

New studies report drug focused approach insufficient to manage ICU delirium

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Regenstrief Institute investigators Noll Campbell, PharmD, MS and Babar Khan, MD study ways to decrease the duration or severity of delirium in intensive care unit (ICU) patients. Credit: Regenstrief Institute

The results of two new Regenstrief Institute trials published in the *Journal of the American Geriatrics Society* underscore and confirm the need to look to options other than medication to lower the duration or severity of delirium in intensive care unit (ICU) patients.

"Looking at our large studies and other recent work, including several trials we and others have conducted focusing on haloperidol, the most commonly used antipsychotic in the ICU, we can now conclusively say that the role of antipsychotics for management of [delirium](#) severity or duration is nonexistent," said Regenstrief Institute Investigator Babar A. Khan, M.D., who led one of two new studies of pharmacological management of delirium in the ICU testing low doses of haloperidol. In addition to his Regenstrief appointment, Dr. Khan is a faculty member of Indiana University School of Medicine.

"It's clear that the problem of delirium in ICU patients is complex and not easily reversible," said Regenstrief Institute Investigator Noll Campbell, PharmD, MS, who led the concurrent study on deprescribing of drugs thought to cause or prolong delirium in the ICU. "For example, our study showed that implementing electronic alerts that advise deprescribing—to reduce the dose or discontinue a medication linked to delirium—had no impact on [clinical outcomes](#)." In addition to his Regenstrief appointment, Dr. Campbell is a faculty member of Purdue University's College of Pharmacy.

Delirium, a sudden and serious change in [brain function](#) often manifesting as confusion, occurs in as many as three quarters of the five million Americans treated in a medical or surgical ICU annually.

Individuals who experience delirium in the ICU are more likely to have longer hospital stays, more hospital-associated complications and higher risk of hospital readmission. They also have a greater likelihood of dying for up to a year after their hospital stay than ICU patients who did not experience delirium and also are more likely to experience [cognitive impairment](#) and have ongoing problems with daily activities.

"Our extensive research in these two high quality and pragmatic trials enables us to make significant conclusions," said Regenstrief Institute

Investigator Malaz Boustani, M.D., MPH. "First, in order to reduce the burden of delirium we need to explore biological pathways other than the antipsychotic ones such as exploring the therapeutic role of the inflammatory pathways. Second, in order for us to reduce exposure to harmful medications such as anticholinergics and benzodiazepines, we need to adopt insights from behavioral economics to develop more effective deprescribing strategies."

Dr. Boustani is the founding director of the Center for Health Innovation and Implementation Science, a joint venture among Regenstrief, IU School of Medicine and the Indiana Clinical and Translational Sciences Institute; an associate director of IU Center for Aging Research and the Richard M. Fairbanks Professor in Aging Research at IU School of Medicine.

The pharmacologic interventions studied in these trials, focusing on drugs with known adverse effects on the brain, did not benefit ICU patients, suggesting that other approaches to delirium care in these extremely ill individuals should be investigated. Drs. Khan, Campbell and Boustani call for further study of non-pharmacological methods to combat delirium in ICU patients including waking them sooner and more frequently, earlier mobilization and exposure to music.

More information: Babar A. Khan et al, Pharmacological Management of Delirium in the Intensive Care Unit: A Randomized Pragmatic Clinical Trial, *Journal of the American Geriatrics Society* (2019). [DOI: 10.1111/jgs.15781](https://doi.org/10.1111/jgs.15781)

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