

Medication Adherence and Stroke Prevention: What Real World Data Tells Us

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'Drugs don't work in patients who don't take them' (C. Everett Koop, MD, US Surgeon General, 1985)⁽¹⁾.

Medication adherence, by definition,⁽²⁾ is “the extent to which a patient acts in accordance with the prescribed interval and dose of a dosing regimen.” Poor medication adherence can interfere with the ability to treat many diseases, leading to greater complications and a lower quality of life.⁽³⁾ In this issue of *Acta Neurologica Taiwanica*, Chen et al.⁽⁴⁾ presented the inverse association between adherence of antithrombotic agents and poor outcomes after a first-ever ischemic stroke. The findings were consistent with Sung, et al.⁽⁵⁾ that medication nonadherence are prevalent in young adults with a first-ever stroke.

The results by Chen, et al.⁽⁴⁾ highlighted the importance of developing strategies to improve antithrombotic adherence. Besides, the risk-benefit profile of medication treatment must be considered and monitored for optimizing prescription in secondary stroke prevention. For those purposes, real-world data (RWD) derived from administrative claims database is becoming an efficient source of information.⁽⁶⁾ The US Food and Drug Administration has also recognized the use of RWD to monitor post-marketing safety and adverse events and to make regulatory decisions of medicinal products.⁽⁷⁾

Nonetheless, deriving RWD from administrative claims database should be held to an even higher scientific standard because of the greater potential for bias.⁽⁶⁾ For example, the ascertainment of cases, coding for comorbidities, and handling of unmeasured confounders (e.g. disease severity) should follow those previously well-validated methods.⁽⁸⁻¹⁰⁾ Besides, we should note that the adherence measured using claims data is the proportion of days covered with filled prescription. It might not be exactly equal to the real medication adherence behavior of the patients, as mentioned by Chen, et al.⁽⁴⁾

Linking administrative claims database with other validated clinical databases (e.g. stroke registry) may improve the validity of a RWD study.⁽¹¹⁾ In the era of data science and artificial intelligence, we neurologists should endeavor to make the best use of all available electronic healthcare datasets, creating more useful RWD for our patients with strokes, as well as other neurological diseases.

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