Improving Onset to Needle Time
Knowledge Is Not Enough

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See related article, pages 1844–1849.

Mikulik and colleagues present important new data that will inform future public health stroke education campaigns. They conducted a survey of lay public stroke knowledge and likely behaviors with a large representative sample of over 40-year-olds in the Czech Republic. One major driver for this work was the low use of recombinant tissue plasminogen activator within the Czech Republic (only 1%), which is unfortunately similar to many other nations, including Australia. One commonly stated reason for such low rates is late presentation to hospital, and their survey aimed to identify factors that would more likely trigger a request for an emergency ambulance transfer to hospital for people with suspected stroke. Lack of stroke knowledge was considered to be the main reason for poor ambulance response rates before their study. A key component of their survey was the completion of the Stroke Action Test (STAT). This test includes 21 stroke warning signs and 7 nonstroke distractors and respondents had to state whether they would call an ambulance (the “correct” response) or call a doctor, or wait an hour, or a day (“incorrect” responses). The authors specified that a >50% STAT score was adequate and clinically meaningful, i.e., respondents had to get at least 11/21 of the stroke signs correct (“call an ambulance”). Their results are fascinating. Knowledge of stroke symptoms was not statistically associated with an increased chance of calling an ambulance. In univariate analysis, age, education, having diabetes, knowledge of stroke pathophysiology, knowing that stroke was serious, or that stroke was treatable was associated with an adequate STAT score. In multivariate analyses only education, knowing stroke was serious and knowing stroke was treatable remained significant. These results provide an important lesson in public education, mere facts are not enough. People appear to be considering the importance of “the facts”. There is little incentive in calling an ambulance for someone with a suspected stroke if your entire knowledge about stroke is that of merely recognizing the problem! If, however, you know that stroke is both serious and/or treatable, then calling an emergency ambulance makes sense.

The study also identified some other interesting issues. The over 40-year-olds in the Czech Republic are not relying on the internet for their information—probably the primary source of data for younger people nowadays. Stress and obesity were overemphasized as a cause of stroke, whereas diabetes, heart disease and vascular disease were underemphasized.

Overall, this study will provide important new data to inform the next generation of public health education. Yes, we still need to recognize stroke warning signs but we need to inform the public that stroke is a really serious disease (it can be fatal or disabling) but it is treatable, and the quicker you get to hospital, the better. Knowledge and action is required.

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