

## COMMENTARY

# Sedation, delirium and psychological distress: let's not be deluded

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See related research by Strøm *et al.*, <http://ccforum.com/content/15/6/R293>

### Abstract

New ways of approaching sedation and analgesia are being considered in our endeavour to improve our management of the ventilated patient. Long-term psychological problems are not insignificant and before we can assume benefit or harm of any new approach we must not delude ourselves by using sampling methods that can miss those patients most at risk.

### Introduction

Short-term expediency and our own perceptions of distress have usually dominated our sedative approach to mechanical ventilation at the expense of appreciating the long-term consequences of drug exposure, and the effect that unnecessarily prolonged ventilation and immobility might have on neurocognitive function and psychological disorders. Studies have shown that sedative decisions that reduce drug exposure along with daily awakening and weaning of patients may, not surprisingly, reduce ventilation duration [1,2] but also facilitate mobilisation and improve outcomes [3]. One of the first studies suggested less psychological stress [4], particularly reduced post-traumatic stress disorder (PTSD), and was linked to a hypothesis that patients with more amnesia (presumably more cognitive injury) and delusions (altered memory processing) had more PTSD/stress symptoms than those with less amnesia and hence more recall [5]. Despite reducing sedative drug exposure, the weaning trials so far have not been able to show improved neurocognitive outcomes [6], though less delirium was associated with increased mobility [3].

### Do we even need sedation?

Strøm and colleagues [7] suggested that keeping patients more awake by using analgesics only could reduce

ventilation duration and stay compared with those receiving interrupted sedation in 113 of 140 patients ventilated for more than 48 hours. This was without an increase in complication rates, although agitated delirium was more frequent (or observed?) when sedation was not being used. To address the concern that avoiding sedation completely might itself be a psychological stress, they have followed up these patients in a paper published in *Critical Care* looking at the longer term psychological consequences [8]. They concluded that their protocol does not increase the risk of psychological problems.

Can we be confident of this assertion from their data? Or are we at risk of deluding ourselves? Of the 113 patients, after 2 years follow-up 70 had died (62%), leaving only a possible 43 patients eligible to study. Twelve patients did not respond or declined interview so the data are drawn from just 13 in each group. They show similar low depression and anxiety scores and no significant differences in their quality of life measure from this underpowered sample. The neuropsychologist interviewing these patients found no definite cases of PTSD and the symptom stress scores were low in both groups. Both groups of patients from which the data are drawn could recall admission to the ICU and this suggests they have selected out a group of patients with less acute brain dysfunction and amnesia and hence a lower psychological risk. Perhaps they missed those most at risk?

Can we be content that psychological stress is not occurring? As the psychological assessment occurred after almost 2 years we have no knowledge of distress in the 26 patients that survived to leave hospital but died before follow-up. We only have data on 23% of those ventilated or 60% of those followed up and alive at 2 years. Superficially this may not seem a problem as there are many published papers, often based upon questionnaires where response rates are similarly reduced to between 60 to 80% of the population.

### Do missing patients matter to an analysis of psychological outcome?

A key problem is that many researchers inexperienced with the psychological problems of patients following

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intensive care ignore the fact that there are subjects that actively decline interview, do not attend clinics or return a questionnaire. This can significantly distort a psychological analysis. As psychological problems often determine whether patients will agree or not agree to participate, it cannot be assumed that a group of responders is in any way representative of the entire group regarding psychological morbidity. A key symptom of PTSD is avoidance and it is highly probable that patients with PTSD are among those declining to be interviewed. This is such a well recognised concern that careful systematic methods were used following the 2005 London bombings to identify a far higher number of cases needing help for PTSD than in earlier incidences [9].

In striving to understand the harmful consequences of our sedative and analgesic practices in the ICU, much has been learned through identifying the acute brain dysfunction that occurs (manifesting as acute delirium) and its relationship to longer term neurocognitive impairment [10]. However, it is important not to dismiss or ignore the psychological consequences and the distress of delirium associated with frightening delusional experiences in some patients. While heavy sedation use [11] is one risk factor for PTSD, the strongest association with PTSD development is the suffering of frightening delusional experiences [12] and gives an incidence of new PTSD in longer stay patients of 10%. This incidence may be halved by using a patient diary as a specific psychological cognitive therapy after ICU [13]. To be sure of a good neurocognitive outcome it is important to recognize PTSD and address possible specific treatments as it has been shown there are broader benefits, in both alleviating anxiety and depressive symptoms and improving emotional and cognitive function [14], such as executive function [15].

## Conclusion

In critical care sedation research looking to prove an absence of psychological problems one must not miss patients most at risk and similarly in clinical practice after ICU this means not missing the opportunity to treat them.

## Abbreviations

PTSD, post-traumatic stress disorder.

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## Competing interests

The author declares that he has no competing interests.

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