

SHARPEN YOUR PROGNOSTIC ACUMEN

TRY THE DESTINY DOZEN

Until critical care nurses have accumulated a moderate amount of experience working with various populations of critically ill patients, they may find it challenging to accurately judge a patient's survival potential at the time of his or her admission. Preoccupied with their still-developing knowledge and attitude and skill sets, it is not surprising and entirely fitting that staff still working to acquire competence as critical care nurses focus almost exclusively on here-and-now issues such as the trending of vital signs and monitoring data and laboratory values. After some months of experience with similar patients, however, nurses whose practice had been heavily affected by their own pangs of anxiety and self-doubt gradually find themselves less concerned about their own survival and increasingly more focused on that of their patients.

Following some years of providing nursing care and comfort to the nearly or very acutely ill, critical care nurses often develop an innate ability to observe a total stranger being admitted to their unit and immediately recognize a familiar pattern that bespeaks the nature, duration, and likely outcome of that patient's stay. Experiences managing the care of patients with particular attributes invariably lead to a rarely erring 6th sense regarding that patient's immediate course and eventual trajectory. Although a critical care nurse's ability to size up his or her patient's status can develop exponentially with years of patient experiences, any additional devices we can add to our assessment toolkit are always welcome, because assessment is so fundamental to everything nurses do for patients. A recently validated prognostic index may represent a useful complement to those assessment skills.

Refining lists of assessment parameters and documenting those findings enable critical care nurses to continue to contribute to “what matters” for our patients’ survival.

An Intriguing Prognostic Index

In a recent issue of the *Journal of the American Medical Association*, a research team from the San Francisco Veterans Affairs Medical Center reported the development and validation of a 12-item prognostic index of 4-year mortality for older adults.¹ A group of 11 701 patients older than 50 years participated in the development phase and 8009 participated in the validation phase for the index. Rather than considering just the traditional menu of known cardiovascular risk factors, the study included some uniquely characterized functional attributes in addition to those customary comorbidities. Another intriguing feature of this index is that the data needing to be collected for the index variables did not require the usual lengthy and expensive battery of diagnostic and laboratory tests, but could be culled by asking the patient a few simple and straightforward questions.

Variables Independently Associated With Mortality

In development of the index, a total of 12 variables were distinguished as independently associated with mortality. These variables included the following:

- 2 nonmodifiable demographic variables: age and gender
- 6 comorbid conditions: body mass index, diabetes or hypertension, heart failure, current tobacco use, lung disease, and cancer
- 4 rather unique functional variables: managing money, walking several blocks, bathing, and pushing large objects

Point system for 12 mortality factors¹

| Mortality factor | Points | |
|--|------------|----------|
| 1. Age | < 60 = 0 | |
| | 60-64 = 1 | |
| | 65-69 = 2 | |
| | 70-74 = 3 | |
| | 75-79 = 4 | |
| | 80-84 = 5 | |
| >= 85 = 7 | | |
| 2. Gender | Female = 0 | Male = 2 |
| 3. Body mass index | >= 25 = 0 | < 25 = 1 |
| 4. Has a doctor told you that you have diabetes or high blood pressure? | No = 0 | Yes = 1 |
| | | |
| 5. Has a doctor told you that you have congestive heart failure? | No = 0 | Yes = 2 |
| | | |
| 6. Have you smoked cigarettes in the past week? | No = 0 | Yes = 2 |
| | | |
| 7. Do you have a chronic lung disease that limits your activities or makes you need oxygen at home? | No = 0 | Yes = 2 |
| | | |
| 8. Has a doctor told you that you have cancer or a malignant tumor?* | No = 0 | Yes = 2 |
| | | |
| 9. Because of a health or memory problem, do you have difficulty with managing your money (eg, paying bills, tracking expenses)? | No = 0 | Yes = 2 |
| | | |
| 10. Because of a health problem, do you have difficulty walking several blocks? | No = 0 | Yes = 2 |
| | | |
| 11. Because of a health problem, do you have difficulty pulling or pushing large objects (eg, living room chair)? | No = 0 | Yes = 1 |
| | | |
| 12. Because of a health or memory problem, do you have difficulty with bathing? | No = 0 | Yes = 2 |
| | | |

*Excluding minor skin cancers.

Weighing Variables Within the Index

In any index, some variables likely exert greater effect or influence on an outcome than others. Therefore, when the “value” of a particular finding is calculated, the variables having the greater influence on outcome are assigned higher score values (heavier weights) compared to others that demonstrate lesser effects on the outcomes. The Table shows how the point system was distributed among the 12 mortality index variables.

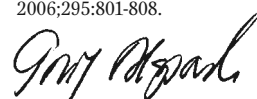
The validation phase of the study revealed the following relationships between risk index score and the 4-year mortality rate: Scores of 0 to 5 were associated with a 4% risk of mortality, scores of 6 to 9 were associated with a 15% risk of mortality, scores of 10 to 13 were associated with a 42% risk of mortality, and scores of 14 or more were associated with a 64% risk of mortality.

Conclusions

Refining our lists of relevant assessment parameters and documenting those findings enable critical care nurses to continue to contribute to “what matters” for our patients’ survival. For those of us already looking at our 50th anniversary of life in the rearview mirror, there is also much to be gained by calculating that score for ourselves as well.

Reference

1. Lee SJ, Lindquist K, Segal MR, Covinsky KE. Development and validation of a prognostic index for 4-year mortality in older adults. *JAMA*. 2006;295:801-808.



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