Needs Analysis for Educating Community Pharmacists to Interface with Prehospital Stroke Chain of Survival

Tina Harrach Denetclaw, PharmD, BCPS,*† Patricia Cefalu, RN,‡ Louis L. Manila, RN, RT(R),§ and John J. Panagotacos, MD*

Background: Awareness of the American Heart Association's Stroke Chain of Survival, and willingness to learn and share this information with the public, was assessed for community pharmacists practicing near a primary stroke center. *Methods:* Twenty-three community pharmacies local to a primary stroke center were identified and surveyed. The surveyor showed each pharmacist a flier with a mnemonic for assessing stroke symptoms, briefly explained steps in the Stroke Chain of Survival, and noted if the pharmacist was available, listened to the entire presentation, read the information on the flier, agreed to post the flier, and if the pharmacist made any comments. The surveyor also assessed whether the Stroke Chain of Survival was new information to each pharmacist. *Results:* All subjects read the information on the flier. Twenty-two (95.7%) listened to the entire presentation, and 23 (100%) were willing to post the flier. Two (11%) indicated that the parent company does not allow public posting of noncorporate information but agreed to post the flier internally. Twenty-one (91%) expressed appreciation for receiving the information. Seventeen (74%) indicated that the Stroke Chain of Survival was new information to them, 14 (61%) spontaneously remarked on the importance of the information, and 4 (17%) asked for additional information. *Conclusions:* Community pharmacists surveyed were willing to interface with the prehospital phase of the Stroke Chain of Survival; nearly 75% of them required education to do so. Community pharmacies are potentially a venue for educating the public on the Stroke Chain of Survival. It may be necessary to approach community pharmacy corporate leadership to partner with such efforts. **Key Words:** Community pharmacy—stroke education.

A stroke patient's best chance for survival and recovery occurs during the first 60 minutes after symptom onset.[1,2] Yet without a focused effort to bring stroke patients to the hospital quickly, <20% of stroke patients present in time to receive treatment.[3] The American Heart Association (AHA) describes a Stroke Chain of Survival system designed to expedite the care of stroke patients. This strategy involves early detection of stroke symptoms, call to emergency medical services (EMS) through dialing 911, priority EMS dispatch for possible stroke, prompt patient transport with prehospital notification, immediate triage and prompt evaluation in the emergency department (including laboratory studies and computed tomographic imaging), timely diagnosis and decision about appropriate treatment, and prompt administration of drugs or other interventions.[4]

The Joint Commission's Primary Stroke Center Certification program recognizes centers that use standardized methods and adhere to designated clinical practice guidelines in order to achieve better stroke outcomes.

From the *Pharmacy Department, Marin General Hospital; †Department of Clinical Pharmacy, School of Pharmacy, University of California, San Francisco; ‡Cardiovascular Division, Marin General Hospital; and §Haynes Cardiovascular Institute, Marin General Hospital, Greenbrae, California.

Received June 24, 2012; revision received November 16, 2012; accepted November 19, 2012.

Address correspondence to Tina Harrach Denetclaw, PharmD, BCPS, Pharmacy Department, Marin General Hospital, 250 Bon Air Rd, Greenbrae, CA94904. E-mail: denetclawt@pharmacy.ucsf.edu.

1052-3057/$ - see front matter

http://dx.doi.org/10.1016/j.jstrokecerebrovasdis.2012.11.017

Standardized methods include coordination with EMS to provide rapid care through the Stroke Chain of Survival.[5]

The full spectrum of appropriate stroke care requires a system of care that coordinates and integrates otherwise fragmented approaches, including community education, EMS, in-hospital processes, rehabilitation services, and continuous quality improvement activities.[6] Educational efforts on stroke identification and management targeting patients, EMS, hospitals, and community physicians have improved rates of appropriate stroke care compared to communities without stroke education programs.[4]

Stroke patients receive more rapid care if they use EMS/911 rather than call their physician first or call the hospital directly, and if they are transported to the hospital via EMS. Because of the nature of stroke symptoms, stroke patients tend to depend on family members, caregivers, and bystanders to recognize stroke warning signs and activate EMS. It is important to educate the general public on the warning signs and appropriate response for stroke.[7-9]

This study was conducted to assess the willingness of community pharmacists to partner with the activities of a Primary Stroke Center by educating the public about the warning signs of stroke and how to access appropriate care, and also whether community pharmacists require education in order to provide the public this information.

Background

Studies show that a majority of patients with stroke symptoms do not recognize their symptoms and delay seeking care. They often seek advice regarding their symptoms, and rely on others to provide a point of entry to emergency treatment. Studies have shown that help lines, physicians' office staff, and pharmacists may fail to recognize the warning signs of stroke, and may misdirect the patient away from appropriate care. In one study, 69% of polled pharmacists across the United States incorrectly recommended a patient experiencing symptoms of crescendo transient ischemic attack to be driven to the emergency department by a family member.[10-12]

Conversely, community pharmacists who are knowledgeable about the warning signs of stroke and are aware of appropriate prehospital stroke care can correctly direct queries to EMS/911. Community pharmacists have participated in a successful public education campaign to educate the public about stroke and the importance of emergency response to stroke.[13]

One potential barrier to community pharmacists effectively interfacing with the prehospital phase of Stroke Chain of Survival is that community pharmacists tend to practice in a silo, and are not integrated into a team of caregivers or a system of care.[14,15] Another potential barrier for community pharmacists is the lack of knowledge of accessible and clear information on how to readily recognize the warning signs of stroke and the importance of using the available Stroke Chain of Survival program through EMS/911.[12,16]

This study is the first step of a primary stroke center attempting to establish a partnership with community pharmacists to educate both the pharmacists and the public about the warning signs and appropriate response for stroke.

Methods

Stroke education fliers based on the National Stroke Association (NSA) Stroke Assessment test (F.A.S.T. test) were designed by members of the primary stroke center's Stroke Program Operations Committee; the design was approved and multiple copies produced on 8.5- × 11-inch poster board by the hospital's marketing department.

A cohort of 23 community pharmacies located within 15 miles of the primary stroke center were identified and located using a global positioning system. A single surveyor collected all data. The surveyor arrived unannounced at each pharmacy and requested an audience with a pharmacist. The surveyor showed each pharmacist the flier with mnemonic for assessing stroke symptoms[17] and appropriate response,[4] and briefly explained the relevance of steps in the AHA Stroke Chain of Survival.[4] The surveyor noted if the pharmacist was available, listened to the entire presentation, read the information on the flier, agreed to post the flier, and if the pharmacist made any comments. The surveyor also assessed whether the Stroke Chain of Survival was new information to each pharmacist. Each encounter required approximately 3 minutes of the community pharmacist's time.

Upon exiting each pharmacy, the surveyor recorded information about the encounter on a standard data collection tool, and later translated the recorded data into a Survey Monkey survey tool. Data analysis was accomplished using the Survey Monkey application. No pharmacy or pharmacist identifying information was recorded. This study protocol was reviewed by the primary stroke center's institutional review board before implementation.

Descriptive statistics were used to determine the frequency of each survey behavior or response.

Outcome Measures

The major outcomes assessed include the pharmacists' willingness to post stroke education information for the public, whether the particulars of the Stroke Chain of Survival constituted new information to each pharmacist, and the pharmacists' apparent interest in the information presented. Willingness to provide stroke education for the public was determined by whether the pharmacist agreed to post the information, either externally for the public or internally for pharmacy staff. Whether particulars of the Stroke Chain of Survival constituted new information to