Reviewer’s report

Title: Age, neurological injury, trauma and prolonged acute respiratory failure are the most important factors for physical functional status long-term after critical illness: a prospective, longitudinal, multicentre trial

Version: 1 Date: 8 May 2012

Reviewer: Chris Winkelman

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May 8, 2012

Dear Editor and Authors,

Thank you for the opportunity to review this interesting report. The authors describe a descriptive, cross-sectional study that occurred in two phase. In phase one, potential subjects (i.e., ICU survivors over a 12 month period beginning December 1, 2005) were identified through a hospital database. In phase 2, the authors contacted ICU survivors 2 years after their sentinel ICU stay, conducting prospective interviews with patients or patient surrogates.

Major Compulsory Revisions

While this study presents original and important information, the research question(s) are never explicitly posed. The introduction is somewhat misleading in that it addresses mortality and health-related quality of life (HRQoL) but the study really measures physical function status in survivors 2 years after at least a 24 hour stay in the ICU. There is some muddling of content in many sections, adding to lack of clarity. For example, under study population, a sentence describes the second phase of the study, which belongs in design. Additional clarity is also needed in the section labeled data collection. Specifically, were the tools used to capture physical functional status documented in patient records (during the sentinel ICU stay) or were they reconstructed from records by study staff? The authors report SOFA and TISS scores but do not report collecting that from records. Were records paper-based? Were any records missing? The authors need to address the validity and reliability of the tools they used (i.e., Karnofsky and Lawton-ADL) as well as reliability when used with proxies. More details are need in the methods section. When the data collectors were trained, were there any periodic evaluations to determine inter-rater reliability or to examine whether ongoing quality of interviews remained similar/high among data collectors? It would be helpful to describe how proxies were identified during the telephone call. When reporting results, if the first study question is to examine 2-year survival, then survival should not be included in describing the characteristics of the sample; mortality should receive a separate subheading. In Table 1, delete the K and L baseline scores as these are really part of the results. Are the scores reported in Table 2 the ICU admission scores or the final scores—revise the label to add accuracy, please, and ease readability. The authors do not really discuss the interpretation of findings from Table 2. For
example, the proportion of obese patients who demonstrated improvement in
Karnofsky scores is much different that the proportion or subjects with a BMI < 30
kg/m² (24% vs. 5%); the Lawton scores show a similar albeit less dramatic
pattern. What do the authors’ think this means? The Discussion is somewhat
confusing, mixing the HRQoL data with the Physical Functional Status data.
While affect and social support do affect physical Functional status, this report
does not measure or attribute declines in function to affect, mood, or other
psychosocial attributes or measures.

Overall, the strength of this report is the addition of new information about
functional recovery in survivors of ICU. The information about mortality is not new
or very interesting but does add to our understanding that ICU survival does not
guarantee a return to predicted/baseline lifespan. The weaknesses of the study
are the confusing development of topical areas, the lack of focus as a result of
missing research questions or purpose, and an extremely confusing discussion.
The authors are to be commended for a novel approach to securing long-term
recovery data and for their persistence in locating survivors after 2 years.

Minor Revisions

There are a number of grammatical errors, typically a mix of present and past
tense within a single paragraph and confusion of singular versus plural nouns
(e.g. months not month in results). Patients are not “on” MV; they receive
mechanical ventilation or there are “Days of MV” (tables 1, 2).

There appears to be a number of recent studies that are relevant but not
included. 2-7

Sincerely,
Chris Winkelman, RN, PhD, ACNP
Associate Professor
Frances Payne Bolton School of Nursing Case Western Reserve University
Cleveland Ohio USA

1. Elliott D, Denehy L, Berney S, Alison JA. Assessing physical function and

2. Schroder MA, Poulsen JB, Perner A. Acceptable long-term outcome in elderly

aged 80 or over following admission to an intensive care unit. Crit Care.

4. Dinglas VD, Gellar J, Colantuoni E, et al. Does intensive care unit severity of
illness influence recall of baseline physical function? J Crit Care. Dec

5. Zanni JM, Korupolu R, Fan E, et al. Rehabilitation therapy and outcomes in


**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no conflicts of interest to report.