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The goal of this study is to identify a novel target for intervention after stroke or transient ischemic attack (TIA) that may decrease risk for subsequent cardiovascular events and mortality. With advances in healthcare, most patients hospitalized for stroke and TIA survive. However, these patients remain at markedly elevated risk for recurrent cardiovascular events and mortality. One phenomenon that may contribute to this risk is stroke/TIA induced posttraumatic stress disorder (PTSD). Several small studies have shown that the experience of a stroke or TIA can be a psychologically traumatic event that induces PTSD. Studies of PTSD induced by other types of traumatic events suggest that PTSD not only contributes to poor mental health, but can also adversely affect cardiovascular risk. One behavioral pathway by which PTSD may increase this risk is through nonadherence to secondary prevention medications. Indeed, conceptual models of PTSD suggest that stroke/TIA survivors may avoid cardiovascular medications because they serve as reminders of the traumatic stroke/TIA event. Thus far, however, few small studies have assessed PTSD in stroke and TIA survivors, and none have assessed whether stroke/TIA-induced PTSD influences prognosis or whether medication adherence mediates this association.

The first aim of the study is to determine the prevalence and predictors of stroke/TIA-induced PTSD symptoms throughout the first year post-stroke/TIA in a multi-ethnic population. The second aim of the study is to determine whether stroke/TIA-induced PTSD increases risk for cardiovascular events and mortality at 1 year. The third aim of the study is to determine the influence of stroke/TIA-induced PTSD on adherence to secondary prevention medications, and to explore whether medication nonadherence partially explains any association of PTSD with 1-year prognosis. To accomplish these aims, we propose to enroll a cohort of 1,000 mild-moderate stroke and TIA patients from the emergency department (ED) serving a diverse patient population. We will assess patients' psychological reactions to the stroke/TIA while they are in the ED and during their inpatient stay. We will assess PTSD in-hospital and 1 month, 6 months, and 1 year later. We will also assess adherence to secondary prevention medications in the first 6 months after stroke/TIA using state-of-the-art wireless electronic pill bottles. Finally, we will record recurrent cardiovascular events and mortality across 1 year.

Stroke is the fourth leading cause of death and the leading cause of serious long-term disability in the U.S. More than 7 million adults in the U.S. alone are stroke survivors, and each year 3.3 million ambulatory care visits and nearly 1 million inpatient admissions are due to stroke. Determining the prevalence of stroke/TIA-induced PTSD and its association with poor prognosis and medication adherence, as well as identifying PTSD risk factors are necessary, as this information may yield screening and/or treatment targets that can then be tested in future randomized trials to improve medical and psychological prognosis in stroke and TIA survivors.