Commentary: Having the right MINDset

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Disclosures: Dr Arora has received an unrestricted educational grant from Pfizer Canada Inc and honoraria from Abbott Nutrition for work unrelated to this article. Dr Manji has nothing to disclose with regard to commercial support.

Received for publication April 1, 2019; accepted for publication April 2, 2019; available ahead of print May 22, 2019.

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J Thorac Cardiovasc Surg 2020;159:1901-2

0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2019.04.016>

Delirium in critical illness has been associated with structural changes in the brain as demonstrated by imaging studies¹ and it carries significant consequences for patients, families, and the health care system resulting in \$164 billion/year in expenditures.^{2,3} Because delirium is associated with age, this burden is expected to increase as the baby boomer generation gets older.^{2,3} Because there are significant consequences of delirium, it is important to recognize delirium and treat reversible causes early to try and decrease some of the negative consequences.

Cardiac surgery and especially cardiac surgery intensive care unit (CSICU) patients are at high risk for delirium.⁴ Cha and Brown⁴ provide an excellent Invited Expert Opinion on delirium in CSICU patients who represented about 3% of the larger Modifying the Impact of ICU-Induced Neurological Dysfunction-USA (MIND-USA) study.⁵ Cha and Brown⁴ conclude that antipsychotic medications do not appear to be effective in the treatment of hypoactive delirium in CSICU patients.

The MIND-USA study found that out of 566 mixed ICU patients, 89% had hypoactive delirium and that using either haloperidol or ziprasidone provided no shorter duration of delirium compared with placebo.⁵ A systematic review and meta-analysis of 48 studies including 27,342 patients found that hypoactive delirium was at least 4 times more prevalent than hyperactive delirium.² However, despite hypoactive delirium being the most common form of delirium, studies show that 75% of hypoactive delirium cases are missed by clinicians,² suggesting a significant barrier to timely identification and treatment of reversible etiologies of hypoactive delirium. Additionally, the MIND-USA study investigators noted that despite guidelines recommending against the use of antipsychotic medications for delirium, both hyper- and hypoactive delirium were frequently treated with antipsychotic medications.⁵

If hypoactive delirium is so common, why is it so often missed and if recognized, why is it inappropriately treated

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Central Message

Cognitive biases such as framing may play an important role in missing the diagnosis of hypoactive delirium and in the inappropriate treatment of hypoactive delirium with antipsychotic medications.

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with antipsychotic medications? Misdiagnosis occurs frequently in medicine, with some studies suggesting occurrence in at least 20% of cases and much of this misdiagnosis is believed to be secondary to cognitive biases.^{6,7} Humans interpret information differently depending on mindset and indeed, there are studies showing variability in clinicians' ability to diagnose delirium.⁸ Perhaps hearing "delirium" gives one the picture of an agitated, aggressive patient (ie, hyperactive delirium) who needs antipsychotic medication to avoid harm to him- or herself or providers.^{2,9} Thus, if a positive delirium score is reported that patient gets an antipsychotic medication. On the other hand, slow, withdrawn, sedated, lethargic patients who may have hypoactive delirium are not considered delirious because they do not fit the picture of delirium that may be carried in one's mind. There is an increasing body of literature exploring the role of cognitive bias (eg, framing) in medical decision making.¹⁰ Perhaps the topic of cognitive bias is an area that needs to be further explored in delirium research to devise ways to have clinicians recognize hypoactive delirium and treat reversible causes quickly and appropriately to avoid the significant short- and long-term consequences to patients, families, and the health care system.

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