade de Terapia Intensiva – perfil das admissões: Hospital Regional de Guarabira, Paraíba, Brasil. Rev Bras Ci Saúde [Internet]. 2012 [citado 2016 jan. 4];16(4):491-6. Disponível em: http://periodicos.ufpb.br/ojs/index.php/rbcs/article/view/11900/9116

22. Ho KM, Williams TA, Harahsheh Y, Higgins TL.Using patient admission characteristics alone to predict mortality of critically ill patients: a comparison of 3 prognostic scores. J Crit Care. 2016;31(1):21-5. DOI: 10.1016/j.jcrc.2015.10.019

23. Heyland D, Cook D, Bagshaw SM, Garland A, Stelfox HT, Mehta S, et al. The very elderly admitted to ICU: a quality finish? Crit Care Med. 2015;43(7):1352-60. DOI: 10.1097/CCM.0000000000001024

24. Zeng A, Song X, Dong J, Mitnitski A, Liu J, Guo Z, et al. Mortality in relation to frailty in patients admitted to a specialized geriatric Intensive Care Unit. J Gerontol A Biol Sci Med Sci [Internet]. 2015 [cited 2015 Nov 29];70(12):1586-94. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4631107/

25. Bagshaw SM, McDermid RC. The role of frailty in outcomes from critical illness. Curr Opin Crit Care. 2013;19(5):496-503. DOI: 10.1097/MCC.0b013e328364d570

26. Harrold J, Rickerson E, Carroll JT, McGrath J, Morales K, Kapo J, et al. Is the palliative performance scale a useful predictor of mortality in a heterogeneous hospice population? J Palliat Med. 2005;8(3):503-9.

27. Frontera JA, Curtis JR, Nelson JE, Campbell M, Gabriel M, Mosenthal AC,et al. Integrating palliative care into the care of neurocritically III patients: a report from the improving palliative care in the ICU Project Advisory Board and the Center to Advance Palliative Care. Crit Care Med [Internet]. 2015 cited 2015 Nov 28];43(9):1964-77. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4537672/

28. Serpa Neto A, Assunção MS, Pardini A, Silva E. Feasibility of transitioning from APACHE II to SAPS III as prognostic model in a Brazilian general Intensive Care Unit: a retrospective study. Sao Paulo Med J [Internet]. 2015[cited 2016 Jan 13];133(3):199-205. Available from: http://www.scielo.br/pdf/spmj/v133n3/1516-3180-spmj-2013-8120014.pdf

29. Hortigüela-Martín VA, Sanchez-Casado M, Rodríguez-Villar S, Quintana-Díaz M, Marco-Schulke C, Gómez-Tello V, al. Mortalidad tras el alta de La Unidad de Cuidados Intensivos y factores pronosticos relacionados en una cohorte de pacientes críticos com disfunción multiorganica. Med Clin. 2013;140(11):479-86. DOI: 10.1016/j.medcli.2012.09.043