

Letter to the Editor

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Letter by Wolters Regarding Article, “Impact on Prehospital Delay of a Stroke Preparedness Campaign: A SW-RCT (Stepped-Wedge Cluster Randomized Controlled Trial)”

To the Editor:

Timely medical assessment is vital after major stroke, as well as minor stroke and transient ischemic attack, but often hindered by extensive prehospital delays. Public education campaigns could improve patient outcomes by reducing time to seeking medical attention, and it is, therefore, with great interest that I read the article by Denti et al,¹ describing the impact of a campaign that was rolled out in a step-wedge cluster randomized design in Italy. The scarcity of high-quality evidence on public education for stroke renders their study timely and most welcome.² Although the trial showed no benefit of the intervention on the primary end point of hospital arrival within 2 hours after symptom onset, the secondary end points may offer guidance for future campaigns. A few of the results in particular, I believe warrant closer inspection for this purpose.

Of the secondary, behavioral end points, symptom recognition tended to improve after the campaign (odds ratio, 1.40; 95% CI, 0.96–2.03). This once again shows that improvements in perception do not necessarily lead to more urgent behavior.² In part, this could be attributable to the experienced severity of neurological deficits. Although symptom recognition by patients is highly correlated to time till seeking medical attention in patients with transient ischemic attack and minor stroke,³ it seems rather inconsequential for major stroke,⁴ in which the severity of deficits may prompt for urgent response regardless their cause. Moreover, the vast majority of patients with major stroke relies on a bystander for seeking medical attention,⁴ and their urgency of response may be decisive for early hospital arrival. Interestingly, Denti et al¹ found that bystanders significantly more often sought medical attention via emergency services after the campaign (odds ratio, 1.47; 95% CI, 1.10–1.96), in line with an increased use of emergency medical services observed for major stroke after the FAST (Face-Arm-Speech-Time) public education campaign in the United Kingdom.⁴

The differences in perception and response to major versus minor stroke have several implications. First, distinguishing patient from bystander response is crucial to disentangle potential effects of any public education intervention. Second, the increased symptom recognition in the intervention group may have led to presentation by community-dwelling individuals who experience neurological symptoms but would not otherwise have

sought medical attention.⁵ These generally less severe events have longer patient delays,³ and lower thrombolysis rates, which could have led to dilution of any campaign effect. Finally, the less severe and often isolated symptoms in patients with minor stroke are less likely to be captured in public education, which could lead to false reassurance, and consequent delays in presentation.

Taken together, the severity of stroke symptoms may be an important determinant of the effect of public education, implying that stratification by stroke severity may offer additional insight about the effect of interventions on patient and bystander behavior. Denti et al¹ rightly emphasize that controlled testing of public education strategies, for instance by cluster trials, is important to identify effective means of reducing prehospital delays. Meanwhile, observational studies and post hoc analysis of trial data can provide insight in how to design and target such interventions.

Disclosures

None.

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