

Letter to the Editor

Response to "Letter to the Editor" by Bhattacharyya et al.

We read with great interest the concerns highlighted by Bhattacharyya et al who bring up an important point about the impact of odds ratio (OR) size on the clinical significance.

There are several publications in reputed journals including Journal of Stroke and Cerebrovascular Diseases where similar studies based on National Inpatient Sample (NIS) data have been reported with OR < 1.5 but considered clinically relevant and such interpretation has been well accepted by the scientific community. In a study, using NIS data, Saeed et al¹ found higher rates of moderate to severe disability among intracerebral hemorrhage patients with acute renal failure at the time of discharge (OR, 1.2; 95% confidence interval, 1.1-1.3; $P < .0001$). In another publication, using the similar methodology and using NIS data set, Saeed et al² concluded that acute ischemic stroke patients with acute renal failure had higher rates of moderate to severe disability (OR, 1.3; 95% confidence interval, 1.3-1.4; $P < .0001$). Effect size even if small, still may be clinically relevant. We reviewed the paper³ cited by Bhattacharyya et al which clearly mentions that it is quite possible with a large sample to have a statistically significant finding from a weak but true association with a small effect size. We agree that better guidelines are needed to draw conclusions about strength of associations in studies of risks for disease when we use OR as the index of effect size in epidemiological studies.

It is already known that patients with intracerebral hemorrhage have a higher rate of acute renal failure as a hospital complication⁴ and renal failure also results in worse in-hospital outcome including increased mortality.¹ Combining our study findings with the results of these studies, it would be reasonable to conclude that our

findings may be interpreted as a meaningful clinical association between preexisting renal failure and in-hospital mortality even if effect size is small. Lastly, we would like to reemphasize that our study is based on the NIS dataset which has inherent limitations as already outlined in the Discussion section. Future clinical studies are needed to further evaluate this association.

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