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Community Education Through a Stroke Champion Program

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Abstract

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MS, Long Island University, C. W. Post Campus, 2006

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Project Submitted in Fulfillment

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Abstract

Stroke is the fifth leading cause of death and primary cause of long-term disability in the United States. Public awareness of stroke symptoms and ability to activate the emergency medical system (EMS) quickly are essential for early treatment. At a large Joint Commission-certified Comprehensive Stroke Center with over 6,000 employees, a stroke champion program that included both clinical and nonclinical volunteers was initiated to determine whether stroke champion volunteers could learn and disseminate information about stroke symptoms and the importance of activating EMS within their community. Roger's diffusion-of- innovation framework was used to design and evaluate the outcome of the project. A survey of 46 stroke champion hospital clinical and nonclinical employee volunteers was conducted using a secured web-based survey that employed a Likert scale to evaluate the effectiveness of the program. The survey collected information on whether the stroke champion needed a license to perform their job at the hospital and evaluated the content of the program, the setting of the meeting, presenter's effectiveness, instructional method, and learners achievement of the programs objectives. Over 90% of respondents agreed or strongly agreed that the program achieved the objectives set forth in each category of the survey. A stroke champion program that incorporates all employees, not just nurses, could bring about positive social change by increasing health literacy through the dissemination of stroke information to all community members.

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Dedication

I would like to dedicate this paper to my children, Peter and Cindy Gribko, Elizabeth and Jon Cano, Zoe and Jacqueline Gribko, my grandchildren Katalina, Maximilian and Ivan, and especially my husband, Greg, whose love and support guided me through this doctorate journey.

Acknowledgments

I would like to acknowledge my chair, Dr. Diane Whitehead who inspired me to believe in myself. I also want to recognize my friends Kim Lombardo, Anne Marie McLeod, and Rita Raio who were always there to encourage me throughout my doctorate journey.

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Section 1: Introduction

Introduction

In the United States, approximately 800,000 people annually will have a stroke (Mozaffarian et al., 2016). The Stroke Council of the American Heart Association/American Stroke Association (AHA/ASA) updated the definition of a cerebral ischemic event to an episode of a neurological dysfunction caused by a focal cerebral infarction (Sacco et al., 2013). A focal cerebral infarction includes hemorrhagic and ischemic events that deprive oxygenated blood to the injured area of the brain. Ischemic stroke refers to an interruption of blood flow to the brain caused by an embolism or thrombosis in the arterial flow within the brain (Sacco et al., 2013). Hemorrhagic stroke included intracerebral or subarachnoid hemorrhage caused by bleeding in the brain not caused by a trauma (Sacco et al., 2013). Unless defined otherwise, stroke in this paper will include both hemorrhagic and ischemic events within the brain. Approximately 87% of strokes are ischemic strokes (Mozaffarian et al., 2016; Talwalkar & Uddin, 2015).

Stroke is the fifth leading cause of death and serious long-term disability in the United States (Centers for Disease Control and Prevention [CDC], 2017; Kochanek, Murphy, Xu, & Arias, 2014). Appropriate treatment for qualified stroke patients is time sensitive. Rapid administration of intravenous recombinant tissue-type plasminogen activator (rt-PA, also known as alteplase) within 4.5 hours of the last time the patient was known to be well (LKW) is the cornerstone of early treatment of acute ischemic stroke (Powers et al., 2015). Another standard of care to treat eligible ischemic stroke patients

is an endovascular thrombectomy intervention, which is also time sensitive (Powers et al., 2015; Powers et al., 2018). According to the AHA/ASA early thrombolytic or endovascular intervention for eligible ischemic stroke patients plays an essential role in reducing morbidity and mortality in the stroke patient population (Powers et al., 2015; Schwamm et al., 2013). Patients who arrive within the appropriate time window of the LKW have less disability in 3 months after the stroke than those who delayed care (CDC, 2017).

Early recognition of stroke symptoms is essential for activation of an emergency response to obtain radiographic imaging to determine eligibility for appropriate timely treatment (Jauch et al., 2013). Public awareness stroke campaigns have been shown to increase emergency medical services (EMS) calls related to stroke (Bray, Mosley, Bailey, Barger & Bladin, 2011; Bray, Straney, Barger, & Finn, 2015). Nurses, because of their proximity to patients and frequency with which they conduct patient assessments, can initiate early activation of the in-hospital stroke emergency teams (Adelman et al., 2014; George, Wisco, Gebel, Uchino, & Newey, 2017). Awareness of stroke signs and symptoms is essential in ensuring the timely assessment and treatment of a stroke, which ultimately can improve patient outcomes.

Problem Statement

The chain of survival for stroke begins with the recognition of stroke symptoms and prompt activation of the EMS (Puolakka, Strbian, Harve, Kuisma, & Lindsberg, 2016). The time it takes for arrival of patients who exhibit stroke symptoms to the hospital can be reduced by improvement in community awareness, education of local

physicians and awareness among EMS staff to expedite the transport of patients with stroke symptoms to appropriate stroke centers (Ashraf, Maneesh, Praveenkumar, Saifudheen, & Girija, 2015; Mohammad, 2008). Although the goal is for the community to activate EMS for stroke symptoms, Talwalker and Uddin (2015) found that for ischemic stroke patients under the age of 75 years, arrival by ambulance had decreased from 41% in 2004-2005 to 24% in 2010-2011.

Public awareness of stroke symptoms and seeking immediate medical attention utilizing EMS is important in improving patient outcomes and reducing permanent disability (Powers et al., 2015). Educational campaigns to increase public awareness and emphasize the importance of prompt treatment in acute ischemic stroke provide the community the opportunity to understand the need for early treatment (Koksal, Gazioglu, Boz, Can, & Alioglu, 2014). Existing modalities used to increase public stroke awareness have not always been successful (Caminiti et al., 2017).

The success of stroke awareness education in the community depends on many variables, and a network of individuals as community leaders to promote stroke awareness and the need to promptly activate EMS in order for patients to receive early treatment can be a valuable component of education (Gardois, Booth, Goyder, & Ryan, 2014). Improvement in stroke awareness utilizing a stroke champion model within the hospital community is an identified gap-in-practice.

Local Relevance

According to its stroke coordinator, a large quaternary academic Joint Commission Certified Comprehensive Stroke Center (CSC) in a northeastern

metropolitan city treats over 1400 stroke patients annually and employs over 3000 nurses. Approximately 10% of those stroke patients experienced their stroke during their hospitalization, with greater than 50% of these patients having documented onset of symptoms greater than a day after LKW or the time of LKW was unknown, which excluded them from timely treatment. The stroke coordinator reported that of those stroke patients who arrive to the hospital; about 50% arrive by private car. Improving recognition of stroke symptoms within the hospital and community will increase the eligibility for stroke treatment and improve patient outcomes (see Schneider et al., 2003). Stroke champions will be subject matter experts on stroke awareness in the hospital and community.

The Joint Commission certified the facility as a CSC in 2015. This designation requires that the nurses who care for stroke patients receive at least 8 hours of stroke education annually (The Joint Commission [TJC], 2017).

Significance to Nursing Practice

The significance of a stroke champion project for the field of nursing is the expansion of nursing practice beyond the hospital into their residential community. As stroke treatments evolve, early recognition of stroke symptoms becomes essential in success of stroke treatment. The Institute of Medicine report on the future of nursing encouraged nurses to lead change and advance the health of the population, and a stroke champion program encourages nurses to bring to their community stroke information that can empower the public to play an essential role in stroke recognition. Nurses'

engagement with their communities expands the role of nurses to foster social interest in healthful living (McCollum, Kovner, Ojemeni, Brewer, & Cohen, 2017).

Purpose

The purpose of this project was to increase the knowledge of stroke awareness within the hospital and surrounding community. Instituting a stroke champion program within a large hospital empowered hospital staff to be subject matter experts in stroke awareness for their hospital and residential community. Champion programs have been used in various healthcare settings to create leaders to enable change and develop self and organizational awareness (Agrell-Kann, 2015). For example, researchers have validated a unit-based champion model as an evidence-based practice (EBP) in pressure ulcer prevention (Creehan, 2015). Empowering the hospital staff as stroke champions can be instrumental in increasing stroke awareness within the hospital and residential community.

At the institution where I implemented the program, the stroke coordinator reported that the time to LKW for patients who arrive by private car is on average approximately 90 minutes greater than for patients who arrive by EMS. Increased awareness of (a) stroke symptoms, (b) the need to activate EMS as soon as possible, and (c) the need for early treatment should increase use of EMS in the community. The stroke champion program should increase stroke awareness within the community and lead to increased activation of EMS for patients who exhibit stroke-like symptoms.

The structure of the stroke champion program paralleled the other champion models within the hospital; however, the frequency of participant meetings and

membership varied from the current champion models. The design of the stroke champion program involved the participants attending meetings and sharing their experiences with disseminating stroke awareness information in the hospital and community. I measured success of the program using a survey as an evaluation tool. The practice question was: Do employees in a quaternary hospital participating in a stroke champion program perceive that they are able to disseminate stroke awareness information to the community?

Nature of the Doctoral Project

I conducted a literature search using the search engines CINAHL, Ovid Nursing Journals, Medline , Google Scholar, and ProQuest Nursing & Allied Health Source to search for evidence to support the development of a stroke champion program. Evidence in the literature has shown champion programs have empowered individuals to be subject matter experts in their settings to reinforce knowledge and process change (Agrell-Kann, 2015; Creehan, 2015). Early recognition of stroke symptoms and activation of emergency services have been shown to improve outcomes in selected stroke patients (Powers et al., 2015; Powers et al., 2018; Schwamm et al., 2013). Champion programs have used professional and non-professional clinical staff as champions in the healthcare environment (Agrell-Kann, 2015). Since stroke can happen to anyone, anywhere, at any time, participation in the stroke champion program was open to all staff at the hospital. (Powers et al., 2015). Stroke champions can provide their hospital and residential communities valuable stroke awareness information that can improve patient outcomes and save brain tissue. Deploying stroke champions as advocates in their communities to

disseminate stroke awareness information can close the gap in practice regarding stroke awareness and timely treatment.

Significance

The stakeholders involved in this project included neurology service, the stroke director and hospital administration, nursing administration and nursing education, as well as leaders in other departments. This interdisciplinary team had the knowledge and skills necessary to support this project. This project provided a different avenue to disseminate stroke information in the community utilizing nursing and non-clinical staff. As a result of this model, community awareness of stroke symptoms will lead to increased utilization of EMS for stroke, improving the timely treatment of stroke and thus outcomes (Cumbler et al., 2014; Saltman, Silver, Fang, Stamplecoski, & Kapral, 2015).

The nursing profession is well respected and trusted in the community (Girvin, Jackson, & Hutchinson, 2016). Use of a stroke champion model to provide evidence-based practice (EBP) pertaining to recognizing stroke signs and symptoms early and activating EMS within the community enables the stroke champion to be an advocate in their community (Agrell-Kann, 2015). Although stroke champions were selected from all hospital staff, nurses took a leadership role in expanding stroke awareness inside and outside of the hospital. The purpose of the stroke champion project was to disseminate stroke awareness in the community and utilized nurses as a champions within their residential communities. I anticipated that if the stroke champion program was successful, it will be used as a model for other hospitals in the healthcare system.

Summary

People who arrive within the appropriate time window after the LKW have less disability 3 months after the stroke than those who delayed care (Centers for Disease Control and Prevention, 2017). Most patients do not arrive to the hospital in a timely manner, which eliminates them from receiving timely stroke treatment (Rose, Rosamond, Huston, Murphy, & Tegeler, 2008). Community education in stroke symptoms and the awareness that stroke is a medical emergency can lead to more timely treatment, thus reducing long-term disability from a stroke (Bray, Straney, Barger, & Finn, 2015). The purpose of this project was to initiate a stroke champion program in a large quaternary hospital in the Northeastern United States. The practice question was: Do employees in a quaternary hospital participating in a stroke champion program perceive that they are able to disseminate stroke awareness information to the community?

Section 2: Background and Context

Introduction

A stroke champion program empowers the stroke champions to be advocates of stroke awareness in their hospital and community. Despite mass media campaigns, disparities in stroke awareness in the public and healthcare communities continue to exist, which affects stroke outcomes (Bowen, 2016). By developing a stroke champion program at a large academic facility in the Northeastern United States, I sought to increase stroke awareness and encourage individuals to initiate EMS for early evaluation and possible treatment of stroke. I used Rogers' diffusion of innovation model to frame this project. Rogers (1995) developed this social science model to explain how an idea spreads within a specific population over time. In the next section, I describe the model, the study's relevance to nursing practice, the background of the project, and my role as student in implementing the project.

Concepts, Models, and Theories

The diffusion of innovation framework is useful for dissemination of stroke awareness in a hospital and community via a stroke champion program (Bergeron, et al., 2017; Mohammadi, Poursaberi, & Salahshoor, 2018). Rogers (1995) defined diffusion as a process whereby an innovation is disseminated through a defined process within a social system over time. Educating stroke champions on stroke awareness and tasking them to disseminate this information amongst their hospital and residential community parallels Rogers's definition of *diffusion of a new concept*.

An innovation is something new to the person or organization (Lundblad, 2003). Although the concept of stroke awareness is not new, the stroke champion model is a new concept at the hospital that served as my project site. The hospital has other champion models for specific diagnoses such as hospital acquired pressure ulcers, catheter associated urinary tract infections, and diabetes. These models enroll only clinical volunteers. However, stroke awareness education is applicable in both the hospital and community and may include clinical and non-clinical volunteers. For this project, I defined diffusion as the spread of stroke awareness information within the hospital and community. The innovation was the adoption of a stroke champion program in the hospital. To determine the rate of the adoption of the stroke champion program, I addressed the following characteristics of the program: relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2002). I determined the success of the stroke champion program by assessing the rate of adoption of this innovation within the hospital. Rogers (2002) reported that mass media were effective in creating initial knowledge of innovation, but face-to-face sharing of knowledge was more effective in forming and changing attitudes toward an innovation. Since diffusion is a social process, my stroke champion program, which involves an interpersonal approach, is an adjunct to mass media stroke awareness campaigns. Figure 1 depicts my use of the diffusion of innovation framework for the stroke champion program.

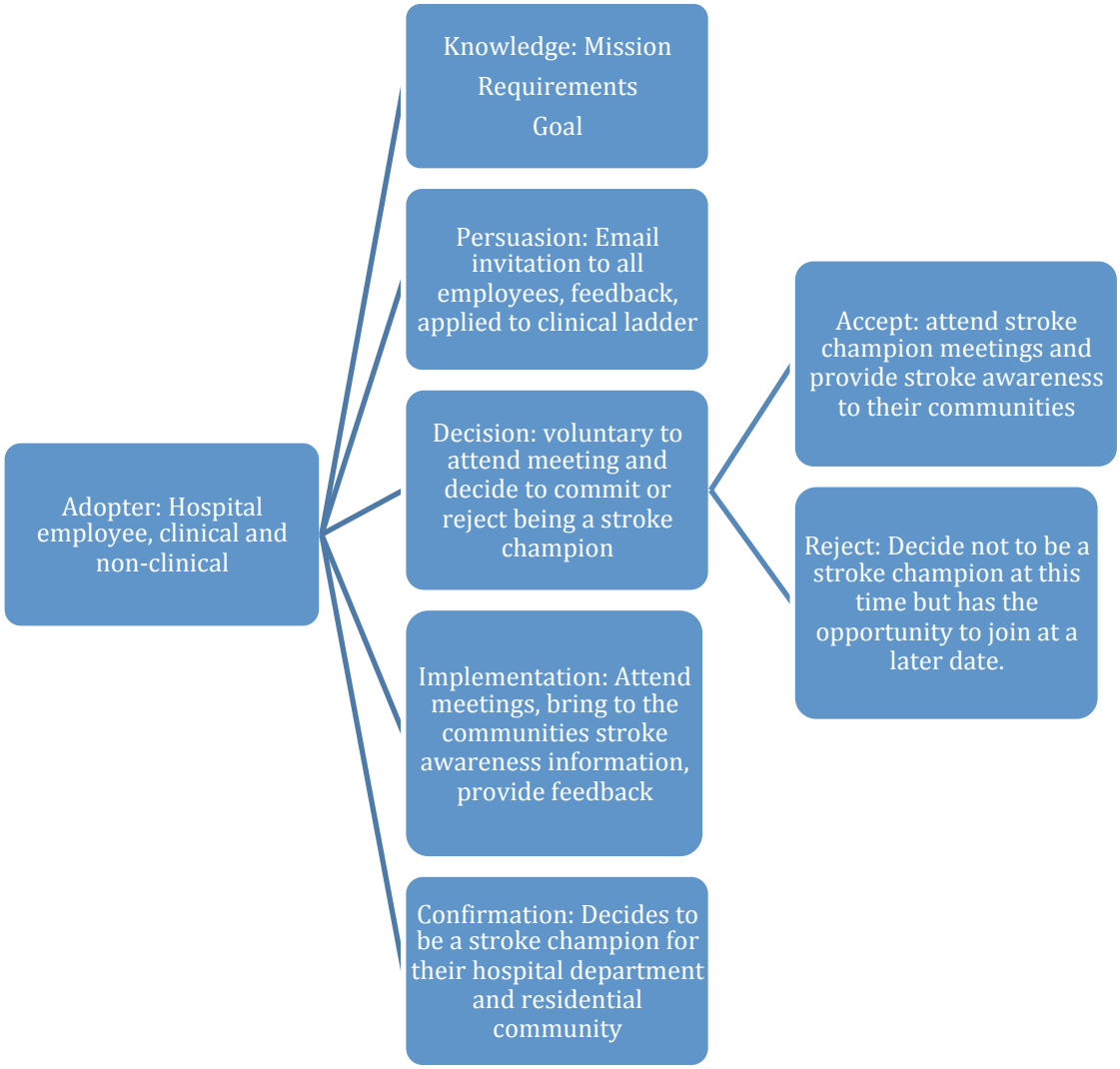


Figure 1. Diffusion of innovation framework for stroke champion program.

Relevance to Nursing Practice

I reviewed the literature for any relevant publications associated with stroke champion programs. I searched Google Scholar, PubMed, CINAHL, and Thoreau, using search terms *stroke awareness, champion program, community stroke awareness, pre-hospital stroke care, stroke public awareness,* and *stroke chain of life* for articles published 2014 to present. I found that all stroke champion programs described in the literature were focused on clinical or non-clinical volunteers. There were no stroke champion programs mentioned in the literature that included both clinical and non-clinical volunteers.

Early Treatment

From 1995 to 2015 the only stroke treatment approved for use in the United States by the Food and Drug Association (FDA) was intravenous Activase (alteplase; also known as rt-PA), a thrombolytic medication that must be given within 3-4.5 hours of the patient's LKW (Yang, Lou, Luo, Jiang, & Liu, 2018). In 2015 the AHA/ASA updated the stroke guidelines to include endovascular thrombectomy treatment for selected stroke patients up to 6 hours after LKW. The endovascular thrombectomy window for treatment was extended to 24 hours from LKW after the results of the DAWN (DWI or CTP Assessment with Clinical Mismatch in the Triage of Wake-Up and Late Presenting Strokes Undergoing Neurointervention with Trevo) and the DEFUSE 3 (Endovascular Therapy Following Imaging Evaluation for Ischaemic Stroke) trials in 2017 (Albers et. al., 2018). Each treatment for stroke involves time sensitivity and having brain imaging to assess if the patient is eligible for treatment.

Prior to 1995 there was no direct treatment for stroke and rt-PA was a revolution in stroke treatment (The National Institute of Neurological Disorders and Stroke rt-PA Stroke Study Group [NINDS], 1995). Every minute a large vessel ischemic stroke is untreated, an average 1.9 million neurons, 13.8 billion synapses, and 12 km (7 miles) of axonal fibers are lost (Saver, 2006). Time is crucial for patients who exhibit stroke-like symptoms to arrive at a hospital and be evaluated for stroke treatment. A review of 115 studies that focused on prompt and delayed hospital arrival identified recurrent factors that contribute to pre-hospital delays in the need to seek prompt therapy, such as patient and bystander awareness of stroke symptoms and improvement of EMS transport times (Pulvers & Watson, 2017). Although new stroke treatments are available, the awareness of time and stroke symptoms within the community continue to be a barrier to treat eligible stroke patients and improve long-term outcome.

Community Education

Community stroke literacy had deficiencies in the importance of early notification of EMS, consequences of delays in seeking timely treatment, and recognition of symptoms related to stroke (Omelchenko et al., 2018). Other variables in the community such as socioeconomic status, age, sex, race and education significantly affect stroke awareness (Chen et al., 2013). A neuroscience-nurse-led community stroke awareness program was implemented in Chicago, Illinois and demonstrated a benefit in reaching the community when the volunteer (a neuroscience nurse) providing the community education was proficient in native languages and was seen within the community to have

a direct impact on disseminating stroke awareness information (Omelchenko et al., 2018).

Champion Programs

The champion model has been used to implement quality improvement, education, and implementation for change within healthcare. Champions have been employed in various healthcare venues such as communities, institutions, and designated nursing units using content matter experts to accomplish these goals. Most champions are clinical personnel such as nurses. Champion programs have been used to address nursing home acquired wounds, develop ulcer prevention strategies, increase participation of certified nursing assistants in quality improvement programs, promote public awareness of fetal alcohol spectrum disorder, and promote health education (Creehan, 2015; Edwards et al., 2017; Ma, Puskar, Kane, Knapp & Mitchell, 2018; Mintz, Low, McCurry, & Lipman, 2017; Woo, Milworm, & Dowding, 2017). Champions are advocates empowered to be change agents whose mission is to increase awareness of health-related issues.

The CDC has identified stroke as one of the most widespread and costly health problems in the United States. There are about 800,000 strokes annually in the United States, and of those 800,000, 140,000 will have a fatal outcome (CDC, 2016). Early recognition of stroke symptoms when they occur is associated with favorable functional outcomes (Jaunch et al., 2013). According to the CDC, only 38% of the public are aware of major stroke symptoms and know to call EMS (Talwalkar & Uddin, 2015). At the study facility, more than half of stroke patients who arrived to the hospital by EMS and

in-hospital strokes had an average time of 8 hours between LKW and calling a stroke code. Stroke awareness is needed in the hospital and community.

Nurses' awareness of stroke symptoms and the importance of timely treatment can minimize patient morbidity and mortality (Miller-Hoover, 2015; Park et al., 2015). A nurse's fundamental role is delivering care directly and indirectly to improve patient outcomes (Cavalcante et al., 2011). Providing stroke education to patients, friends, and family about recognizing the signs and symptoms of a stroke and emphasizing that these symptoms are a medical emergency is essential in minimizing long-term stroke disability (White & Carol, 2015). Knowledge of stroke in the community primarily comes from family members or acquaintances who have had a stroke (Beal, 2015). A stroke champion program empowers nurses to bring stroke awareness using their ethnic affiliations and cultural influences in their community.

Local Background and Context

The hospital is a Joint Commission designated CSC, which requires that the hospital provides community stroke education (Joint Commission, 2017). The hospital is also certified by the New York State Department of Health as a Primary Stroke Center; further, it is a Paul Coverdell Stroke Program participant that supports stroke awareness in the community. Stroke awareness is the start of the stroke chain of survival because stroke can happen to any person at anytime and anywhere.

A champion model is one in which people who are identified by the program become subject matter experts. This model has been used in health care to advocate for change (Agrell-Kann, 2015). At the project facility, this model has been used by nursing

education staff to identify registered nurses to be champions for catheter acquired urinary tract infection, hospital acquired pressure ulcers, sepsis, and diabetes education. The staff at the facility is familiar with the champion model, and so I concluded that introducing a stroke champion model would be comfortable. The uniqueness of the stroke champion model was that all clinical staff (individuals who provide direct care) and non-clinical staff were eligible to become stroke champions.

Role of the DNP Student

I am the director of quality for the neuroscience service line in the hospital health system. I was the stroke coordinator at the comprehensive stroke hospital prior to my current role. Most stroke patients I encountered were not aware of their symptoms—it was those around them who noticed the changes. Stroke awareness in communities and hospitals is a universal challenge. By implementing this program in the largest facility in the healthcare system, I sought to assess if this is a viable program to disseminate stroke awareness and empower stakeholders to stress the importance of activating emergency services quickly.

Summary

The concept of champions at this institution has been accepted by staff and has been successful in designating registered nurses as champions. My program is unique in that the volunteers can be both clinical and non-clinical hospital staff, which enlarges the catchment area within and beyond the hospital walls. In Section 2, I described Rogers diffusion of innovation model supporting the program, the relevance of the project to

nursing practice, and my role in the project. Section 3 addresses the collection and evaluation process in assessing the quality of the stroke champion program.

Section 3: Collection and Analysis of Evidence

Introduction

Early recognition of stroke improves long-term outcomes and reduces the financial, emotional, and psychological burden of stroke patients. Reduction in time to call EMS and early stroke symptom recognition are part of the intervention strategies to improve stroke outcomes, which can potentially have a cost savings of about $30,000 per quality-adjusted life years gained (Penaloza-Ramos et al., 2014). Every 15 minutes earlier stroke treatment is administered can provide on average 1 month of healthy life (Meretoja et al., 2012). Community stroke awareness is the catalyst in initiating the chain of stroke care. In Section 3, I describe the collection and analysis of evidence for this program. The practice question was: Do employees in a quaternary hospital participating in a stroke champion program perceive that they are able to disseminate stroke awareness information to the community?

Practice Focused Question

Educating the community about stroke symptoms needs to be multimodal; national, state, and local campaigns to bring stroke awareness to the public are important to disseminate the message that early recognition and treatment improves stroke outcomes. The AHA/ASA, New York State Department of Health, and local hospital communities have disseminated stroke awareness through the media, posters, and newspapers. Although these modes of education have assisted in spreading stroke awareness, pockets of communities that are vulnerable to stroke are unaware of these messages. The AHA/ASA has sponsored numerous national campaigns to bring stroke

awareness to communities such as EmPowered to Serve in 2005 to educate and bring awareness of stroke to the African American community. Similarly, the National Stroke Association launched a stroke awareness month program in May 2014 that involved a video called StreetSmart that depicts passers-by in Denver answering questions about what they know about stroke. Also, the National Institute of Neurological Disorders (NINDS) developed the Know Stroke, Know the Signs, Act in Time campaign describing to the public stroke symptoms and the need to get to the hospital quickly.

Using community members such as hospital employees to be advocates in talking about stroke symptoms and the importance of using EMS can be an important adjunct to community stroke awareness. The continued implementation of my stroke champion program at a large academic facility in the northeastern United States will increase stroke awareness and awareness of the need to initiate EMS for early evaluation and possible treatment of the stroke.

Communities' lack of awareness that stroke symptoms are a medical emergency is an ongoing problem (Dombrowski et al., 2015). Activation of emergency services in the hospital or community is not recognized as needed when a person displays stroke-like symptoms. Commonly, bystanders or observers recognize the stroke symptoms and not the person exhibiting the symptoms (Ruiz et al., 2018). The observing party can play an active role by calling 911 or activating stroke codes in the hospital (Ruiz et al., 2018). A stroke champion program that includes all staff can empower those subject matter experts to encourage or even activate emergency services within the hospital and the community.

The practice focused question I developed to address community stroke awareness education in the community was: Do employees in a quaternary hospital participating in a stroke champion program perceive that they are able to disseminate stroke awareness information to the community?

Evidence Generated for the Doctoral Program

Participants

There are approximately 3000 nurses employed at the study facility and four nurse-staffed champion programs that include diabetes, catheter acquired urinary tract infection, sepsis and hospital acquired wounds. Including all hospital employees as stroke champions is a unique model that expands potential membership by 50%, thus expanding stroke awareness coverage. A champion model uses individuals as leaders in promoting change (Woo, Milworm, & Dowding, 2017). Empowering both clinical and non-clinical champions to be stroke awareness advocates increases the reach of community awareness.

Through the hospital Intranet, I sent all hospital employees an email inviting them to participate in a stroke champion program. The initial invitation was sent to all hospital employees. I took attendance at the first stroke champion meeting and listed each participant in future invitation lists. At the first meeting each participant received a stroke champion pin to wear to identify themselves as stroke champions.

Program

After the first stroke champion meeting, subsequent meetings will be held every other month, two meetings each day (one each for the day and night shift) of one hour

each. The stroke champions will have to attend at least 50 percent of the meetings annually. The day meeting will be recorded for easy access for all stroke champion members and posted on the hospital intranet. Each meeting will focus on a topic applicable to stroke awareness with invited content experts who present for 30 minutes and the remaining time will address any questions, review of stroke symptoms and invite stories from the champions regarding their experience in their community.

There are several screening tools that have been introduced to the public to rapidly recognize signs of a stroke. The most common is the FAST mnemonic (Face, Arm, Speech, Time) that has been adopted by the AHA/ASA (Aroor, Singh, & Goldstein, 2017). The FAST mnemonic has a 69% to 90% sensitivity for identifying anterior stroke-like symptoms, which are the most common types of stroke, but misses up to 40% of posterior strokes (Aroor, Sing, & Goldstein, 2017). Addressing the symptoms of posterior strokes including balance and changes in eyesight can increase recognition of more strokes. Aroor, Sing, and Goldstein (2017) found that using the mnemonic BE FAST (Balance, Eyes, Face Arm, Speech, and Time) could capture more than 95% of ischemic strokes (see Figure 2).

The BE FAST mnemonic was taught by visual teach-back technique. In my project, each attendee demonstrated each letter definition by (a) standing on one leg to demonstrate balance, (b) covering one eye to show change in eyesight, (c) using their cell phones to view themselves smiling with only one side of their face to visualize a facial droop, (d) holding out their arms in front of them and slowly drift one arm down to demonstrate arm weakness, (e) turning to each other and speak without using their

tongues to hear changes in speech, and (f) then pointing to their watch to show that it is time to call EMS. In conjunction with the teach-back demonstration, I gave a bookmark to each attendee with the BE FAST mnemonic on one side and the risk factors of a stroke on the back (see Figure 2).

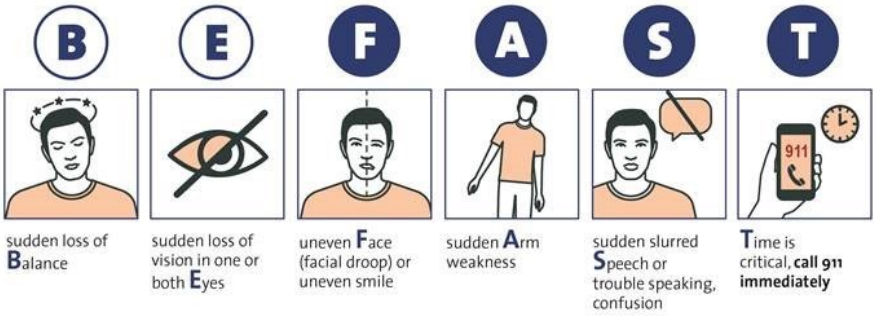


Figure 2. The BE FAST mnemonic (Aroor, S., Singh, R., & Goldstein, L. B. (2017). BE FAST (Balance, Eyes, Face, Arm, Speech, Time) Reducing the proportion of strokes missed using the FAST mnemonic. *Stroke, 48,* 479-481. http://doi.org/10.1161/STROKEAHA.116.015169)

Evaluation

I administered a web-based survey to all stroke champion attendees after the first meeting to assess the effectiveness of the champion program (See Appendix A). I entered the evaluation form into a Research Electronic Data Capture (REDCap) database and a uniform resource locator (URL) link was sent to all stroke champions who attended the meeting. I collected the completed evaluation forms and analyzed them using the REDCap database. The REDCap database is a secure web-based Health Insurance Portability and Accountability Act (HIPAA) compliant database that was designed to be

easy to use for developing questionnaires and collecting data for easy analysis (Harris et al., 2009).

The results of the evaluation of the program were reviewed to determine if the first meeting was effective and will be periodically reviewed moving forward to assist in making potential improvements in the future. This champion program is unique given that it can include all hospital staff. This will not replace the media information the AHA/ASA has prepared, or the information found on the internet from other reputable organization, but it reinforces and works in tandem with them. The more people understand that stroke is a medical emergency and must be treated as such, the more people who have a stroke can improve their outcomes by early evaluation and treatment.

Providing health literate information during the stroke champion meetings targeting both clinical and non-clinical champions to teach their community about stroke symptoms and the importance to call EMS assists in broadening the stroke awareness reach in the community.

Protections

In this project, I followed the *Walden University Manual for Staff Education Projects*. Site approval using the consent to participate form in the manual was signed by the stroke program director. Consent for survey participation using the consent for anonymous questionnaires was obtained from all participants. I also obtained approval from the Walden University IRB # 10-16-18-0644691.

Analysis and Synthesis

I distributed the anonymous web-based survey after the stroke champion meeting of October 18, 2018 to each of the voluntary stroke champion participants through hospital email. The survey results were collected in the web-based REDCap database. The web-based survey results were compiled with both the day and night meetings after the meeting. I will provide the survey results to the hospital nurse education department director and stroke coordinator.

Summary

Stroke awareness is important to everyone in the community. A stroke can happen to anyone, anywhere, and anytime; therefore, including all hospital employees as stroke champions is a great public service. A program that empowers individuals to disseminate stroke awareness will reach more people in the community. Nursing plays an integral role in supporting fellow stroke champions to be leaders in their community for disseminating stroke awareness. I developed this project to provide another model on how to spread stroke awareness in the community.

Section 4: Findings and Recommendations

Introduction

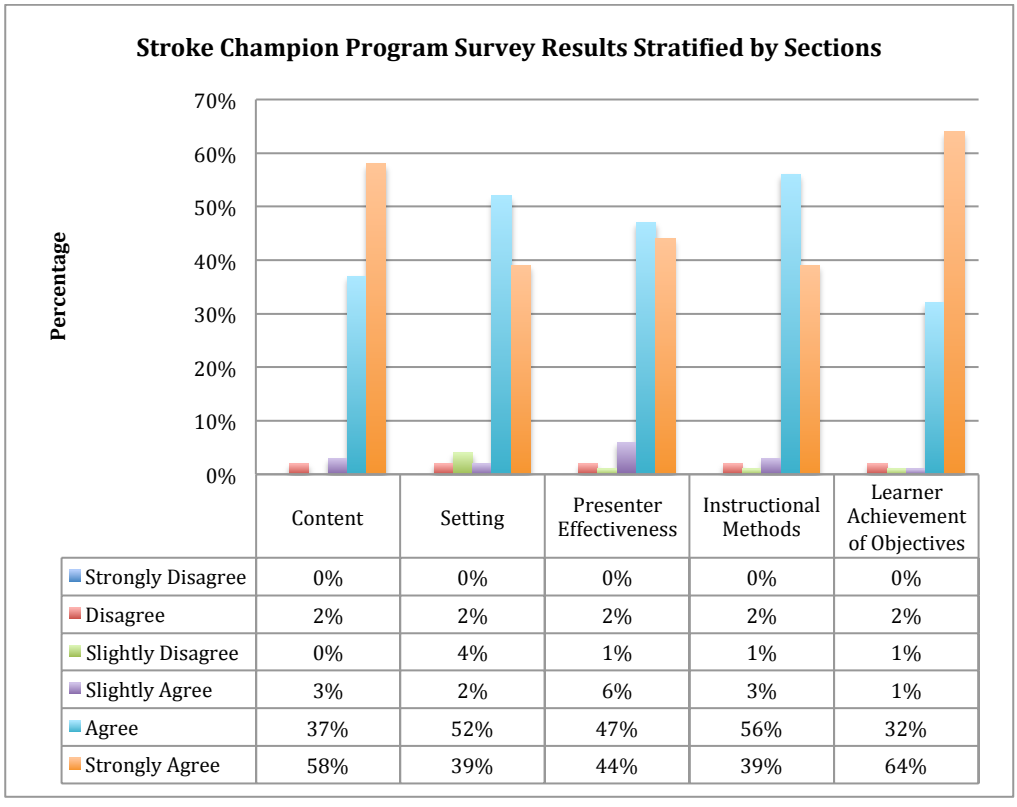
Stroke awareness promotes early recognition of stroke symptoms and understanding that stroke is an emergency. In 1989, President George H. W. Bush signed presidential proclamation 5975 to designate May as National Stroke Awareness Month to heighten the public's awareness of stroke (Bable, 1998). Nonprofit organizations such as the AHA/ASA and the National Stroke Association collaborate with the federal government to educate the public about stroke. Although these national stroke awareness campaigns are seen on social media and posted on billboards and posters, public health education regarding stroke improves with culturally tailored messaging. There are still delays in calling EMS, and some people still do not recognize stroke as a medical emergency (Elkind & Mohl, 2018). In Section 4, I describe the findings and implications, recommendations, and strengths and limitations of this project.

Findings and Implications

There were 241 employees who responded to the stroke champion email showing interest in the program. On October 18, 2018, there were 20 attendees at the day meeting and 35 at the night meeting. After the meeting, I sent the survey and consent form to the stroke champions. For the 55 attendees, 46 surveys were returned. The survey (see Appendix C) had 21 questions and was distributed to the attendees via the hospital Intranet with a URL link to the REDCap survey. Each question's results are presented in Appendix D. The survey was divided into six sections with questions for the following topics: if the respondent needed a license to perform their job at the hospital, the content

of the program, setting of the meeting, presenter effectiveness, instructional method, and learner's achievement of the program's objectives. The response for the license request was a yes or no, and the other question data type was an ordinal Likert scale of the following responses: strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree. Each survey was anonymous, and the respondents consented to participate in the evaluation of the program.

Two surveys were incomplete, missing one question response out of the 22 questions. Figure 3 depicts the survey results grouped by sections. Figure 3 includes 46 respondents, 38 of whom require a license and eight of whom do not require a license to perform their job.



	Content	Setting	Presenter Effectiveness	Instructional Methods	Learner Achievement of Objectives
Strongly Disagree	0%	0%	0%	0%	0%
Disagree	2%	2%	2%	2%	2%
Slightly Disagree	0%	4%	1%	1%	1%
Slightly Agree	3%	2%	6%	3%	1%
Agree	37%	52%	47%	56%	32%
Strongly Agree	58%	39%	44%	39%	64%

Figure 3: Aggregate results of the stroke champion program survey.

Figure 3 shows that the majority of respondents agreed or strongly agreed that the program achieved the objectives set forth. Results for each section stratified by licensed or non-licensed attendee are presented in Appendix E. The responses from both the licensed and non-licensed attendees were similar; however, one non-licensed respondent indicated that they disagreed with all the responses in the survey.

As specified in the diffusion of innovation model, the participants could approve or reject this program (see Figure 1). The one section that had the most disagreement was the suitability of the setting, which is not under the program leader's control and depends on the availability of venues at the facility. The results of the survey show a positive embracement of the program over all. However, survey results can be biased because the participants may have a vested interest in the results of the survey (Edwards, et al, 2017). Participants who completed the survey are volunteers who had an interest in being stroke champions, which can skew the results.

Recommendations

Educating the public on health information requires several different modes of communication. Support from the international, national, regional, local, and personal levels provides many opportunities to disseminate stroke awareness. Each healthcare facility can implement this model both in acute care and out-patient settings. Continued conversation about stroke awareness is needed.

Nursing, as a profession, is a leader in innovation and health promotion. A stroke champion program that incorporates all employees, not just nurses, embraces health literacy to disseminate stroke information to all communities. Florence Nightingale's

environment theory, which addresses patients' environmental needs on an individual bases, Neumann's systems model for treating a person holistically, and Orem's self-care deficit model that holds an individual initiates self-care are among many nursing theory models that empower individuals to achieve a healthy state (Marrs & Lowry, 2006). Stroke can happen to anyone, anywhere, at any time. Including both clinical and non-clinical volunteers as stroke champions allows participation by anyone in the hospital community who realizes stroke prevention is an important health issue. This program involves empowering individuals to improve their own awareness of stroke and sharing that awareness within their communities.

Strengths and Limitations of the Project

It is essential to recognize that this stroke champion program has strengths and limitations. The strengths of the program are the structure, delivery of the information, and economic resource utilization. The limitations are primarily related to the voluntary nature of participation.

Strengths

There are other champion programs in the hospital. The staff members are generally familiar with the concept of champion programs and how they are conducted. The existing programs are structured around having nurses as their champions. The greatest change in this stroke champion program is that the volunteers include non-nursing employees.

Regarding delivery of information, the most important tool that is taught to the participants is the BE FAST mnemonic. As I described in the last section, the tool is easy

to teach, can be easily reproducible, and can be physically acted out using teach-back methodology and the bookmarks (See Appendix B). The methodology for teaching back is easy to perform.

An additional strength is that the program is not cost prohibitive, the meeting venue is conveniently located within the hospital for ease of attendance, and implementation and maintenance of the program requires minimal time and is an adjunct to the national public awareness campaigns. Further, having a hospital with a large employee base of 6000 means having a large pool of potential participants. The program is easily replicable. It requires a minimal amount of resources and is economical to support. The program contributes to the surrounding community health catchment area. The need for the program is supported by regulatory and national bodies to fulfill requirements for community education. Also, it is unique in structure, incorporating both clinical and non-clinical volunteers to disseminate stroke awareness in the community.

A champion program inherently has a built in shared governance to share stroke information within their communities. The Stroke Champion program identifies a common goal and outlines responsibility to each member as stroke advocates in their community. A culture of accountability to disseminate stroke information in the community empowers the members to encourage each other and those they interact with to be advocates (Creehan, 2015).

Limitations

The primary limitation is that the program is voluntary. Individuals who are interested in the issue will participate in the program. Recruiting volunteers for the

program can involve creating strategies to generate interest in the program. Measuring public awareness and understanding of stroke awareness is difficult to do. Keeping interest in the issue and refreshing the program may be a barrier. Another potential barrier is continued support from leadership to support members to attend the meeting. Leadership understanding the importance of the stroke champion program can be an influence in continued membership in the program (Creehan, 2015).

Summary

Most of the respondents to the survey required a license to perform their job at the hospital, and the results were generally consistent between licensed and non-licensed respondents. Overall, the survey results indicated that the majority of the respondents agreed or strongly agreed that the program achieved its objectives. Since the results of the survey indicate that the program was generally successful, I recommended that a stroke champion program be implemented in all hospitals within the health care system. The strengths of the program are structure, ease of delivery information, and economic resource utilization. The primary limitation is the voluntary nature of participation and the need to maintain participant interest in the program.

Section 5: Dissemination Plan

Dissemination

The stroke champion program is unique in incorporating both clinical and non-clinical volunteers as stroke advocates. The next step in expanding the program on the local level is scheduling meetings every other month with guest speakers presenting on stroke risk factors, how to recognize stroke, and the importance of initializing EMS. Each speaker will present the information in a health literate manner that all volunteers can understand. To enhance the experience for the night meetings, all day meetings will be recorded and presented to the night shift volunteers, so they may experience the guest speakers as well. Each meeting will begin with volunteers sharing their experiences in their community about how they talked about stroke. Every meeting recording will be available to all volunteers to view and share with their hospital and residential communities. Each meeting will be not more than 1-hour long, and each speaker will present for 30 minutes, with 15 minutes of question and answer time.

An online evaluation that provides feedback to me in my role as stroke champion program leader will be available to participants semiannually. Any adjustments to time, venue or presenters will be tailored to the needs of the participants. When participants want bookmarks for their community, I will provide them. Each meeting will not interfere with any of the other champion program meetings held in the hospital, so the department managers can cover their employees if they want to attend the meeting.

On a larger scale, this program can be disseminated to the other 15 hospitals in the health system. Each of the hospitals can implement this program with a limited budget,

utilizing the talent at each of the facilities to speak about stroke, stroke awareness, and preventable risk factors for stroke. This program can be presented to the neuroscience service line leadership for support both in resource time and financial support. Very good

This program could also be presented at the regional stroke coordinator consortium, which represents over 80 hospitals that employ over 50% of the nurses in the state, and numerous health systems servicing the majority of the state's population. The program is structured to be easy to develop and disseminate at each facility.

Utilizing employees of a large quaternary hospital to be stroke advocates can assist in overcoming cultural barriers associated with medical knowledge, medical adherence, and medical access. In various cultures health literacy can be impacted by limited trust in the health care system and limited English proficiency. Culturally tailored delivery of stroke awareness from trusted individuals within the community can overcome such barriers (Martinez et al., 2015). The stroke champion program is structured for all participants with both clinical and non-clinical training to be stroke advocates in the community. The program's philosophy that a stroke can happen to anyone, anywhere, at any time is reflected in qualifications of volunteers, namely, that stroke awareness is essential for everyone and everyone can be advocates within their community.

Nurses' contribution to public health awareness can extend beyond health care facility walls (McCollum, et al, 2017). Public service messages on social media via the

Internet have been shown to be successful in disseminating stroke awareness (Hundt & Chen, 2018).

Another advantage of the stroke champion program is that the information presented on how to recognize stroke symptoms and calling EMS quickly can be taught to everyone, including children, by the participants within their community. Researchers have described predictors of low stroke literacy among adults. These include low socioeconomic status, lack of insurance, and low educational level (Simmons, Nobel, Leighton-Herrmann, Hecht, & Williams, 2016). Educating the public on stroke awareness, recognition of stroke symptoms, and recognition of stroke as a medical emergency can assist in treating strokes in a timelier manner, which will improve stroke outcomes and reduce long-term disability.

Analysis of Self

I am a master's prepared clinical nurse specialist (CNS) with over 35 years of nursing experience. I currently serve as the director of quality of the neuroscience service line for the health system that includes the hospital where I implemented the stroke champion project. The tenants of the CNS role require involvement in research and project management. In this capacity, I have been involved in oversight of quality projects for the neuroscience service line, reporting out findings to service line leadership and participating in IRB-approved research projects. The stroke champion program is consistent with expectations for the role of the incumbent director of quality for the neuroscience line at the health system. My long-term goals include helping improve the quality of patient outcomes for the neuroscience service line programs (including, but not

limited to, the stroke champion program), disseminating the stroke champion program to other hospitals in the health system, and perhaps partnering with appropriate regional, state, or national organizations to further disseminate stroke champion programs outside of the health system. At this time, this proposed unique stroke champion model that utilizes both clinical and non-clinical champions should have a theoretical positive impact on stroke outcomes in the community; however, at this time it is not possible to determine if that is correct. Therefore, in addition to disseminating the stroke champion program to other facilities in the health system, as a DNP prepared practitioner and scholar, I would like to lead further research regarding the impact of this stroke champion model to determine if it really does have a positive impact on stroke patient outcomes over time.

During the project journey, there were challenges, solutions, and insight into instituting a program within a large hospital. Engaging stakeholders such as hospital administration and nursing educators and recruiting volunteers to participate in the program required clear concise messaging and the ability to be flexible in achieving the goals of starting a stroke champion program. The hospital CSC requirements include educating the community about stroke awareness, which assisted with hospital administration to support the program (Joint Commission, 2017). Working with nursing educators and existing champion programs' scheduling to ensure this program did not interfere with their schedule and utilizing the hospital intranet to recruit volunteers helped ensure that the stroke champion program did not interfere with other champion programs in the hospital. Addressing each goal of the program, being flexible with solutions, and

collaborating with all hospital departments has shown that a multifaceted program can be introduced, and challenges met with the common goal of improvement in patient outcomes both in the hospital and within the community (Woo, Milworm, & Dowding, 2017).

Summary

Educating the community about stroke awareness and the need to activate EMS and seek time sensitive treatment is essential in improving stroke outcomes. Instituting a stroke champion program including licensed and non-licensed volunteers expands the message that stroke awareness involves everybody; it is not exclusive to licensed health care professionals. The message can easily be taught to stroke champions who can bring that information to their communities and this model should be an adjunct to traditional public service programs and can be implemented at other hospitals with minimal resources.

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Woo, K., Milworm, G., Dowding, D. (2017). Characteristics of quality improvement champions in nursing homes: A systematic review with implications for evidence-based practice. *Worldviews on Evidence-Based Nursing 14* (6), 440-446. http://dx.doi.org/10.1111/wvn.12262

Yang, S. H., Lou, M., Luo, B., Jiang, W. J., Liu, R. (2018). Precision medicine for

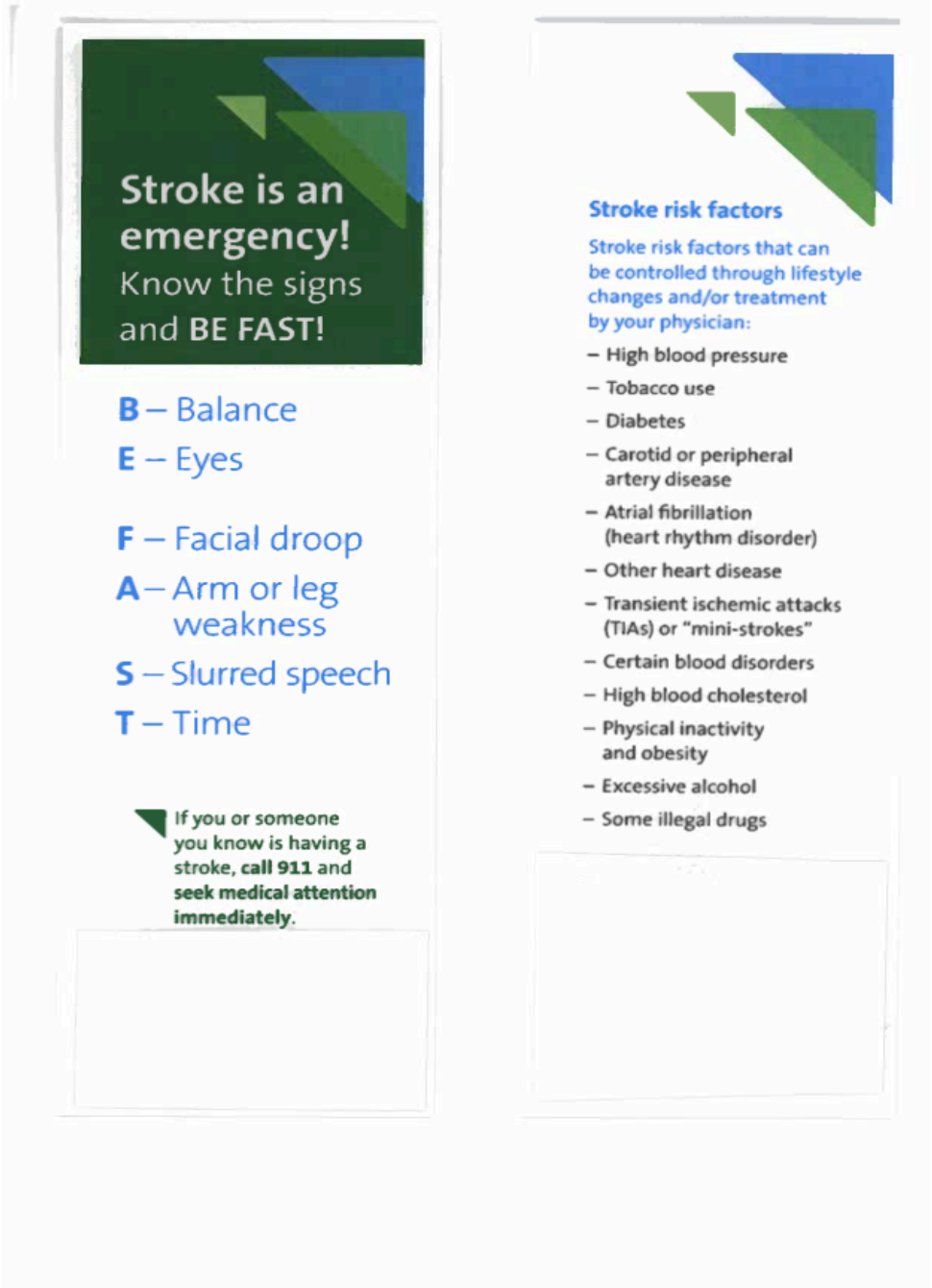
ischemic stroke, let us move beyond time is brain. *Translational Stroke Research, 9,* 93-95. http://dx.doi.org/10.1007/s12975-017-0566-y

Appendix A: Stroke Champion Program

Objective	Content Outline	Instructional Strategy
Define vision of the stroke champion program	The vision of the stroke champion program is to spread stroke awareness within the hospital and within the hospital employees' residential communities.	Power Point description of the stroke champion vision.
Define mission of the stroke champion program	The mission of the stroke champion program is to empower all stroke champions to spread stroke awareness into their communities	Power Point description of the stroke champion mission
Define need for stroke champions	Hospital stroke statistics Community stroke statistics National stroke statistics	Power Point including hospital, community and national statistics in number of strokes
Review gap in stroke knowledge in the community	Present number of stroke patients arrive to the site hospital by EMS or are walk-ins Provide hospital statistics on how many stroke patients arrive greater than six hours of last known well	Power Point outlining deficit in community knowledge in recognizing stroke symptoms
Describe why stroke is a medical emergency	IV rtPA treatment window up to four and a half hours of last time known well Thrombectomy treatment within 24 hours of last time known well Imaging assists in defining treatment path	Power Point defining time sensitive stroke treatments and improved outcomes with early recognition and treatment
Need to initiate EMS	National EMS statistics on improving outcomes Outline importance of pre-hospital recognition of stroke symptoms can improve stroke outcomes	Power Point reviewing need to get to the hospital quickly for stroke evaluation

Demonstrate BE FAST mnemonic	Presenter will demonstrate the BE FAST mnemonic in front of the group	Demonstration by presenter on how to easily remember BE FAST
Define BE FAST mnemonic	Definition of BE FAST mnemonic by power point and book mark (see Appendix B)	Power Point and book mark handout defining BE FAST mnemonic
Return demonstration by group and individual performing BE FAST mnemonic	The BE FAST mnemonic demonstration is: B: is for balance, stand on one leg E: is for eye sight changes, cover one eye with one hand F: is for facial droop, take out cell phone and point the camera to self while smiling with one side of face A: is arm weakness, hold arms out at 90 degrees and slowly lower one arm. S: is for changes in speech, talk to your neighbor without moving your tongue. T: is time to call EMS, point to your wrist that a watch would be on.	Meeting group and individual repeat presenter demonstration of BE FAST mnemonic

Appendix B: Stroke Signs and Symptoms Bookmark



Stroke is an emergency!
Know the signs and **BE FAST!**

B – Balance
E – Eyes

F – Facial droop
A – Arm or leg weakness
S – Slurred speech
T – Time

If you or someone you know is having a stroke, **call 911** and **seek medical attention immediately**.

Stroke risk factors

Stroke risk factors that can be controlled through lifestyle changes and/or treatment by your physician:

- High blood pressure
- Tobacco use
- Diabetes
- Carotid or peripheral artery disease
- Atrial fibrillation (heart rhythm disorder)
- Other heart disease
- Transient ischemic attacks (TIAs) or "mini-strokes"
- Certain blood disorders
- High blood cholesterol
- Physical inactivity and obesity
- Excessive alcohol
- Some illegal drugs

Appendix C: Program Evaluation

Confidential

Stroke Champion Program Evaluation

Record ID _____

Does your position at the hospital require you to have a professional license?
○ Yes
○ No

Content

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
The Stroke Champion Program was interesting to me	○	○	○	○	○	○
The Stroke Champion Program extended my knowledge about stroke	○	○	○	○	○	○
The Stroke Champion Program provided information I could share in my community	○	○	○	○	○	○
The Stroke Champion program objectives were consistent with the purpose of the program	○	○	○	○	○	○

Setting

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
The meeting room was conducive to learning	○	○	○	○	○	○
The learning environment stimulated idea exchange	○	○	○	○	○	○

Presenter Effectiveness

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
The presentation was clear and to the point	○	○	○	○	○	○
The presenter demonstrated mastery of the topic	○	○	○	○	○	○
The method used to present the material held my attention	○	○	○	○	○	○
The presenter was responsive to participant concerns	○	○	○	○	○	○

Confidential

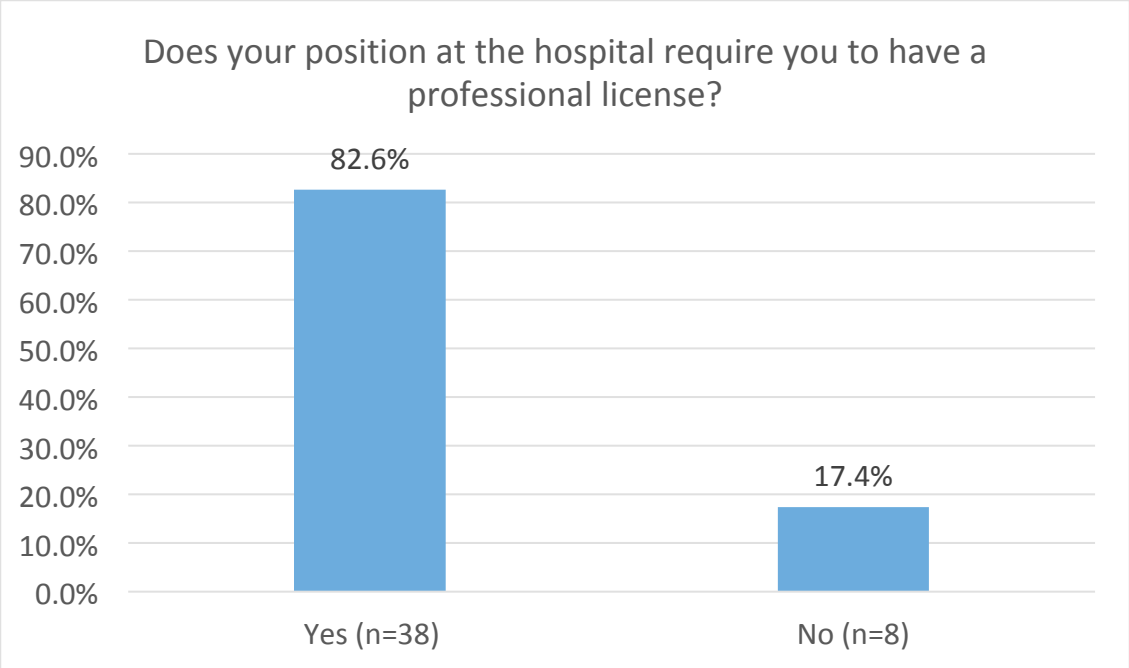
Instructional Methods

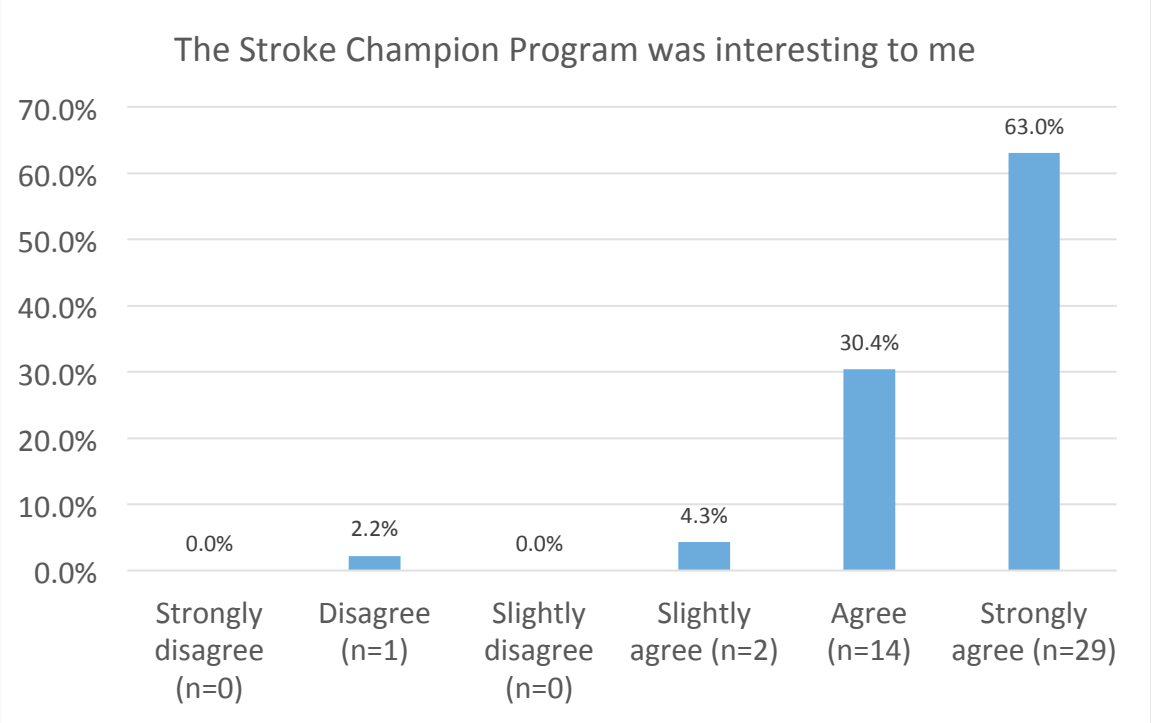
	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
The instructional material was well organized	○	○	○	○	○	○
The instructional methods illustrated the concepts well	○	○	○	○	○	○
The handout materials given are likely to be used as a future reference	○	○	○	○	○	○
The teaching strategies were appropriate for the activity	○	○	○	○	○	○

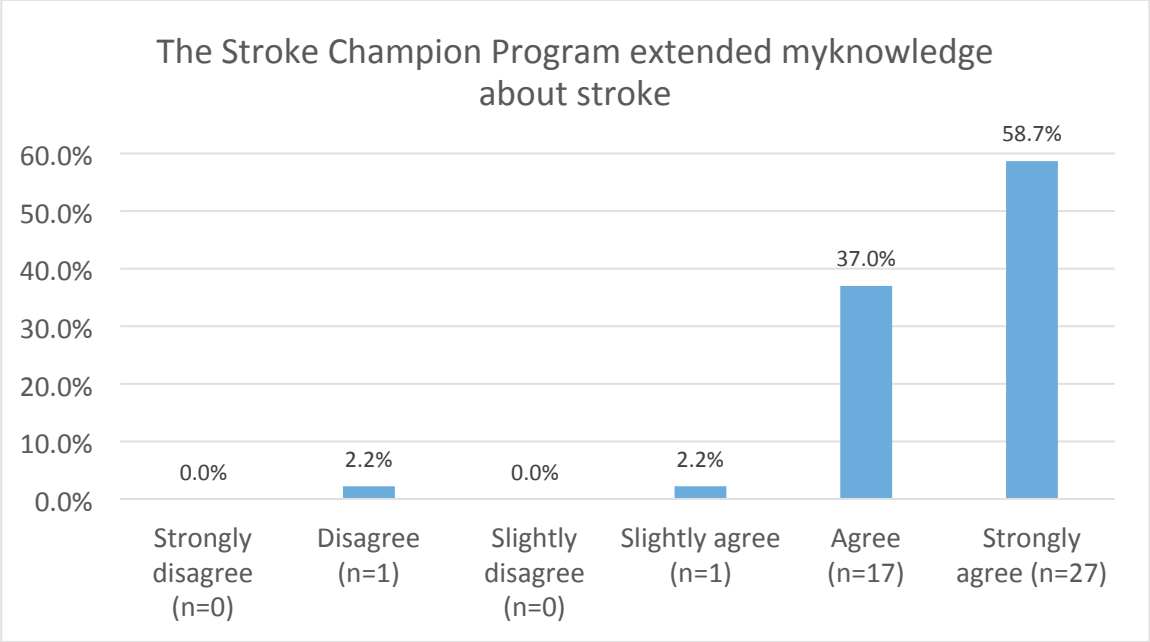
Learner Achievement of Objectives

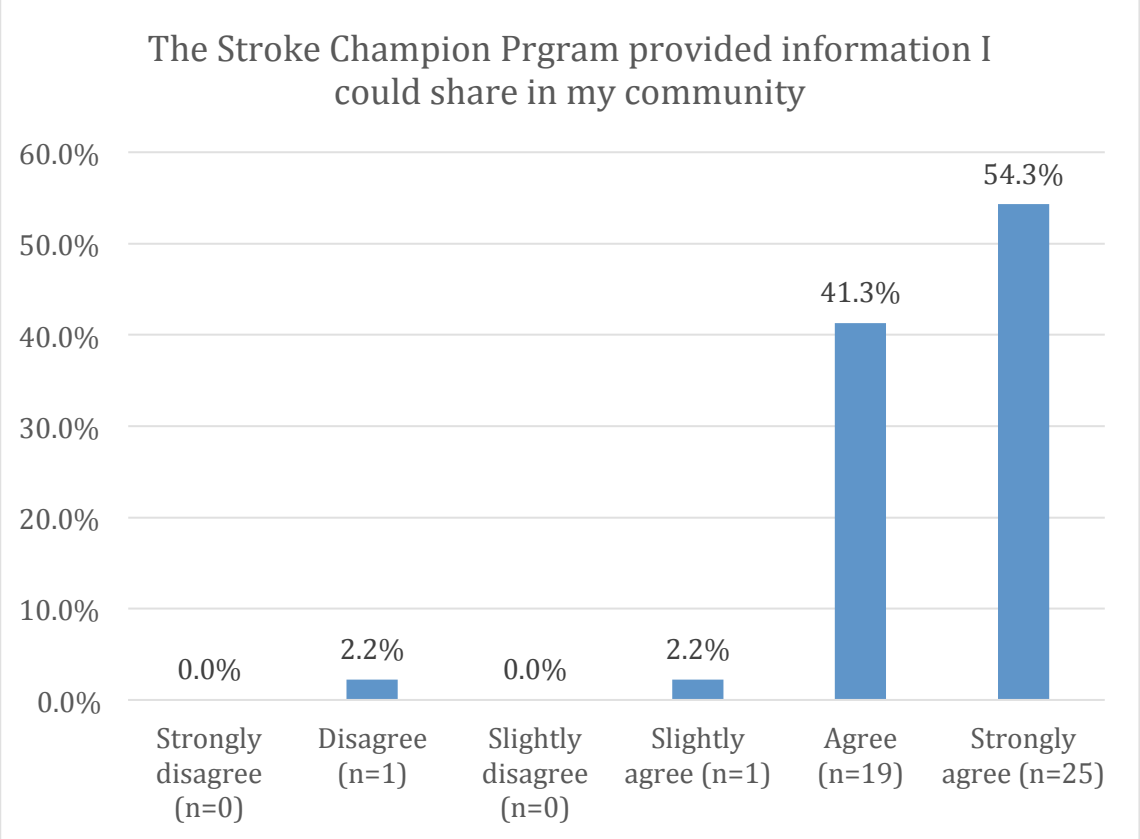
	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
The meaning of each letter in the BE FAST acronym was clearly defined	○	○	○	○	○	○
The reason to activate emergency medical services if a person has stroke like symptoms was clearly explained	○	○	○	○	○	○
Demonstration of the BE FAST acronym was effective	○	○	○	○	○	○
A stroke can happen to anyone, anywhere, at anytime is important to know.	○	○	○	○	○	○
A stroke champion can make a positive difference in their community	○	○	○	○	○	○
As a stroke champion I feel confident to recognize stroke like symptoms.	○	○	○	○	○	○
I will share the meaning of the BE FAST acronym in my community	○	○	○	○	○	○

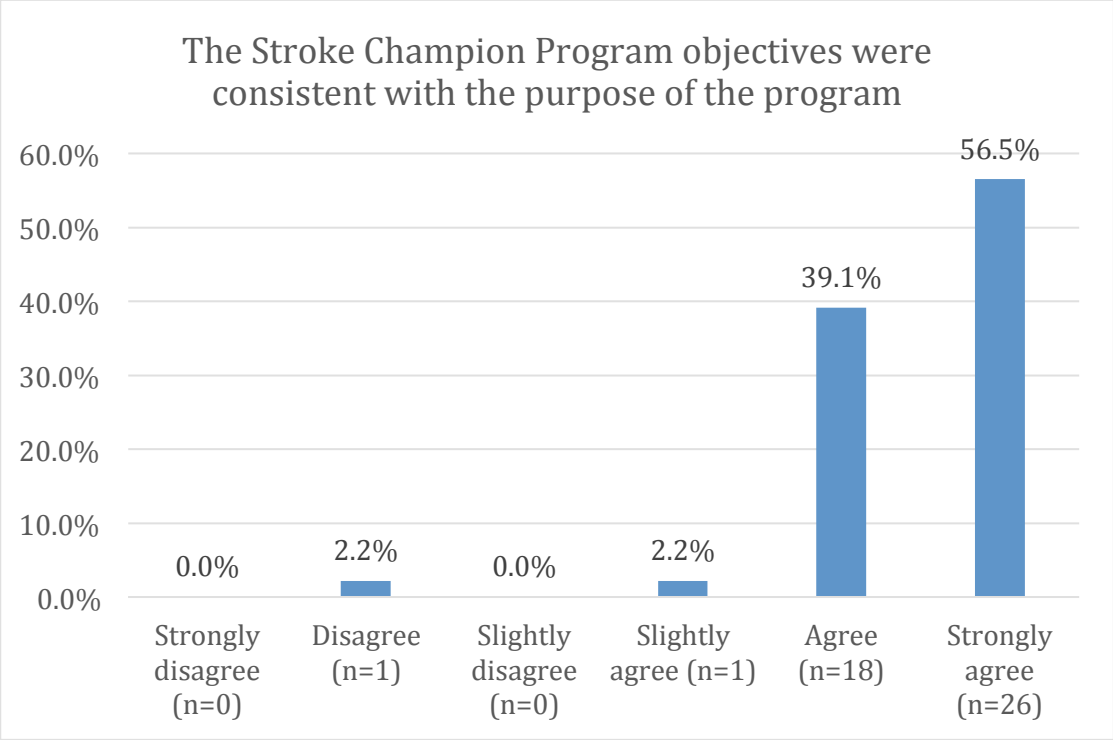
Appendix D: Responses to All Questions From the Stroke Champion Survey

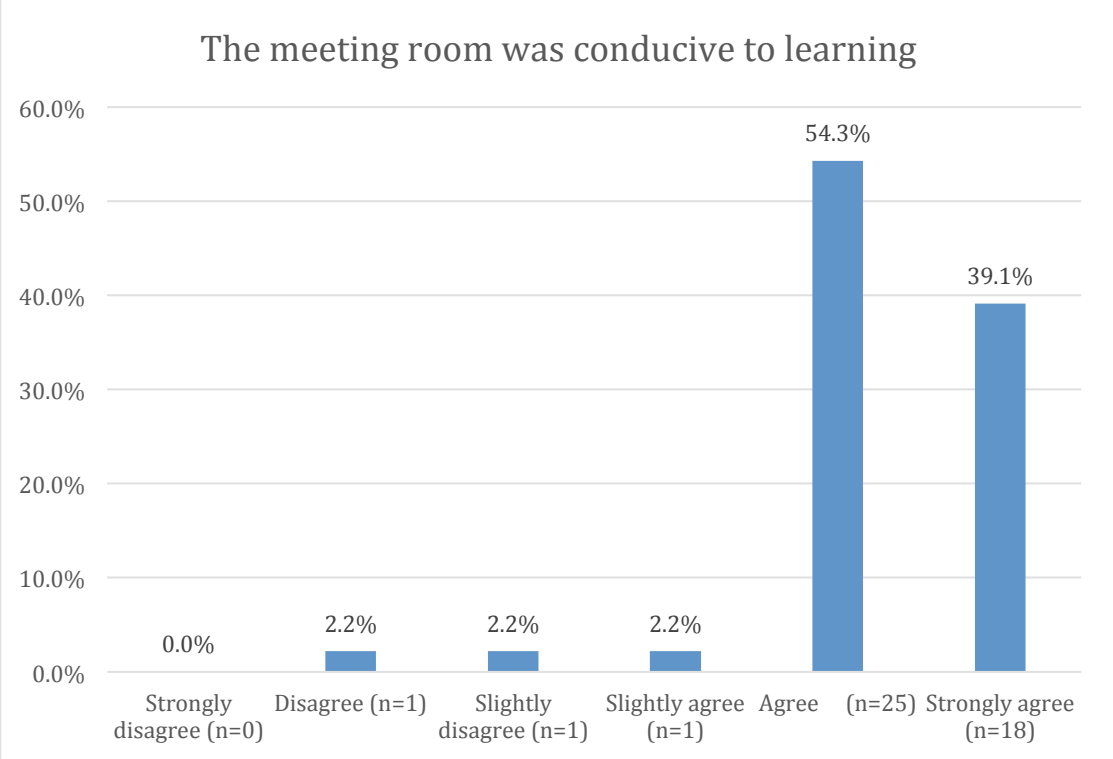


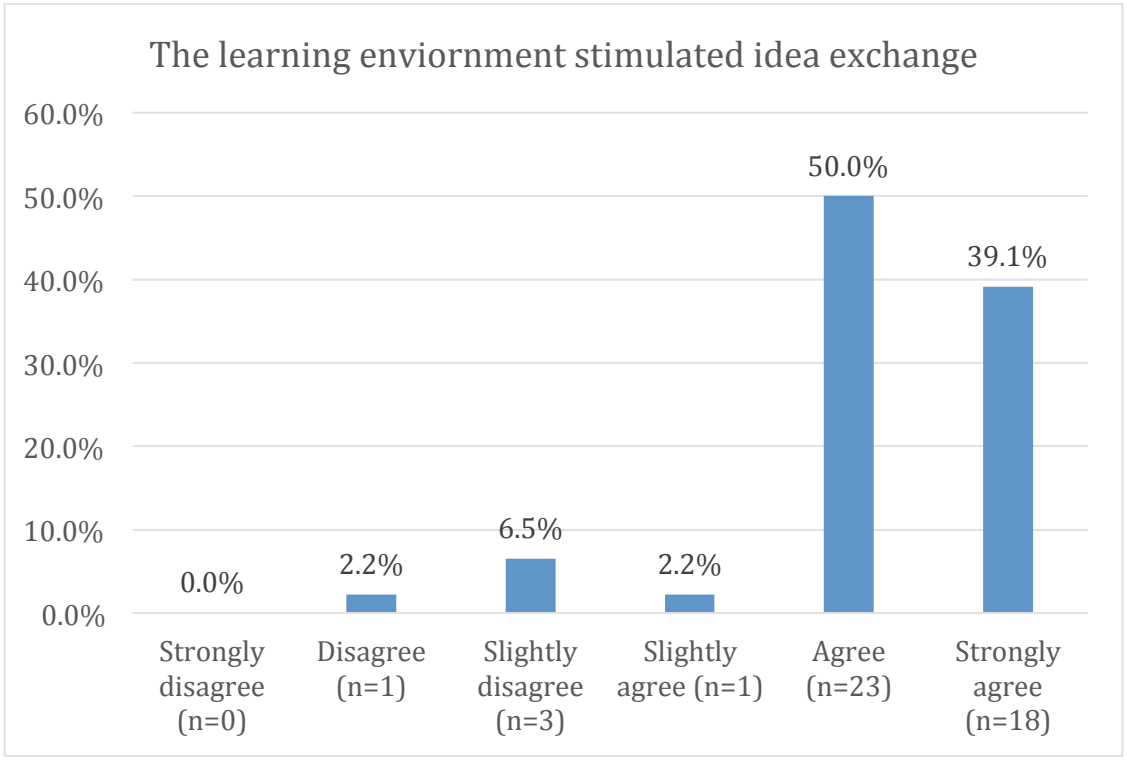


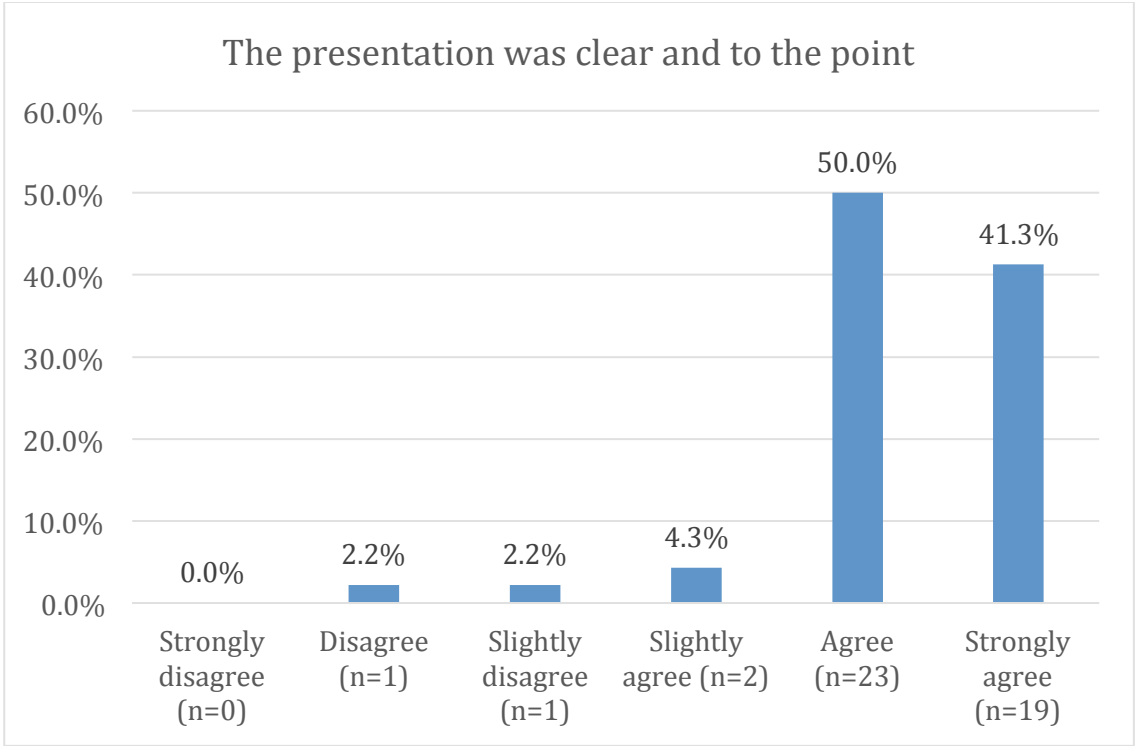

The Stroke Champion Program extended myknowledge about stroke
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
37.0%
58.7%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=17)
Strongly agree (n=27)

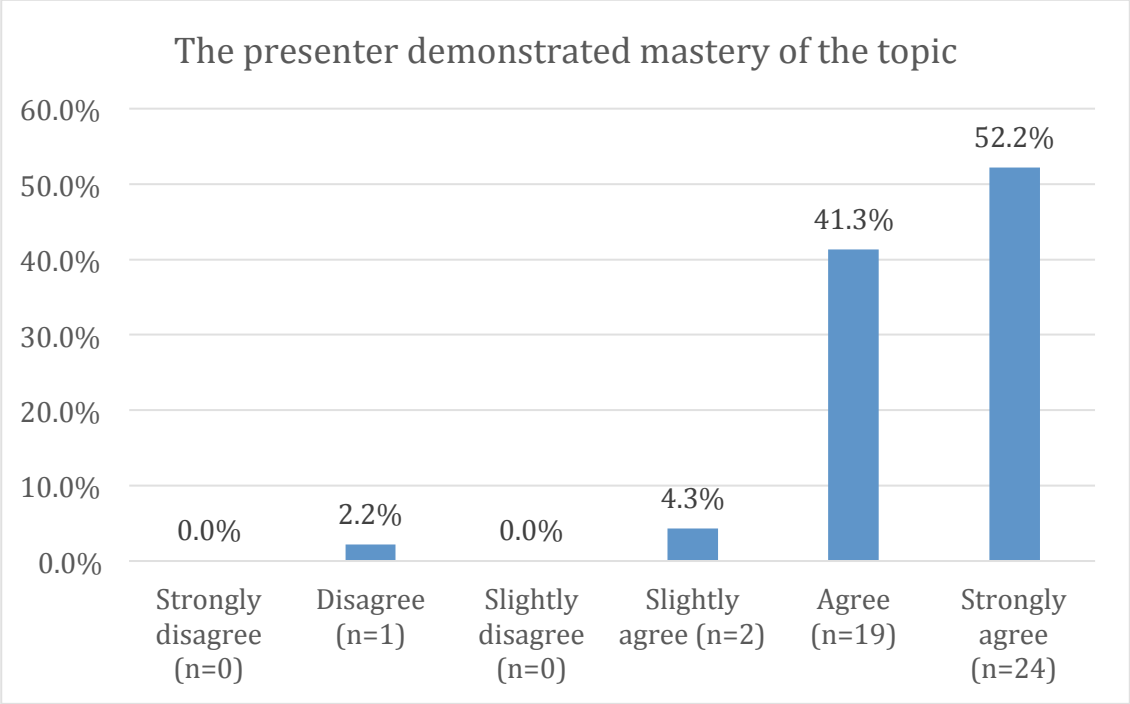

The Stroke Champion Prgram provided information I could share in my community
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
41.3%
54.3%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=19)
Strongly agree (n=25)

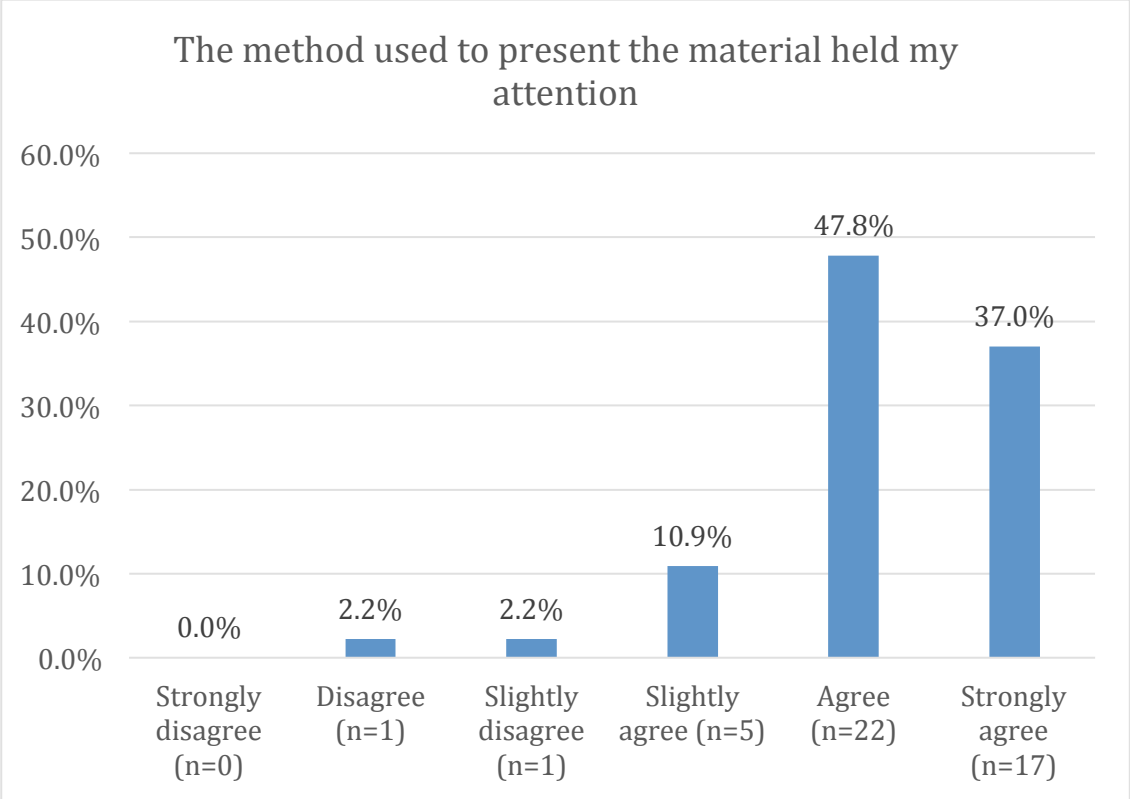

The Stroke Champion Program objectives were consistent with the purpose of the program
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
39.1%
56.5%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=18)
Strongly agree (n=26)

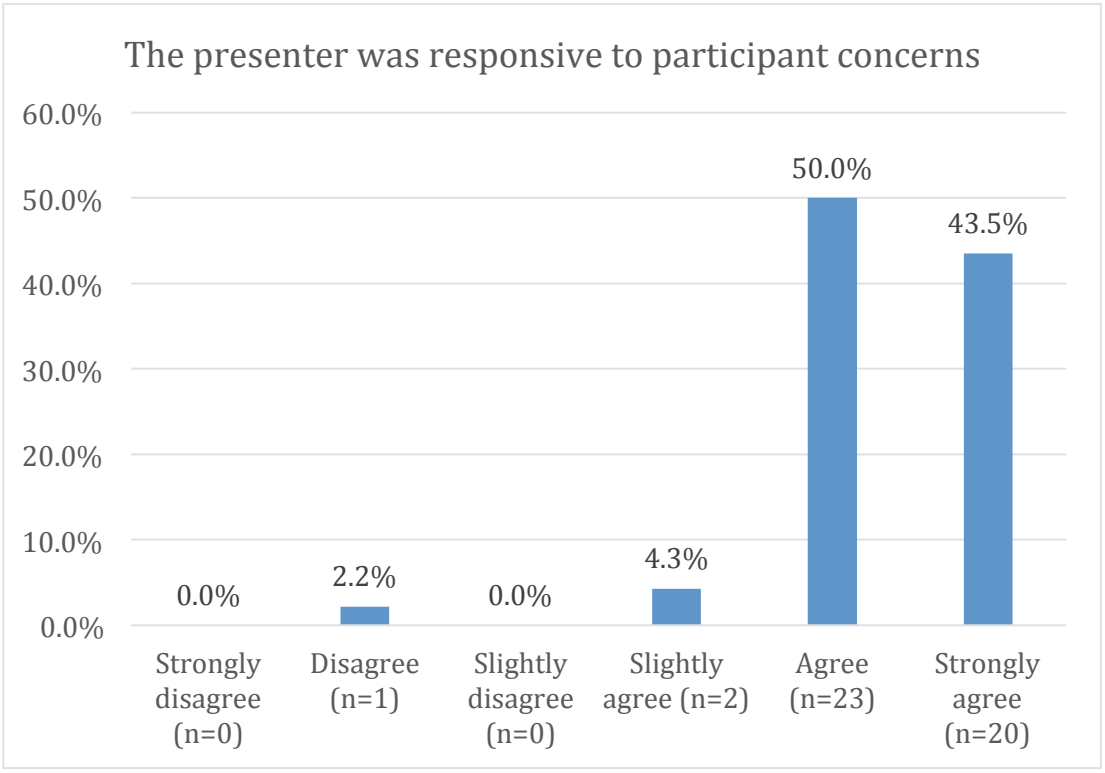

The meeting room was conducive to learning
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
2.2%
2.2%
54.3%
39.1%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=1)
Slightly agree (n=1)
Agree (n=25)
Strongly agree (n=18)

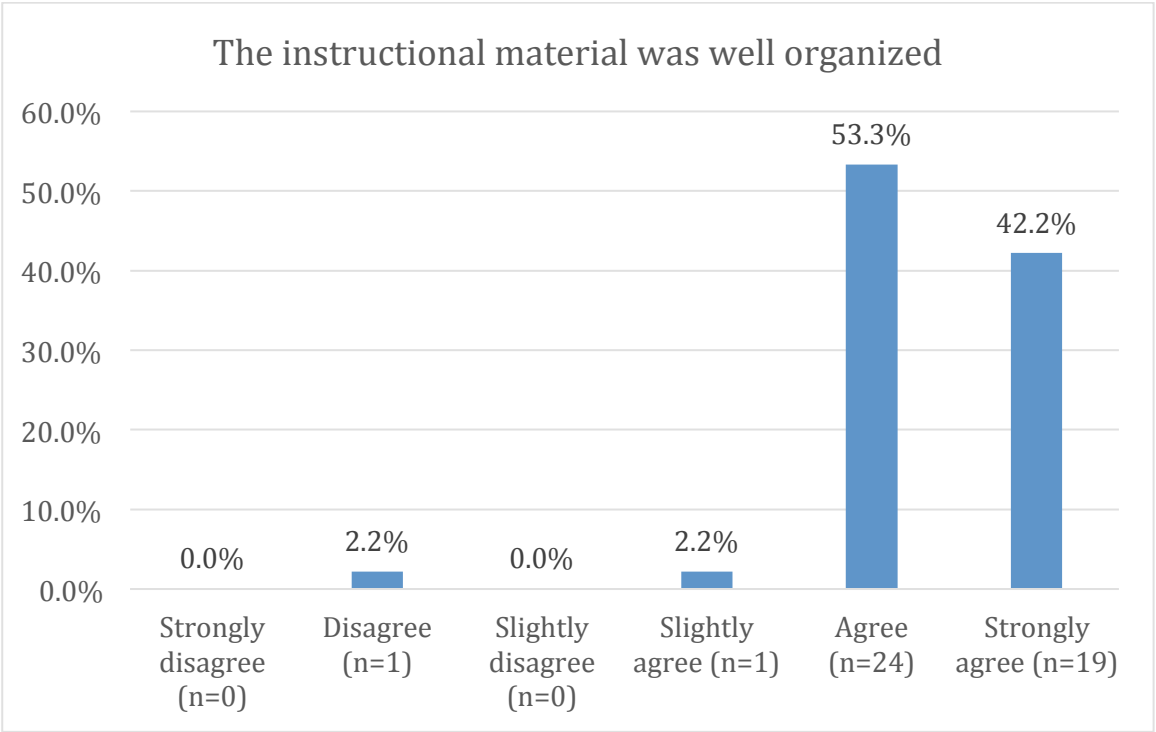

The learning enviornment stimulated idea exchange
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
6.5%
2.2%
50.0%
39.1%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=3)
Slightly agree (n=1)
Agree (n=23)
Strongly agree (n=18)

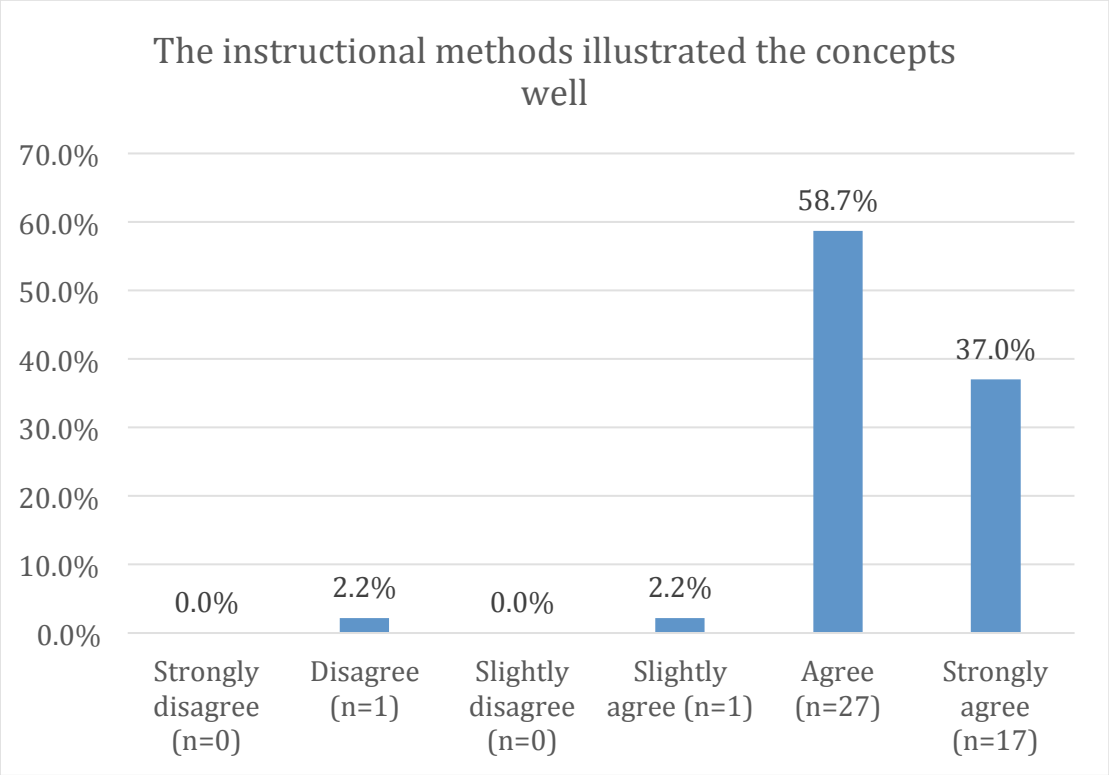

The presentation was clear and to the point
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
2.2%
4.3%
50.0%
41.3%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=1)
Slightly agree (n=2)
Agree (n=23)
Strongly agree (n=19)


The presenter demonstrated mastery of the topic
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
4.3%
41.3%
52.2%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=2)
Agree (n=19)
Strongly agree (n=24)


The method used to present the material held my attention
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
2.2%
10.9%
47.8%
37.0%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=1)
Slightly agree (n=5)
Agree (n=22)
Strongly agree (n=17)


The presenter was responsive to participant concerns
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
4.3%
50.0%
43.5%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=2)
Agree (n=23)
Strongly agree (n=20)


The instructional material was well organized
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
53.3%
42.2%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=24)
Strongly agree (n=19)


The instructional methods illustrated the concepts well
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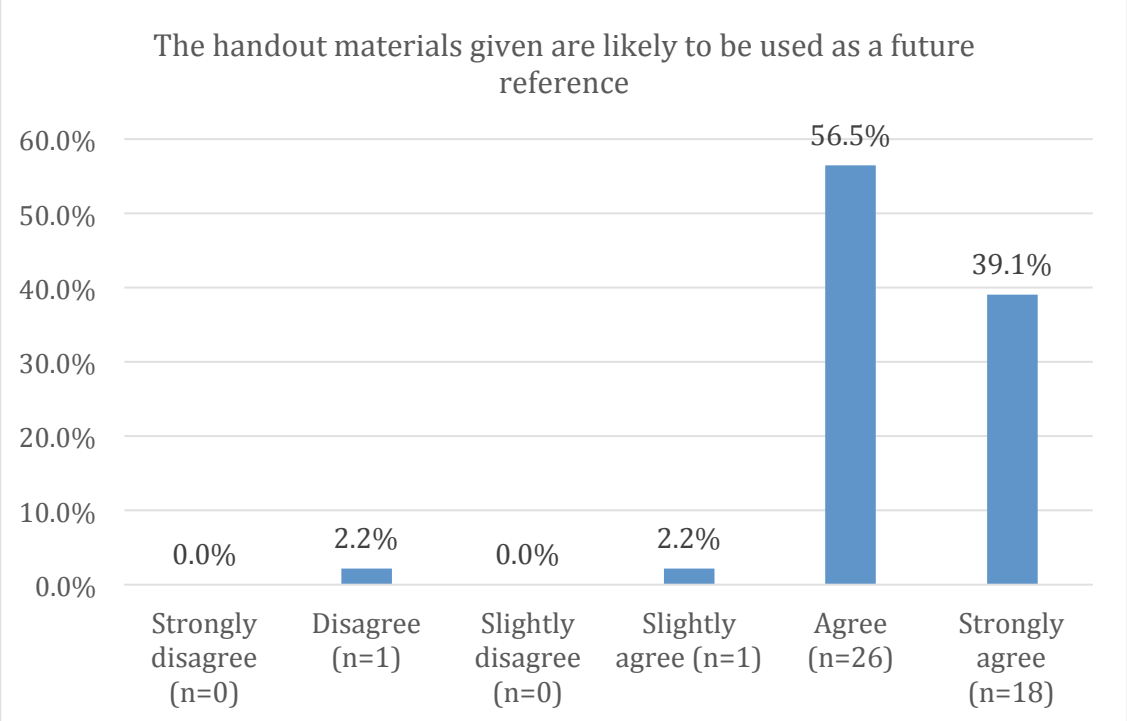
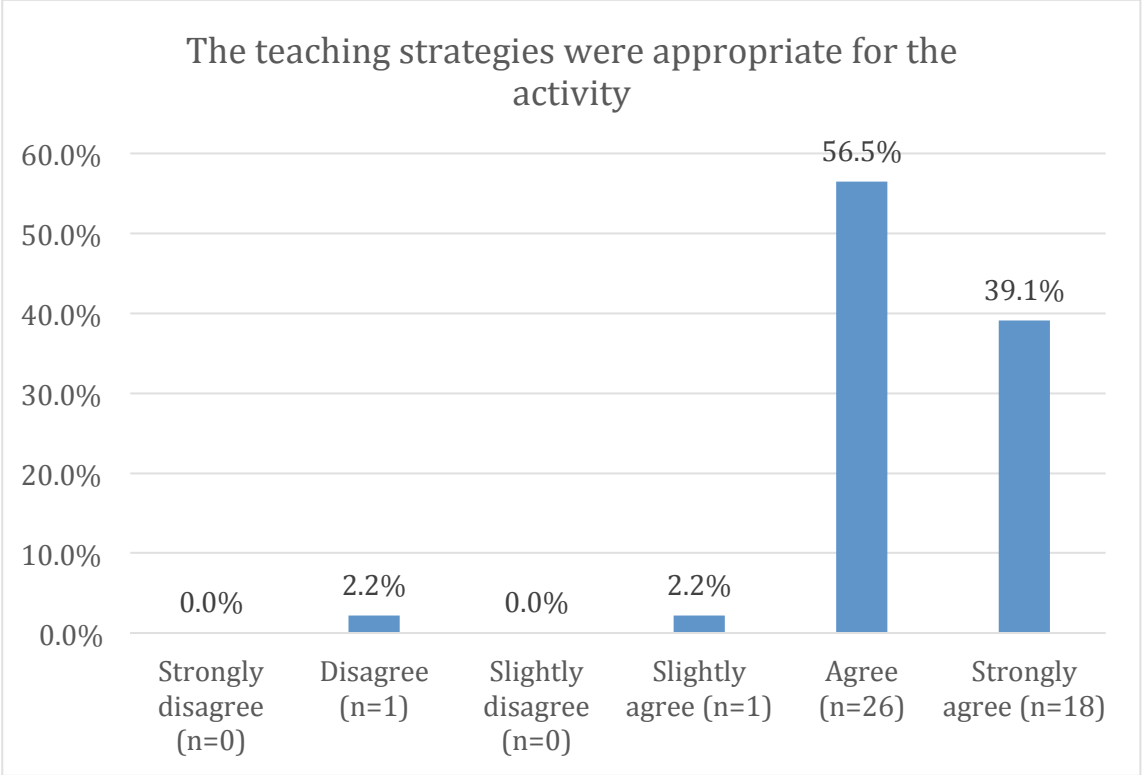
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
58.7%
37.0%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=27)
Strongly agree (n=17)


The handout materials given are likely to be used as a future reference
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
56.5%
39.1%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=26)
Strongly agree (n=18)


The teaching strategies were appropriate for the activity
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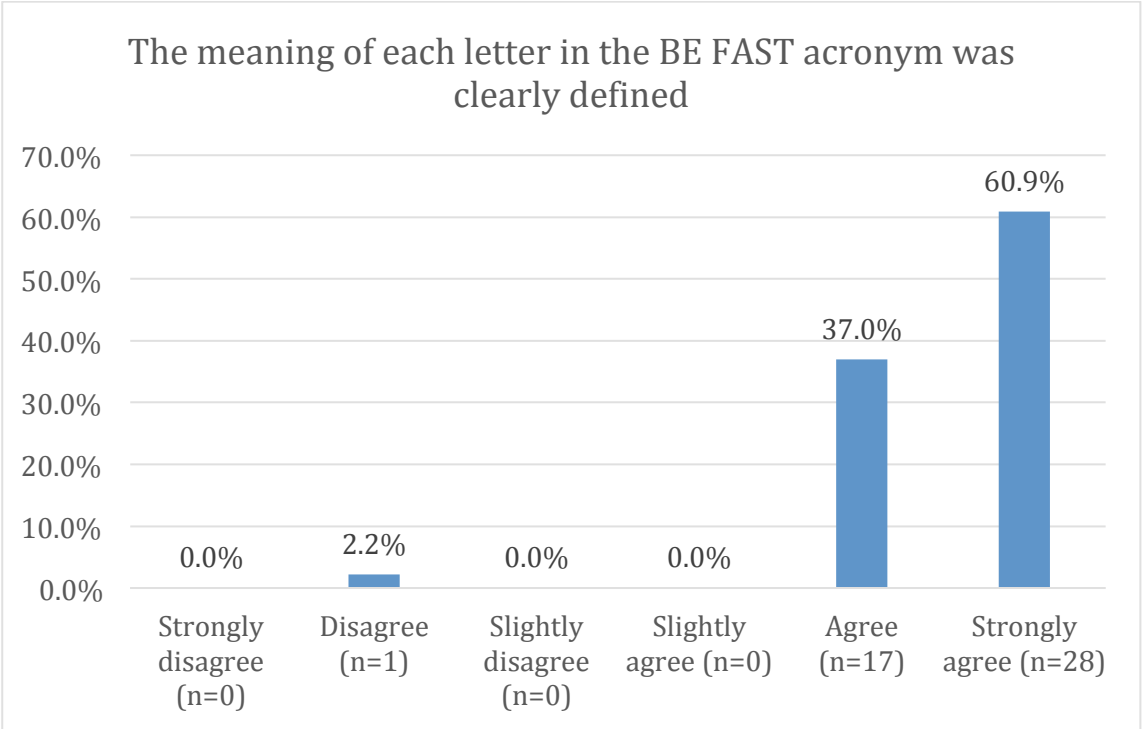
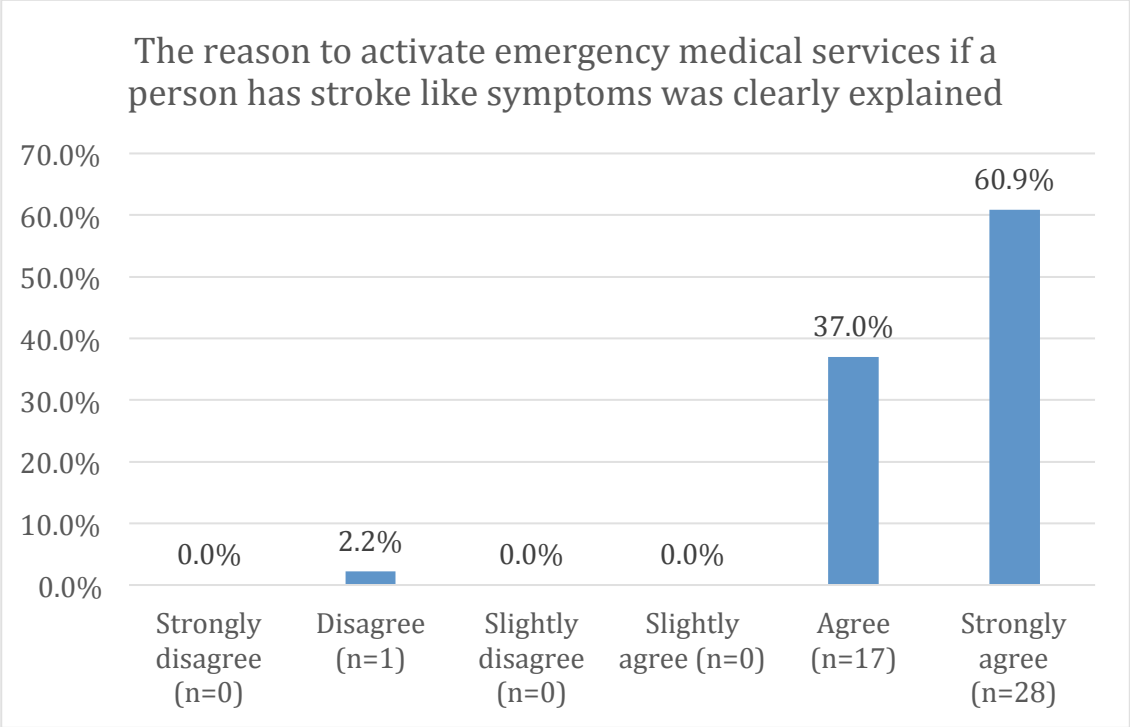
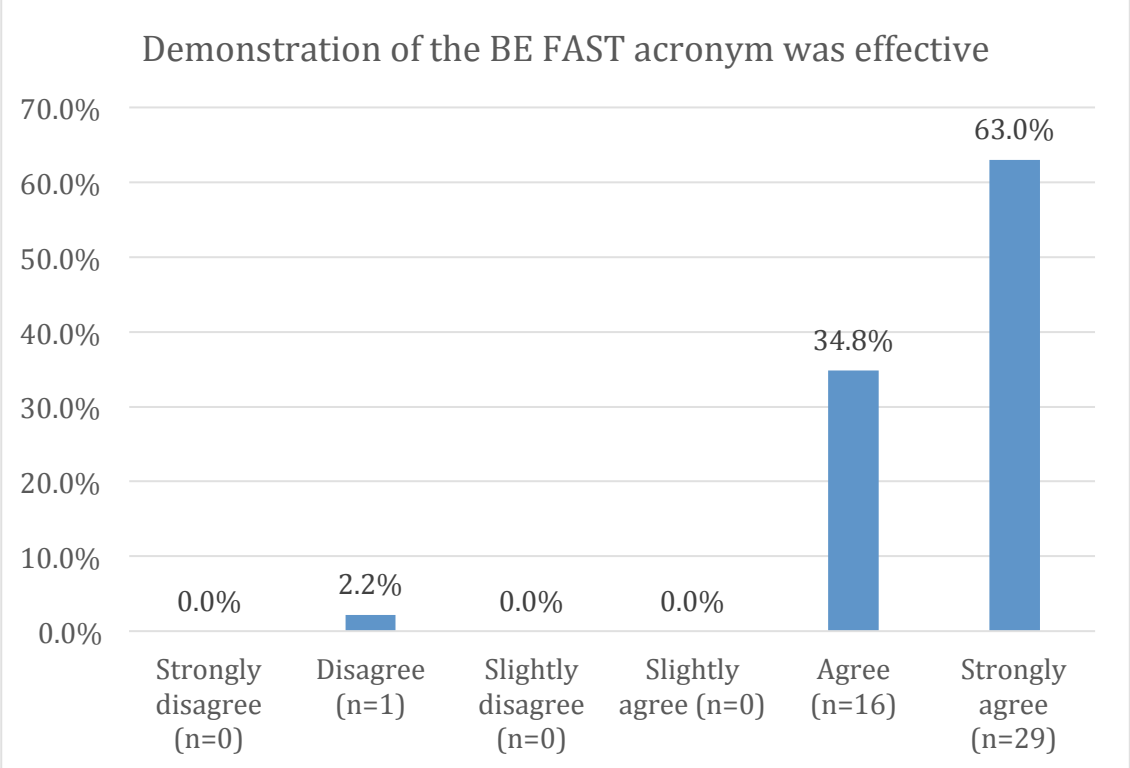
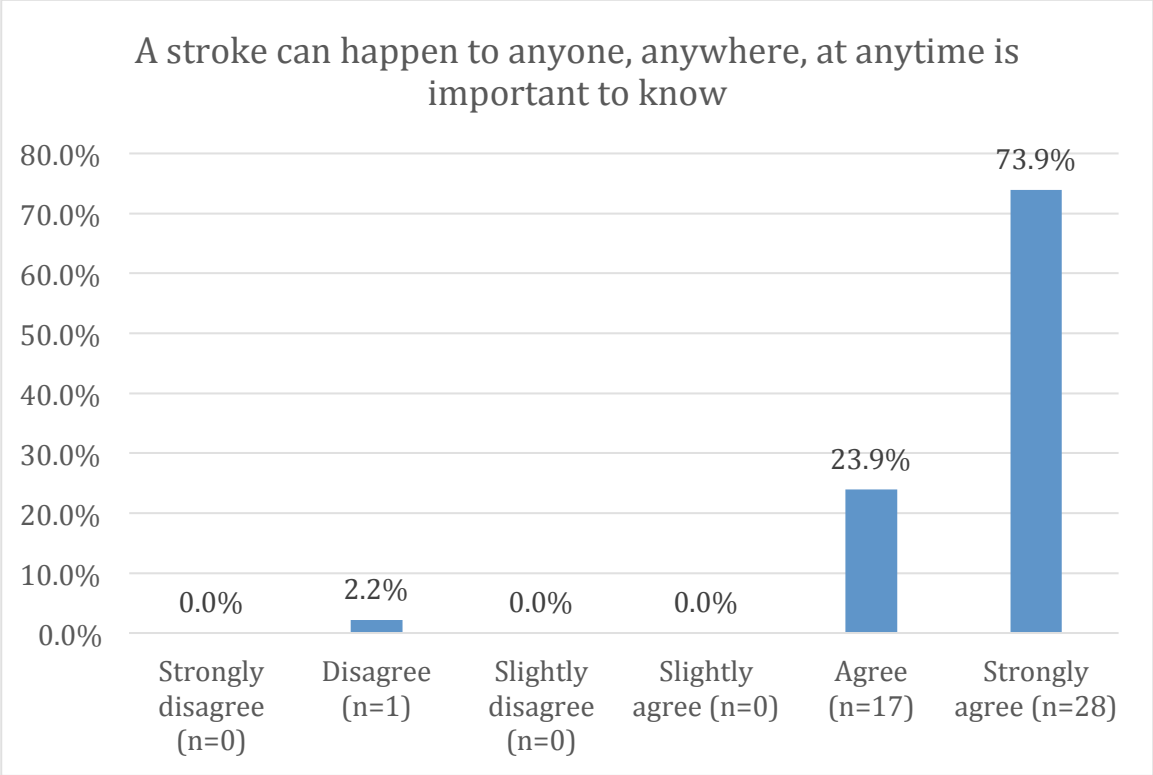
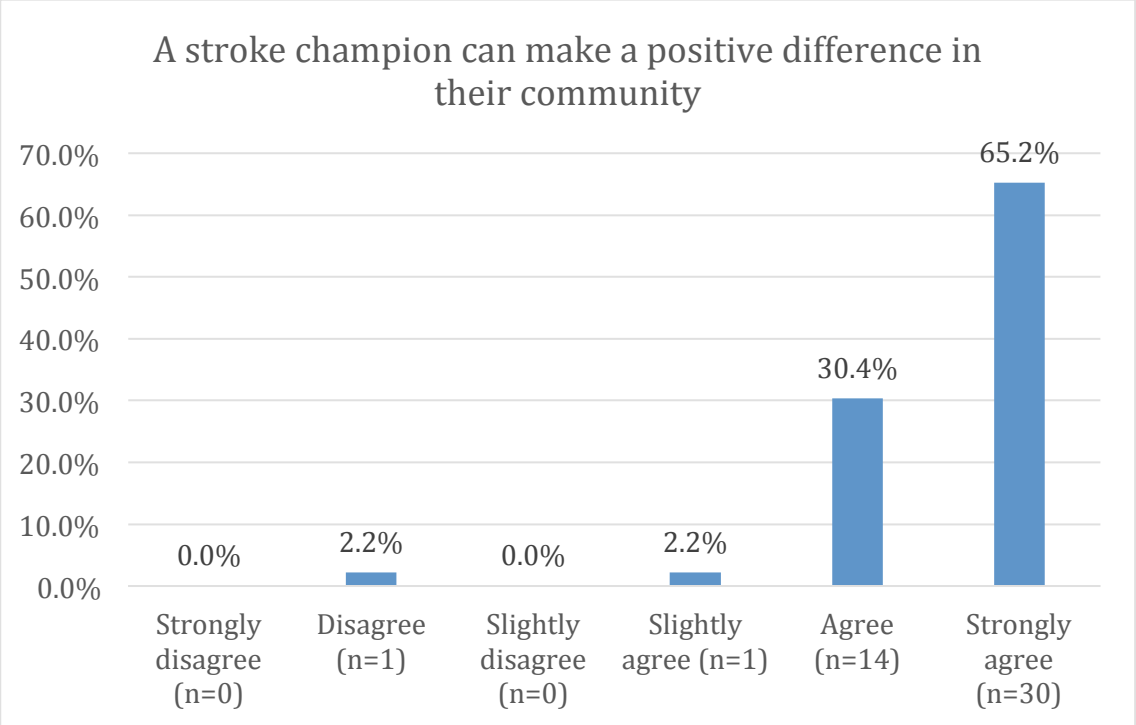
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
56.5%
39.1%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=26)
Strongly agree (n=18)

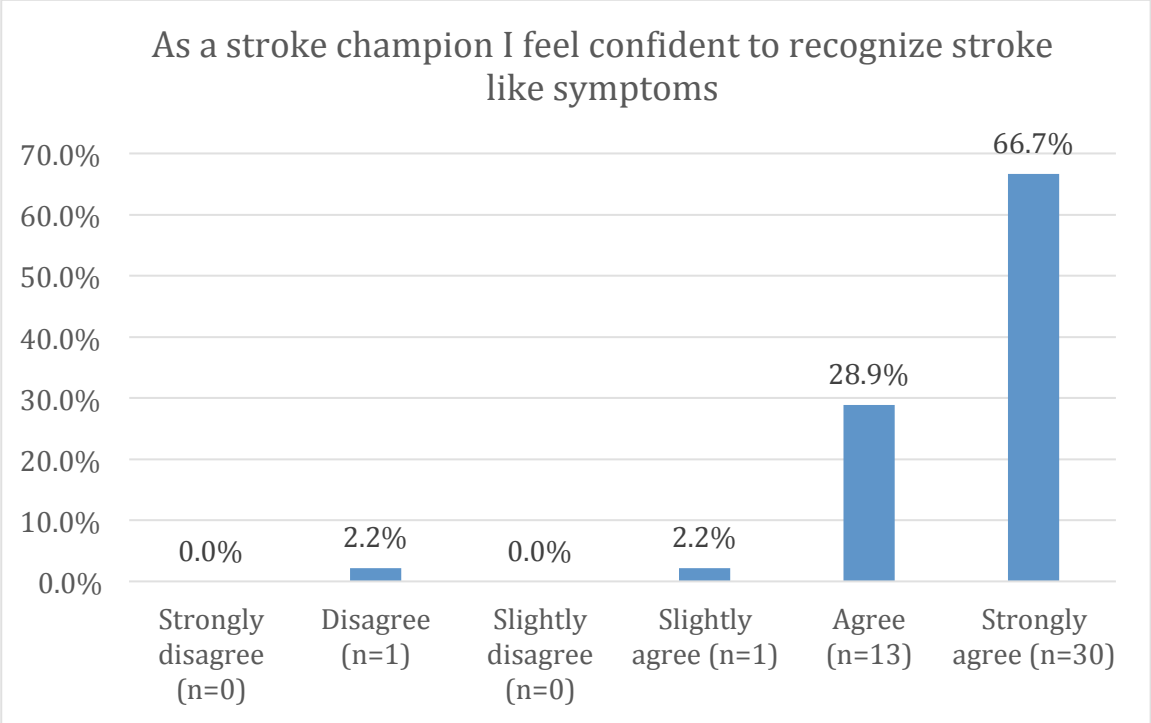

The meaning of each letter in the BE FAST acronym was clearly defined
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
0.0%
37.0%
60.9%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=0)
Agree (n=17)
Strongly agree (n=28)

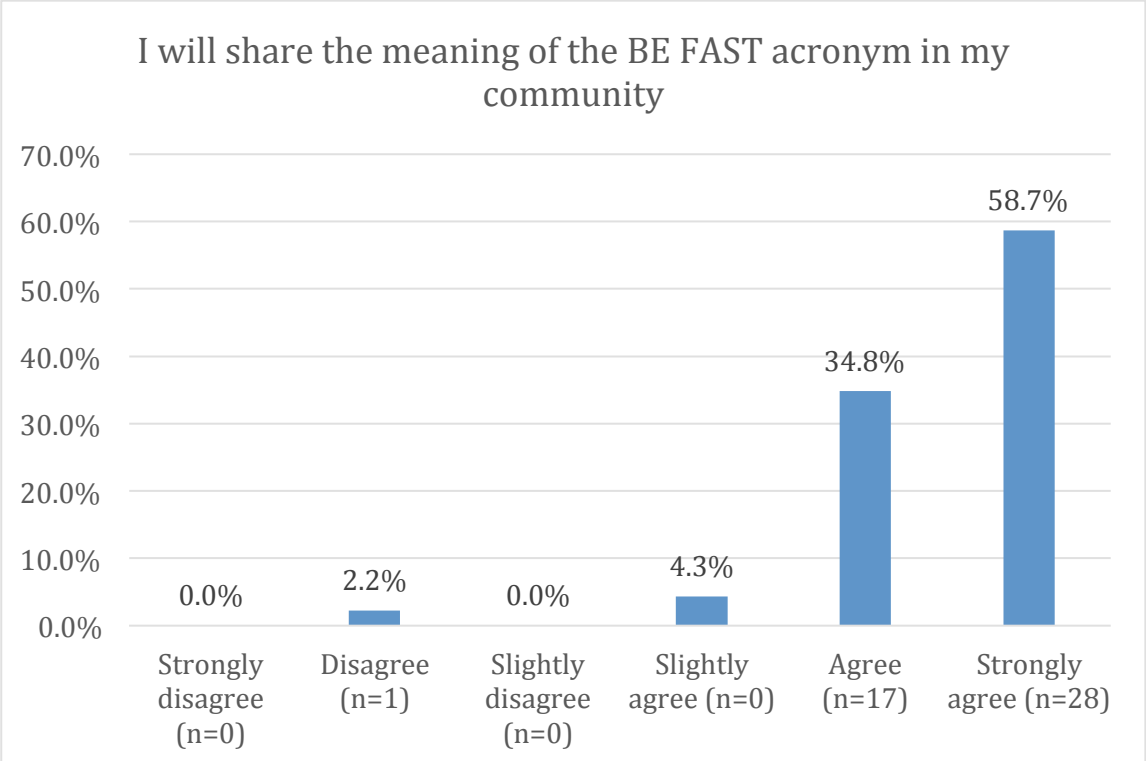

The reason to activate emergency medical services if a person has stroke like symptoms was clearly explained
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
0.0%
37.0%
60.9%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=0)
Agree (n=17)
Strongly agree (n=28)


Demonstration of the BE FAST acronym was effective
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
0.0%
34.8%
63.0%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=0)
Agree (n=16)
Strongly agree (n=29)

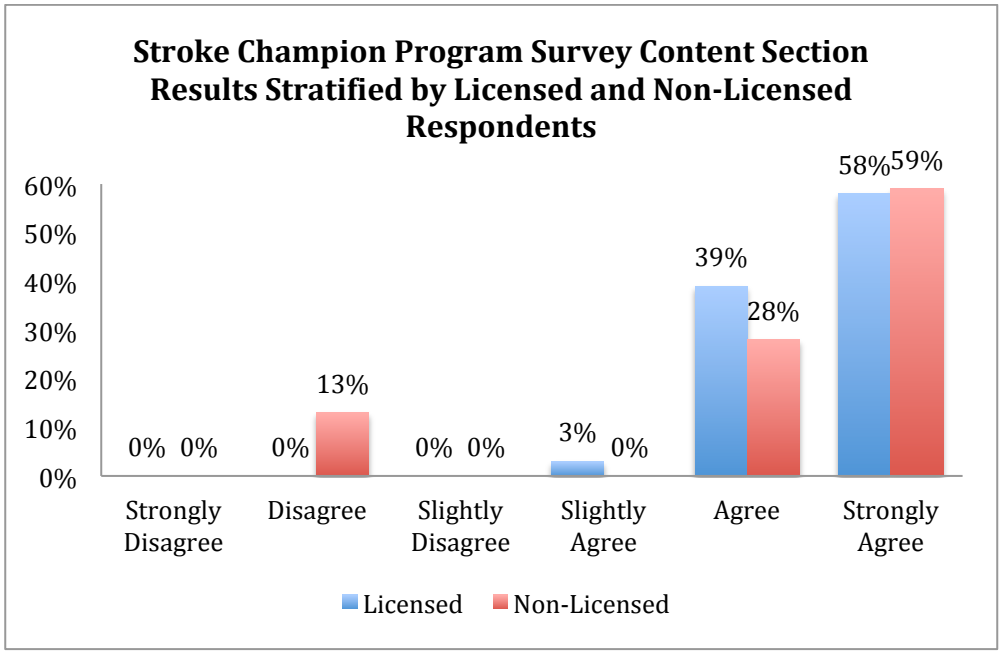

A stroke can happen to anyone, anywhere, at anytime is important to know
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
0.0%
23.9%
73.9%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=0)
Agree (n=17)
Strongly agree (n=28)

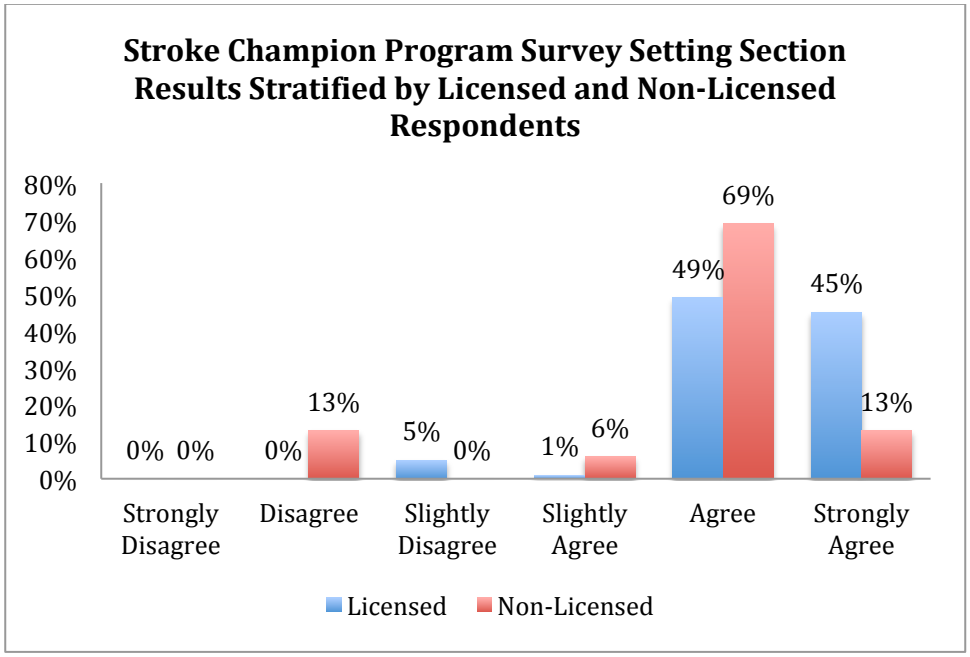

A stroke champion can make a positive difference in their community
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
30.4%
65.2%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=14)
Strongly agree (n=30)

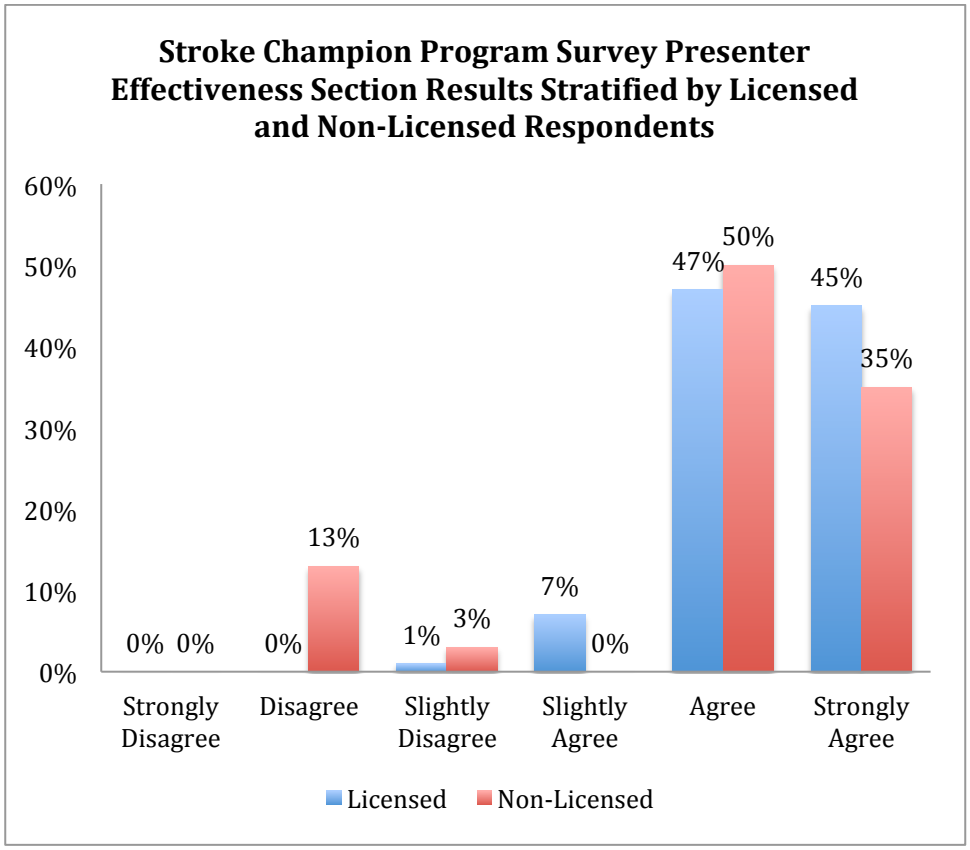

As a stroke champion I feel confident to recognize stroke like symptoms
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
2.2%
28.9%
66.7%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=1)
Agree (n=13)
Strongly agree (n=30)

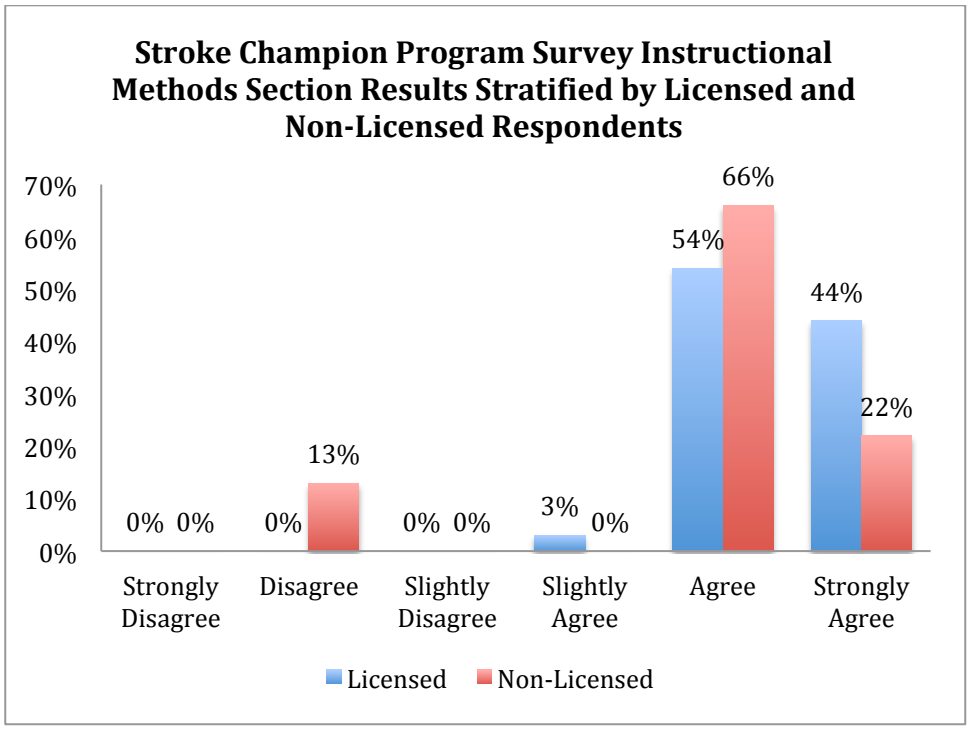

I will share the meaning of the BE FAST acronym in my community
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.0%
2.2%
0.0%
4.3%
34.8%
58.7%
Strongly disagree (n=0)
Disagree (n=1)
Slightly disagree (n=0)
Slightly agree (n=0)
Agree (n=17)
Strongly agree (n=28)

Appendix E: Stroke Champion Program Survey Section Results by Licensed and Non-Licensed Respondents






Stroke Champion Program Survey Presenter Effectiveness Section Results Stratified by Licensed and Non-Licensed Respondents
60%
50%
40%
30%
20%
10%
0%
0% 0%
0%
13%
1%
3%
7%
0%
47%
50%
45%
35%
Strongly Disagree
Disagree
Slightly Disagree
Slightly Agree
Agree
Strongly Agree
Licensed
Non-Licensed


Stroke Champion Program Survey Instructional Methods Section Results Stratified by Licensed and Non-Licensed Respondents
70%
60%
50%
40%
30%
20%
10%
0%
0% 0%
0%
13%
0% 0%
3%
0%
54%
66%
44%
22%
Strongly Disagree
Disagree
Slightly Disagree
Slightly Agree
Agree
Strongly Agree
Licensed
Non-Licensed