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Transient Ischemic Attacks Evaluation and Management in Specialized Urgent Care Facilities

Zandra Kay Johnson

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TRANSIENT ISCHEMIC ATTACKS EVALUATION AND MANAGEMENT IN
SPECIALIZED URGENT CARE FACILITIES

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Entitled

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Abstract

PURPOSE: Transient ischemic attacks (TIA) are a health problem that affects many people each year. A local Las Vegas organization allowed this DNP student to develop and implement an intervention to increase the perceived ability of providers to manage low-risk TIAs in specialized urgent care facilities. The aim was to raise the comfort level of providers at on-demand medicine also known as urgent care. Additional goals were to increase awareness of stroke and TIA symptoms and educate providers on the new TIA guidelines.

METHODS: This quality improvement DNP study used a convenience sample of 30 providers. Eleven participants completed the project. The study included education on the new definition of a TIA, stroke diagnosis, mimics, FAST (face drooping, arm weakness, speech difficulty, time to call 911) exam, ROSIER (recognition of stroke in the emergency room) scale, and management. A Likert survey was used before instruction and had seven questions on perceived comfort level, education was then provided by power-point presentation due to pandemic COVID-19, and a post Likert survey was used after the presentation. The questions were the same as the pre-Likert survey. Continuing medical hours were also offered.

RESULTS: The eleven participants that completed the project all showed improvement on identifying a stroke versus a TIA, using a FAST exam, identifying mimics of a TIA, using a ROSIER scale, knowing which labs and diagnostic tools to order, ordering imaging for TIA, and ordering outpatient tests, medications, and appropriate referral for a patient experiencing a TIA. The survey demonstrated they were least comfortable with ordering outpatient tests, prescriptions, and referrals after the education.

CONCLUSION: Even though the provider's comfort level increased, ongoing education should be completed with all providers to ensure TIA, strokes, and modifiable risks are identified to avoid a devastating stroke and even death. This project was implemented during the height of a pandemic. Providers in urgent care took on additional responsibilities and increased stress. The project was completed online to comply COVID-19 guidelines, and in-person class might have been more beneficial.

CLINICAL RELEVANCE: The quality improvement project increased the comfort level of all providers to identify and manage transient ischemic attacks on low-risk patients in specialized urgent care facilities. This project also helped the investigator to understand obstacles providers face when managing TIAs outpatient to include increased workloads due to pandemic, availability to tests, and referrals. Better management of patients presenting with TIA in urgent care could improve patient's quality of life, decrease death, and allow them to modify risks to avoid a stroke or even death.

Keywords: Transient ischemic attacks, TIA, cerebral vascular accidents, CVA, and strokes

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Chapter I

Introduction/Background

Transient ischemic attacks (TIA) are prevalent, with estimates of 200,000 to 500,000 occurrences per year in the United States (Ramirez et al., 2016). TIAs occur when there is a temporary disruption of blood flow to the brain. Symptoms can include confusion, numbness, dizziness, gait disturbance, problems talking, and visual problems (Sehatazadeh, 2015). The new definition of a TIA is tissue-based (Amarenco, 2020). TIA's are diagnosed on imaging. Any lesion, regardless of the size seen on imaging, is diagnosed as a stroke. American Heart Association (AHA) and the American Stroke Association (ASA) define TIAs as "brief episodes of neurological dysfunction resulting from focal cerebral ischemia not associated with permanent cerebral infarction" (Mijalski & Silver, 2015). Any patient with neurological symptoms is usually currently admitted to the hospital, administered antiplatelets, and monitored (Edlow, 2017). The antiplatelet therapy varies depending on the probable cause of the TIA. If a patient has a non-cardioembolic TIA recommendation, class 1-A (class and level of evidence) by the AHA is to start on antiplatelet therapy instead of oral anticoagulation (Edlow, 2017). The combination is usually aspirin as monotherapy (class I-A) or a combination of aspirin and dipyridamole (class I-B). Clopidogrel is also used as a monotherapy in place of aspirin (class II A-B). The combination of clopidogrel and aspirin is usually initiated in the first 24 hours after a TIA and continues for 90 days (class IIB-B) (Edlow, 2017). Majidi, Guerrero, Burger, and Rothrock (2017) emphasizes that prompt identification and are imperative to prevent a stroke, also known as a cerebral vascular accident (CVA). Without prompt intervention, patients will suffer a CVA that could cause paralysis, loss of motor skills, or even death. Mijalski and Silver (2015) found that identifying, evaluating, and managing low-risk patients can be accomplished

outpatient in specialized urgent care, allowing the emergency room and hospital access to more beds for other patients.

The ABCD² (age, blood pressure, clinical features, duration of TIA, and presence of diabetes) score was previously recommended to risk stratify patients. Risk stratification could be used to determine if the patient was high or low risk for a stroke. The score was calculated based on the patient's age, blood pressure, clinical weakness or speech disturbance, time frame of symptoms, and diabetes and ranged from zero to seven (Amarenco, 2020). The National Institute for Health and Care Excellence (NICE) previous guidelines suggested risk stratification. Recommendation for a patient with a score greater than four was to be admitted, and less than four outpatient evaluation by a neurologist within eight days if the patient was started on aspirin (Amarenco, 2020). Recent studies find that utilization of the ABCD² risk stratification tool alone to determine the urgency of referrals to specialists and imaging is risky (NICE, 2020). Extensive cohort studies found 20% of patients that had a low-risk stratification score less than four also had extracranial artery stenosis, intracranial stenosis, and atrial fibrillation upon clinical exam (Amarenco, 2020). The tool did not consider these risk factors. These patients are at greater risk for a stroke, equivalent to patients with a score of five or greater and need in-patient monitoring. NICE guidelines in 2019 were updated and no longer recommend the clinical use of scoring systems such as ABCD² in triage (NICE, 2019). Risk stratification tools are still useful in research but are not recommended to guide practice. New guidelines include rapid recognition of a TIA, evaluation of a stroke using a FAST (Face, Arms, Speech Test) exam, imaging, excluding hypoglycemia, and if mimics are suspected using a ROSIER (Recognition of Stroke in the Emergency Room) scale (NICE, 2019).

Most studies highlight the need for the urgent management of patients having a TIA, but there are no clear guidelines if hospitalization is required on all patients presenting with a TIA (Mijalski & Silver, 2015). Morris, Carter, and Martin (2017) suggest a patient with a score of four or higher should be transferred to the emergency room since there is an increased risk of stroke, and the patient needs monitoring. Edlow (2017) suggests if symptoms persist for more than one hour, it is considered a stroke since 60% of TIA patients resolve in one hour. Prompt clinical diagnosis and immediate preventive measures decrease stroke risk by 80% in the first three months (Amarenco, 2020).

Problem and Significance

TIA's are more common than previously realized. The patient's risk of having a stroke or coronary event within three months can be as high as 20% (Amarenco et al., 2016). TIA's are a warning sign for an impending CVA. It is essential to identify if the patient is having a TIA and modify the patient's risks to prevent a CVA in the future. An estimated 800,000 patients a year have a stroke, and of those, 130,000 are fatal, making CVA the 5th leading cause of death (Morris, Carter & Stephen, 2017). With the sheer numbers of TIA's, inpatient admission is not feasible in healthcare where hospital and emergency rooms are overcrowded (Mijalski & Silver, 2015). A stroke is death of nerve cells from hemorrhage or infarction and usually lasts more than 24 hours (Morris, Carter, & Stephen, 2017). Stroke is usually a sudden onset of neurologic deficits, including motor skills, language, cerebellar or brainstem dysfunction (Morris, Carter, & Stephen, 2017). In contrast, TIA usually lasts less than one hour and includes a focal neurological symptom (Edlow, 2017). Most symptoms have resolved when patients present to the healthcare facility; and patients have a normal physical exam (Edlow, 2017).

Given the significant volume of patients having a TIA per year, some urgent care, family practice clinics, and emergency rooms grapple with what to do with patients having acute neurological symptoms (Mijalski & Silver, 2015). Patients having neurological symptoms do not always go to the emergency room. They sometimes go to urgent care and outpatient clinics (Mijalski & Silver, 2015). Most urgent care and outpatient clinics send patients to the hospital for evaluation and admission (Mijalski, Silver, & Demaerschalk, 2015). Hospital admission is costly, and many times patients wait in the emergency room with no beds available in the hospital. Prompt identification and outpatient would increase patient satisfaction and reduce unnecessary hospital admissions (Mijalski & Silver, 2015). Martinez-Martinez et al. (2012) demonstrate that low-risk patients can be managed outpatient, with a decrease in hospitalization by 77.8%. In their study, patients saved an average of 1537.90 dollars in urgent care versus the emergency room. Patients receiving the correct management without admission or waiting in a crowded emergency room may be more satisfied compared to patients being admitted (Mijalski & Silver, 2015).

Most patients would rather be in their own homes than the hospital (Mijalski & Silver, 2015). Copayments and deductibles are higher in the emergency room and inpatient beds compared to the cost for urgent care. United Healthcare (2020) illustrates an \$1830 difference in the cost between an urgent care and emergency room visit. An urgent care visit's average cost is \$170, while the emergency room is \$2000 (United Healthcare, 2020). The data from United Healthcare (2020) demonstrates that urgent care would save the patient and insurance company money, as urgent care costs less. Literature searches reveal that managing low-risk TIA patients is acceptable (Martinez-Martinez et al., 2012), but there is a gap in practice with no specific TIA care model or policy, including diagnosis and management. The research suggests the 90-day

stroke risk for low-risk patients managed outpatient is the same as hospital admission with less cost to the patient and insurance company.

Significance to nursing

A stroke is defined as nerve cells' death from either hemorrhage or infarction of the brain and affects nearly 800,000 people every year (Morris, Carter, & Martin, 2017). Initial identification is imperative when a patient presents with sudden onset of focal neurologic symptoms to prevent further brain cell damage (Edlow, 2017). Patients with a TIA or stroke usually present to a healthcare facility having an acute onset of neurologic deficits to include motor, sensory, language, cerebellar, or brainstem functions (Morris, Carter, & Martin, 2017). The presenting symptoms of a TIA are usually less than one hour, and this was previously diagnosed based entirely on the patient's history. By the time a patient is seen by a provider, the symptoms are resolved (Edlow, 2017). There is no common symptomology for stroke or TIA patients, therefore education for nurses and providers is essential to avoid missing a stroke or TIA. Providers should be taught to suspect a neurologic event if a patient complains of a sudden onset of symptom rather than a specific symptom (Edlow, 2018). There are many mimics of TIA and strokes, which makes the diagnosis easy to miss. Some of the mimics include seizures, medications, trauma, concussions, vertigo, electrolyte imbalance, toxins, infections, bell's palsy, psychiatric conditions, tumors, and demyelination disorders (Morris, Carter, & Martin, 2017).

Teaching providers in specialized urgent care (urgent care capabilities include diffusion-weighted imaging, electrocardiography, lab work, outpatient imaging, exam by neurologist in 24 hours, and evaluation) to use a systematic approach when a patient presents with a neurologic symptom decreases the chance of missing a TIA or stroke. The first step is the initial clinical evaluation includes a thorough history, physical examination, inpatient monitoring of cardiac

rhythm, lab test, especially glucose, and electrocardiogram (Edlow, 2017). Patients presenting with monocular blindness could be suggestive of giant-cell arteritis and need labs to include C-reactive protein level and erythrocyte sedimentation rate (Armarenco, 2020). Patients with normal imaging on diffusion-weighted MRI, have symptom resolution, and are not in atrial fibrillation can be managed outpatient, thus reducing the cost to the patient and insurance company (Armarenco, 2020). With inpatient hospital cost rising and out of pocket deductibles increasing, managing certain patients with TIA symptoms can be done outpatient (Armarenco, 2020). Prompt identification and management of patients having an acute neurological event reduces cerebral vascular event risk (Edlow, 2018). It is estimated that as high as 60% of TIA are misdiagnosed in the emergency room. Thus, going to an emergency room does not guarantee proper management (Edlow, 2018). Teaching providers to do a systematic approach using imaging, FAST exam, and ROSIER scale to rule out mimics will decrease the chance of missing a diagnosis.

Purpose

The purpose of this DNP project is to develop and implement an educational presentation to increase the perceived ability to manage transient ischemic attacks on low-risk patients in specialized urgent care facilities. Traditionally in urgent care, any patient presenting with neurological symptoms is sent to the emergency room. In specialized urgent care centers, patients with TIA symptoms will be monitored and managed without transfer to the emergency room. The providers of Southwest Urgent care will participate in both a pre- and post-Likert survey via email. The instructor will use evidence-based practice to increase their comfort level to include continuing medical education (CME) on evaluating a patient with suspected TIA, risk

stratification tool information, FAST exam, ROSIER scale, new NICE guidelines on diagnosis, and management.

Chapter II

Literate Review

This chapter presents a literature review related to the of transient ischemic attacks (TIA). This author did an extensive search using different databases, including EBSCO, Cumulative Index of Nursing Allied Health (CANHL), Medline, SCOPUS, Cochrane, PubMed, and ProQuest UNLV library, and Google. The terms used for the search included signs of a TIA, TIA care models, TIA management in urgent care, can TIAs be managed in urgent care, what is the management of a TIA, low-risk TIA, TIA care policy, what is the outcome of managing a TIA in urgent care, and management of a TIA to prevent a stroke. Articles fell into four categories:

1. Outpatient Management of Low-Risk TIA Patients
2. Early assessment and management of TIA and reduced stroke risk
3. Risk of stroke after TIA
4. Management as an essential component of TIA

The search consisted of both older articles for historical reference and newer articles for emerging practice changes. The search went back 19 years to include some articles written in 2000 and the latest in 2020. Articles included several meta-analyses, randomized controlled trials, multiple cohort studies, and a couple of professional expert opinions. An initial search of outpatient TIA yielded 8,392 results after using the inclusion criteria of peer-reviewed articles that decreased to 4,128. The search was distilled by including years 2015-2020, which yielded 1658 articles. Articles discarded included duplicates of information, most of the professional opinion, and articles that were not relevant.

Low-risk Patients having a TIA can be managed outpatient

There were several themes identified while doing the literature research. Patients with TIA symptoms were previously admitted to the hospital, but based on new research, low-risk patients can now be safely managed in specialized urgent care or emergency rooms (Mijalski, Silver, & Demaerschalk, 2015). The concept of managing a patient with TIA symptoms in an emergency room and urgent care without admitting the patient is a relatively new and emerging concept (Jean-Marc et al., 2011). Outpatient assessment of clinical evaluation and safety named the *Two Aces Study* was conducted from 2007 to 2009 and included 224 patients at Stanford hospital emergency room. Patients presenting to the emergency room with a TIA or minor stroke symptoms received a non-contrast computed tomography, electrocardiogram, and lab work. Then if their ABCD² score was less than three, they were discharged home to follow-up at a TIA clinic. They were not hospitalized but had a phone call from a neurology resident in the next couple of days and were scheduled for an outpatient magnetic resonance imaging. During the two-years, 157 went home, and 67 were hospitalized based on the ABCD² score. The patients who were discharged showed a 0.6% risk of having a stroke at seven, 30, and 90 days. In comparison the group that was hospitalized had a 1.5% risk of having a stroke at the same time intervals (Jean Marc et al., 2011). The risk was lower with outpatient management, and risk stratification. Majidi et al. (2017) conducted a randomized study of over 100 patients admitted to the emergency room with neurologic symptoms. The study patients were either randomly selected to be hospitalized or managed outpatient if the NIH score was less than three. The study showed no increase in a future stroke between the patients admitted and that managed outpatient. This study illustrated that it is not necessary to admit all patients having TIA symptoms.

Early assessment and management of TIA can reduce stroke risk

Leungo-Fernandez, Gray, and Rothwell (2009) studied 90,000 patients over two years with TIA symptoms in the *Effect of urgent treatment of transient ischaemic attack and minor stroke on early recurrent stroke (EXPRESS) study* and demonstrated that patients managed in specialized outpatient clinics had fewer incidences of stroke. Phase one was from 2002 to 2004. Primary care offices sent some of their patients they suspected a TIA or stroke, which they felt did not need immediate management. The patients had brain imaging (CT), electrocardiogram (ECG), carotid ultrasound, and echocardiogram (when indicated), recommendations from the specialized TIA clinic were given for the primary care provider to implement. The management consisted of an anticoagulant, imaging, statin, and blood pressure controlling medication if indicated. Phase two was from 2004 to 2007, and patients were seen by the same physicians researching in phase one but were seen in a clinic immediately instead of their providers. Phase one showed a 10.3% risk of stroke, and phase two 2.1% risk of stroke 90 days after TIA. The difference in doing an immediate intervention in specialized clinics reduced the stroke risk by 80% (Leungo-Fernandez, Gary, & Rothwell, 2009).

Some researchers stressed the importance of identifying a patient having a TIA (Albers et al., 2002), necessary steps to evaluate if a patient is having a TIA (Easton et al., 2009), and actions required to manage a TIA (Evans et al., 2017). Evan et al. (2017) conducted a scoping review of referral pathways and reports of patients not admitted to the hospital having a TIA. They reviewed 2,374 references, and out of these three reports and eight studies met the criteria of managing low-risk TIA patients with an ABCD² score of less than four in specialized outpatient clinics. The studies revealed a 1.2% to 2.1% 90-day stroke risk. Some studies cited a reduction in 90-day stroke risk from the predicted 6%-10% to 1.3% to 2.1 % (Evan et al. 2017).

Wu et al. (2009) conducted a cohort study from 2002 to 2003 and compared patients with rapid workup and intervention after diagnosis of TIA and those with routine workup. The group with rapid workup had a 90-day reported stroke risk of 4.7%, and the routine group 9.7. This study stresses the importance of rapidly assessing and intervening to prevent strokes. The research included low evidence rating, which was an expert option to change the definition of TIA (Albers et al., 2002). An observation study (Martinez-Martinez et al., 2012) demonstrated no difference in outcomes of admitting a patient that is having a TIA versus being evaluated and managed outpatient. Morris, Carter, and Martin (2017) recommend using ABCD² risk stratification to determine if a patient should be evaluated in an outpatient setting or admitted to the hospital. The research clearly showed that it is not only safe to manage low-risk patients in specialized outpatient clinics, but outpatient management reduces 90-day stroke risk through rapid assessment and risk modification.

Risk of stroke after TIA is high

Multiple cohort studies were identified in the literature review. Sacco and Rundek (2016) examined the value of specialized units to evaluate patients with TIA symptoms. The researchers utilized a TIA registry to see if patients were at high risk for stroke 90 days after diagnosis. Findings indicate that low-risk patients (managed in outpatient clinics) had no increased risk of having another TIA versus hospitalized patients (Sacco & Rundek, 2016). Hackam, Kapral, Wang, Fang, and Hachinski (2009) conducted a cohort study of 16,409 patients identified in a database having a stroke in Ontario hospitals. 12.4 % of the patients had a TIA before the stroke lasting less than 24 hours. These findings reinforce the need to evaluate and manage a patient with TIA symptoms to reduce stroke risk. It is essential not only to identify if a patient is having a TIA but also aggressively manage the patient to prevent a stroke. One in every eight patients

having TIA will have a stroke (Hackam, Kapral, Wang, Fang, and Hachinski (2009). Wasserman et al. (2010) studied patients in two emergency rooms diagnosed with a TIA and identified a low 90-day impending stroke using the ABCD² tool. A study from March 1997 to February 1998 in California demonstrated patients diagnosed with a TIA have a 10.5% chance of having a stroke within 90 days of diagnosis (Johnson, Grees, Browner, & Sidney, 2000). This study proved it is essential to manage a patient having a TIA to decrease the 90-day risk of stroke.

Several articles included systematic reviews of relevant studies on TIAs and coagulation therapy. Evan et al. (2017) studied data from eight cohort studies to establish a pathway for paramedics in pre-hospital settings to evaluate patients presenting with neurological symptoms. Articles included a formal literature search, data synthesis, evidence tables, meta-analysis, and patient-level data to assess the definition, urgency, and evaluation of TIA (Easton et al., 2009). Research demonstrates that providers should not wait 24 hours to diagnose and manage a TIA patient (Easton et al., 2009). Sehatzadeh (2015) conducted an analysis of literature from 2007-2013 that examined if management initiation during a TIA decreased stroke rates and death. All the studies indicated early assessment and management of TIA reduces stroke and death. The NINDS (National Institute of Neurological Disorders and Stroke) rt-pa stroke study (Marler et al., 2011) studied over 40 hospitals and demonstrated that patient outcomes were better three months later if initially evaluated within 90 minutes of the onset of symptoms. This study proves it is imperative to identify if a patient is having a TIA and initiate prompt management to improve patient outcomes.

Risk stratification using ABCD² is not essential

New guidelines from the NICE in 2020 demonstrate that using a risk stratification tool such as the ABCD² or ABCD³ is poor in determining which patients need emergent

management. The definition has now changed from a time-definition to a tissue-based definition. The previous definition of a TIA was any patient that had symptoms less than 24-hours regardless of imaging. The new definition is entirely based on imaging. Regardless of the time frame of symptoms, any ischemic changes on imaging are considered a stroke and not a TIA (Amarenco, 2020). Risk stratification tools can be considered if MRI is not available in 24 hours (Amarenco, 2020). Edlow (2018) emphasized reducing an impending stroke by reducing risk factors when a patient is having a TIA. The NICE committee emphasized that regardless of risk stratification, every patient should be seen by a specialist in 24 hours (2020). The past guidelines for the ABCD² tool that was endorsed by AHA recommended a patient with a score of greater than four be hospitalized but allowed up to eight days for a patient with a score less than four to be seen by a specialist (Amarenco, 2020). New NICE guidelines state any person regardless of the score needs to be seen in 24 hours by a specialist (2020). A thorough history, physical examination, labs including basic chemistry and glucose (to rule out mimic of hypoglycemia), and EKG (to rule out atrial fibrillation) is more significant than risk stratification (NICE, 2020). The recommendation is that all patients, inpatient or outpatient, have imaging, preferably magnetic diffusion-weighted resonance imaging (MRI). Computed tomography (CT) is sufficient initially to rule out other diagnoses, but all patients should have a diffusion-weighted MRI done as soon as possible to evaluate ischemic changes (Amarenco, 2020). Some urgent care clinics have the capability to do CT and MRI either in the clinic or arrange at an imaging center for the same day. American College of Emergency Physicians recommends vascular imaging 'when available' unless the patient has CT angiography (Lo, Carpenter, Hatten, et al., 2016). A loading dose of 300mg of aspirin is recommended as the risk of gastrointestinal bleeding and brain bleed is low (NICE, 2020). Other includes risk reduction such as smoking cessation, carotid artery

revascularization, lowering lipids and blood pressure. Recommendation also includes prompt follow up with a neurologist and primary care provider after TIA diagnosis to reduce the risk of stroke (Merwick & Kelly, 2011). Stroke risk can be significantly reduced by correctly identifying if a patient is having stroke, modifying their risks, and initiating management.

Summary

The articles discussed in this review demonstrated that it is imperative to recognize a TIA's symptoms and initiate management to avoid an impending stroke. Patients with no lesions seen on imaging, not in atrial fibrillation, and have symptom resolution can be managed outpatient and do not require hospital admission. It is recommended the patient have a diffuse weighted MRI to make the diagnosis of TIA and evaluation by a specialist in 24 hours. The purpose of this DNP project is to increase perceived provider comfort level to manage low-risk TIA patients in specialized urgent care facilities. Low risk includes symptom resolution, normal MRI (no lesions noted) and not in atrial fibrillation. The author of this paper's research focused on whether patients with TIA symptoms can be managed without a hospital admission and education to increase providers comfort level to take care of patients' outpatient. Currently, Southwest Medical Associates (SMA) patients presenting with any neurological symptoms go to the emergency room for evaluation and management. The urgent care director, educator, cardiovascular, and neurologic group SMA voiced that they would prefer to move to a model where low-risk patients diagnosed with a TIA can be evaluated and managed in urgent care without hospitalization.

Needs Assessment and Description of Project

According to the literature, there is no difference in early clinical outcomes if a low-risk TIA patient goes to an urgent care versus inpatient hospitalization (Majidi, Guerrero, Burger &

Rothrock, 2017). There is a literature gap on how to manage patients having a possible TIA in urgent care. Education to providers will increase their comfort level to identify low-risk patients having a TIA in urgent care and manage their care outpatient. Providers will complete a pre- and post-Likert survey on their comfort level in identifying and managing low-risk patients having a TIA in urgent care. Education intervention offering CME (continuing medical education) hours will be emailed to providers. This author has discussed the project with the director and educator at Southwest medical.

Population identification

The population for this project was providers (physician assistants, nurse practitioners, and doctors) taking care of patients in urgent care in an urgent care setting. Any provider working at North division at Southwest Medical Associations was eligible to participate in the CME on TIA's and take the pre- and post-Likert survey. Thirty providers were invited to participate both male and female.

Identification of the project sponsor and key stakeholders

A pre-Likert survey of providers at Southwest Medical in Las Vegas will evaluate the comfort of identifying, assessing, and managing a low-risk patient. External stakeholders include the patient, family members, and the community of Las Vegas, Nevada. The key stakeholders may include urgent care managers and leads, cardiology, laboratory, neurology, and radiology.

Organizational assessment

The proposed transformation would increase the perceived comfort level of providers to manage low-risk TIA patients in urgent care. This proposal will affect the providers' decision-making skills but will not impact the organizational structure of Southwest Medical.

Assessment of available resources

If a patient presents with any neurologic symptoms regardless of symptom resolution, they are transferred to a different facility with an emergency room. Transfer to the emergency room impacts Southwest Medical by losing revenue. The overall impact is to the patient. Providers will be less likely to misdiagnose a stroke or a TIAs allowing the patient to have the correct management.

Team selection and formation

The team will be urgent care providers at Southwest Medical urgent care specifically in North Las Vegas.

Cost-benefits analysis

There will be no cost. It will include a pre- and post-Likert survey with education sent by email.

Scope of the project

Project name: Transient Ischemic Attacks Evaluation and Management in Specialized Urgent Care Facilities

Scope of project.

- Construct pre- and post- Likert survey on comfort level
- PowerPoint presentation
- Approval for CME
- Email providers
- Review results of Likert survey

Description of end products.

- Project planning approval from chair Dr. Doolen -Fall 2019
- Project proposal- Spring 2020
- Work with Dr. Doolen for IRB board approval- Fall 2020
- Establish likert survey including seven same questions- August 2020
- Work with Dr. Bondmass to offer CME-fall 2020
- PowerPoint-length not to exceed 20 minutes includes education to providers regarding TIAs, stroke diagnosis, mimics, FAST exam, discussion of risk stratification, ROSIER scale, and management- Fall 2020
- Email providers likert survey, PowerPoint-Fall 2020
- Review survey results- Fall of 2020 and Spring 2021
- Finish final presentation- Spring 2021
- Project Defense- March 3, 2021

Mission, Goals, and Objective Statements

This DNP project's mission was to increase the perceived confidence of providers in urgent care to manage low-risk patients having a TIA without sending them to the hospital. The goal was to increase providers' perceived comfort level by identifying a patient with TIA versus a stroke, discussion of ABCD² score, FAST exam, review of new NICE guidelines, ROSIER scale, and implementing appropriate management in specialized urgent care facilities. The objective is to educate providers on TIA symptoms and select appropriate patients to manage in urgent care.

Chapter III

Change Theory

This chapter is a discussion on the theoretical underpinnings of this DNP project. Lewin's change theory (Petiprin, 2016). Lewin's Change theory will inform the implementation, management, and evaluation of transient ischemic attack (TIA) guidelines in urgent care. This theory's focus is changing patient care at the bedside to increase positive, patient outcomes (Wojciechowski, Pearsall, Murphey, & French, 2016). After education the providers will realize that patients with no lesions on MRI, not in atrial fibrillation, and have symptom resolution do not always need to be admitted to the hospital. They will learn to seek alternative behaviors. Their comfort level will increase to manage low-risk TIA patients in urgent care.

Unfreezing

According to Lewin's theory, the first step is to determine if a change is needed. This is called the unfreezing stage (Petiprin, 2016). Providers need to be aware that there is new information regarding the definition of a TIA and management outpatient (Wojciechowski, Pearsall, Murphey, & French, 2016). Education provokes change. The former inpatient admission for all patients diagnosed with a TIA is costly and sometimes unnecessary in low-risk patients (Jean-Marc et al., 2011). Studies have shown that patients having a TIA can be managed effectively in specialized emergency/urgent care facilities that have MRI (Amarenco, 2020). There will be numerous barriers, including providers' preconceived ideas, lack of enthusiasm, lack of wanting change, pandemic COVID-19, and fear of the unknown.

Change

The next part of Lewin's theory is the change phase, where thoughts are changed (Petiprin, 2016). Alternate ways of doing things are assessed (Wojciechowski, Pearsall, Murphey, & French, 2016). In this stage, staff will be involved, and education will include the benefits and disadvantages of changing our current practice. The benefits of changing the practice would be saving the patient money, making sure the patient is receiving the correct management, and assessing those high-risk patients that need inpatient admission. The disadvantages would be incorrect assessment and intervention of patients with TIA symptoms versus a stroke and increased time spent on patients instead of immediately transporting them to an emergency room. Extensive education to identify patients with a TIA using FAST exam, ROSIER scale, appropriate tests to order, and outpatient for the providers.

Refreezing

The last part of Lewin's model is refreezing (Petiprin, 2016). Staff will realize change is necessary; patients with TIA symptoms that are low risk will be evaluated and managed effectively in urgent care. Managing low-risk TIA patients in urgent care will eventually become the standard policy with a TIA diagnosis. During this stage, providers will verbalize they feel more comfortable taking care of low-risk TIA patients in urgent care. In the future, they will be knowledgeable on the topic and will feel comfortable. The old way of transferring the patient having any neurovascular complaints to the emergency room is replaced with the new habit of evaluating them to determine if they are low risk or need to transfer to the hospital.

Lewin Stages	TIA care model
<p>Unfreezing</p> <ul style="list-style-type: none"> ● Assessing if providers feel comfortable managing low-risk TIA patient in urgent care ● Educating providers cost of emergency room visits versus urgent care ● Educating on NICE guidelines for stroke 	<ul style="list-style-type: none"> ● Survey on the comfort level ● Showing the cost of urgent care versus an emergency room ● Educating providers on guidelines by NICE and other studies that show it is safe on low-risk patients
<p>Change</p> <ul style="list-style-type: none"> ● Presenting education on the definition of stroke versus TIA ● Diagnosis of a TIA ● Education on the use of FAST exam/ROSIER scale and ABCD² tool ● Education on necessary workup and follow up of patients having a TIA 	<ul style="list-style-type: none"> ● Information to providers on criteria that classifies stroke versus TIA ● Identify TIA symptoms ● Visual aid on FAST exam, ROSIER scale, and ABCD² score ● Care model for TIA distributed to providers and education on appropriate outpatient.
<p>Freezing</p> <ul style="list-style-type: none"> ● Providers comfort level will increase. ● Future low-risk patients having a TIA will be managed in urgent care 	<ul style="list-style-type: none"> ● Post-survey results on LIKERT scale. ● Imaging and referrals will be available

Chapter IV

Project Plan

The TIA care model will increase providers' perceived comfort level to assess, diagnose, and manage low-risk TIA patients in urgent care. An education intervention to providers in urgent care will include the safety of managing low-risk patients based on studies, imaging, new NICE guidelines, symptoms of a TIA versus stroke, FAST exam, ROSIER scale, and information on risk stratification using the ABCD² score.

Project setting and resources

This project will be implemented at Southwest urgent care north division in Las Vegas, Nevada. There are thirty full-time employees and one half-time employee. The team consists of doctors, physician assistants, and nurse practitioners. There is usually a mix of any of the three above at an urgent care on any given day, and one to two at convenient care. Authorization to conduct the project was obtained by an email from the medical director of urgent care, Dr. Desai, and verbal conversation with the lead at Montecito, Dr. Devera, and educator Dr. Julson. This department serves mostly the Centennial hills and Aliante area, and North Las Vegas. The usual volume on a day is around 90-100 patients for three providers at urgent care, and 45 at convenient care. Resources needed for the project were easily obtainable and included an email to providers; material provided over the internet, so no need for printing and copying. No significant resources outside of email and internet connection are needed.

Population of interest

This project focused on providers taking care of patients in urgent care in an outpatient setting. Any provider working at North division at Southwest Medical will be eligible to participate in the CME on TIA's and take the pre- and post-Likert survey. The class will be eventually available to all Southwest providers, including seven convenient cares and six urgent cares spread throughout Las Vegas and Henderson, Nevada. The CME will be offered to all providers, but the focus will be on the north clinic providers.

Measures, instruments, and activities

This project's primary measurement instrument will be a pre- and post- Likert survey to evaluate the providers' comfort level to take care of low-risk TIA patients presenting to urgent care. The survey will be a Likert scale and will measure providers' comfort level of how to diagnose a patient having a TIA and proper management, including referrals after diagnosis is made.

Timeline

The timeline for this project from proposal to completion of data collection is as follows:

- April 2020 – Project proposal defense
- September 2020 – IRB approval
- September 2020 – Development of CME
- October 2020 through December 2020 – Project implementation
- January 2021 – Project evaluation/results
- February 2021 – Project to chair for review
- March 2021 – Project finalization and defense
- April 2021 - Final copy of dissertation submitted to UNLV graduate college

Project Tasks and Personnel

The personnel administering the Likert survey will be the author of this project. The author of this project will also evaluate the pre-and post-Likert survey. Other personnel include the providers involved in the CME, the Southwest Medical director, the educator, and lead at Montecito clinic.

Resources and Supports

The educational coordinator for Southwest is a resource for the project. She routinely sends out information on education to staff; therefore, she would be an excellent resource to ask what strategies have worked best with the providers. The lead at Montecito will be another resource, along with the director. The director will be involved in information about the project, including post-test results after education.

Risk and Threats

The biggest threat to this project is the lack of response to the initial email. Providers at Southwest work in a busy, fast-paced, urgent care and probably do not want to add more to a busy workload. Limited responses would decrease the validity of the survey. To decrease this risk, the author will use strategies to engage providers. Some strategies include senior leadership, offering a CME for taking the course and engaging their desire to learn more about new NICE guidelines.

Institutional Review Board Approval

All appropriate steps will be to alleviate any ethical concerns concerning the project. All providers participating will be doing so by their own free will. A mass email to all providers at

Southwest medical and only those that respond to the pretest will receive the CME by email and post-test. No patients will be involved in the model at Southwest, only a survey to evaluate if providers feel more comfortable taking care of low-risk patients after education is offered.

Evaluation Plan

Evaluation of the project includes analyzing pre survey on perceived comfort level compared to post survey after CME. The data will then be measured to see if there is an increase in comfort level. Additional evaluation will include talking to the leadership and assessing if they feel they want to move forward with a pilot in the future.

Conclusion

A review of current literature proves that low-risk patients having a TIA can be safely managed in specialized urgent care if imaging is available. Education will be provided via email and PowerPoint slides to providers in urgent care. Education will include a systemic approach to make the diagnosis of a TIA using the FAST exam, ROSIER scale, the new NICE guidelines, clinical exam, and proper management.

Chapter V

Summary of Implementation and results

Precis of the phenomenon of interest and the problem and purpose of the project

The precis was to see if providers' comfort level would increase with education on identifying, diagnosing, and managing a low-risk patient having a TIA in urgent care. The problem is that any patient with a neurological problem is transferred to the emergency room, causing the patient unnecessary cost and time. Research has proven that low-risk patients having a TIA can be safely managed in urgent care. The project's purpose was to increase the provider's comfort level in specialized urgent care to manage low-risk patients having a TIA.

Threats and barriers to the project

The biggest threat to the project was for providers to take the time to watch the power-point presentation and take the pre-and post-survey. If providers want CME hours, they will have to also complete a post test. Urgent care is a busy environment and asking providers to do one more task is always risky. Providers at SMA are already taxed with taking care of patients during a pandemic COVID-19 and asking them to add one more task to their already busy day was a challenge. The most significant barrier was presenting the information during a pandemic. Information had to be presented via the internet and not in person. Guidelines on diagnosis of a TIA and changed during this project and both paper and presentation had to be changed to reflect the new guidelines. Doing the class by email invite proved a large barrier because the participants had to provide an email and take the time to open the email and watch the presentation. Some providers contracted COVID-19 during the time frame for the presentation

and did not participate. Providers were very stressed taking care of patients during a pandemic, and their time is valuable.

Monitoring of the project

Monitoring of the project consisted of regularly seeing how many providers took the survey and asking for more providers to participate. During the project, providers worked difficult hours taking care of patients during a pandemic, some being sent to another clinic while others were doing telemedicine. Familiar places where providers were assigned were changed to accommodate scheduling problems and volume, so not all providers were easily accessible.

Data collection and Data Analysis

Data collection was conducted on Survey Monkey. The Likert survey was sent to participants before and after they watched the presentation. Data was analyzed by reviewing answers to questions on survey-monkey. Pre and post scores were compared to see if there was an increase in comfort level or providers to take care of low-risk TIAs in specialized urgent cares.

Giving Meaning to the project

Results of the project

A survey was administered before and after the presentation. The pre- and post-Likert scale had the same seven questions to assess providers comfort level regarding TIA in urgent care. Each question had five possible answers ranging from one to five stars. Statement before the survey in an email stated by clicking on the survey, they consented to participate in the

project. Survey invite was sent to thirty providers, and twelve took the pre-and eleven the post-survey.

Table 1***Results pre-LIKERT scale***

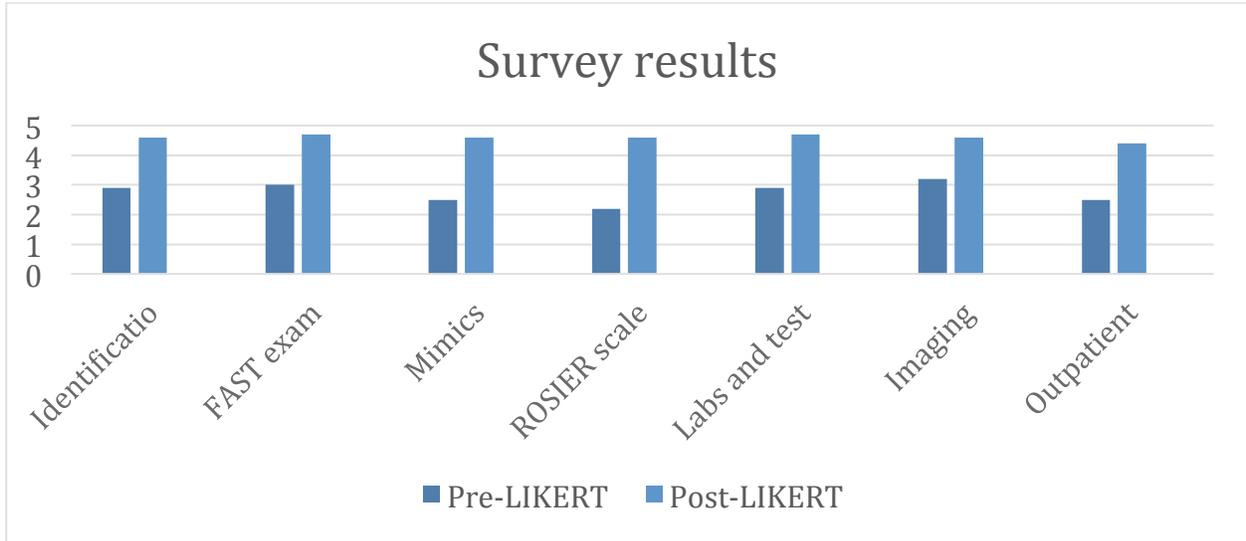
Question	Average score (1-5)	Range	Weighted score (1-5)
How comfortable are you with identifying a stroke versus TIA	2.9	1-5	2.92
How comfortable are with using a FAST exam	3	1-5	3
How comfortable are you in identifying mimics of a TIA	2.5	1-5	2.50
How comfortable are you in using a ROSIER scale to distinguish between mimics, strokes and TIA	2.2	1-5	2.16
How comfortable are you in knowing which labs and diagnostic tools to order	2.9	1-5	2.92
How comfortable are you in ordering imaging for a TIA	3.2	1-5	3.17
How comfortable are you in ordering outpatient tests, medications, and referrals for a TIA	2.5	1-5	2.45

Table 2***Results Post-LIKERT scale***

Question	Average score	Scale	Weighted score
How comfortable are you with identifying a stroke versus TIA	4.6	1-5	4.64
How comfortable are with using a FAST exam	4.7	1-5	4.73
How comfortable are you in identifying mimics of a TIA	4.6	1-5	4.55
How comfortable are you in using a ROSIER scale to distinguish between mimics, strokes and TIA	4.6	1-5	4.64
How comfortable are you in knowing which labs and diagnostic tools to order	4.7	1-5	4.73
How comfortable are you in ordering imaging for a TIA	4.6	1-5	4.64
How comfortable are you in ordering outpatient tests, medications, and referrals for a TIA	4.4	1-5	4.36

Table 3

Survey Results



Degree to which the project did or did not address or remediate the problem identified

The gap in clinic practice was if TIA could safely be managed in specialized urgent care versus sending a patient to the emergency room. Based on the literature, it can be safely done if diffusion-weighted MRI is done to diagnose a CVA versus a stroke and the patient is low-risk. The project addressed the problem by evaluating if providers would be comfortable diagnosing and managing a low-risk patient in urgent care. Provider's comfort level increased after the algorithm and information were supplied via a power-point presentation. During the change mode of Lewin's theory, the providers will increase their comfort level and have evidence-based education on identifying and managing low-risk patients having a TIA.

Relationships among the project results to evidence identified in the review of the literature and theory underlying the project

The project showed that providers' comfort level increased on identifying a stroke versus TIA, doing a FAST exam, identifying a TIA mimics, using a ROSIER scale, knowing which labs and diagnostic tests to order, ordering imaging, and ordering outpatient tests, medications, and referrals. Unfreezing and the change component of Lewin's theory was addressed. In the unfreezing stage, the providers have presented information that low-risk patients with a TIA managed in urgent care had no different outcomes than those admitted to the hospital. In the change phase, providers watched a PowerPoint presentation to increase their knowledge on identifying and managing a TIA, including ordering labs, diagnostic tools, risk modification, referrals, and medications. The next phase would be freezing- the provider's comfort level increased based on post scores.

Project advancement or improved nursing practice or patient outcomes

The project will improve patient outcomes. The providers that took the pre-and post-survey exhibiting their comfort level on identifying, diagnosing a TIA increased. These same providers see patients with neurological symptoms almost daily in urgent care. Their knowledge has increased on how to identify neurologic symptoms, do a FAST exam, use the ROSIER scale, and identify mimics. Diffuse-weighted imaging is still not available, so the providers will need to send any patient presenting with neurological symptoms that could be a TIA or stroke to the emergency room per NICE guidelines. With the knowledge they have learned, there will be less chance of missing a neurological event.

Potential for Sustainability

Low-risk patients presenting with TIA symptoms can be safely managed in specialized urgent cares. Sustainability depends on if the facility has diffusion-weighted imaging (since the guidelines changed on diagnosis) or access to have the patient have an MRI outpatient and neurology specialist appointment within 24 hours. The facility also must have capability to check the patient's heart rhythm, and labs. Emergency rooms are currently overburdened with the COVID-19 pandemic, and this would lessen the burden. Patients can still get the care they need without unnecessary visits to the emergency room.

Utilization and Dissemination of Results

Future scholarly activity resulting from the project

Present results to Dr. Desai (director of ODM SMA) and future talks include a radiology and neurology group to do a pilot for low-risk patients presenting with TIA symptoms. SMA does not have diffusion-weighted MRI, and since the guidelines have changed, this poses a threat to the pilot. Possible neurology evaluation within 24 hours, initial imaging CT to rule out

mimics, and outpatient MRI at radiology center in Las Vegas. Possible pending presentation to Nellis Air Force group 99th Medical group regarding new NICE guidelines for strokes and TIAs. Working with the head of neurology and will present to residents in April, May timeframe. DNP residency working with the medical assistants, and nurses to identify a patient with a neurologic event, alert the charge nurse/provider, and do a FAST exam.

Plan for dissemination of results

Results were shared with the medical director and clinical education of SMA. They have already voiced they would like in the future to do education for providers in all locations. The educator would also like to use the algorithm to distribute to providers at ODM. Presentation of new guidelines to Nellis Air Force Base 99th medical neurologic group.

Appendices

Detailed Timeline and Project Tasks

- Identify Chair and Committee: June 10, 2019
- Approval chair for project- August 9, 2019
- Approval from medical director January 14, 2020
- Establish co-chair for project- February 1, 2020
- Project proposal approved- April 15, 2020
- Work with Dr. Doolen for IRB board approval- Fall 2020
- Create LIKERT scale- pre- and post- LIKERT scale seven same questions- June 2020
- Work with Dr. Bondmass to offer CME-September 2020
- PowerPoint-length not to exceed 20 minutes includes education to providers regarding TIAs, stroke diagnosis, mimics, FAST exam, ROSIER scale, and management- August 2020
- IRB approval- September 25, 2020
- Email providers LIKERT scale, PowerPoint-November 5, 2020
- Review survey results- December 2020
- Finish final presentation- January 2021
- Submission to Dr. Doolen final presentation- February 2, 2021
- Project Defense- February 2, 2021

Budget

There was no money was spent on this project.

IRB Approval
IRBNet Board Action



Fri, Sep 25, 2020, 9:29 AM

Sonnary Campbell <no-reply@irbnet.org>

to Jessica, me

Please note that UNLV Biomedical IRB has taken the following action on IRBNet:

Project Title: [1639986-1] Transient Ischemic Attacks Evaluation and Management in Specialized Urgent Care Facilities- TIA care model
Principal Investigator: Jessica Doolen, PhD

Submission Type: New Project
Date Submitted: September 10, 2020

Action: NOT RESEARCH
Effective Date: September 25, 2020
Review Type: Administrative Review

Should you have any questions you may contact Sonnary Campbell at sonnary.campbell@unlv.edu.

Thank you,
The IRBNet Support Team

www.irbnet.org

Email copy from Medical director of Southwest Urgent care

From: Desai, Apeksha <Apeksha.Desai1@optum.com>

Sent: Tuesday, January 14, 2020 11:55 AM

To: Johnson, Zandra K <Zandra.Johnson@optum.com>

Subject: RE: possible TIA protocol urgent care

I think there is definite interest in it and we would like to avoid ER utilization wherever possible. The challenge I see is our staff/provider knowledge of NIH stroke scale etc. If you want to propose a pilot that you think we can operationalize I would be totally on board and support implementing it.

From: Johnson, Zandra K <Zandra.Johnson@optum.com>

Sent: Tuesday, January 14, 2020 11:25 AM

To: Desai, Apeksha <Apeksha.Desai1@optum.com>

Subject: possible TIA protocol urgent care

Hi Dr. Desai, I am currently enrolled in my DNP program and was talking to Dr. Julson about a possible implementation or at least education and evaluation of comfort level of management of low risk tia patients in urgent care. My project is researching and developing a plan to evaluate and manage low risk patients in urgent care. I am touching base with you to see if this is still in the process at Southwest? If it is can you please give me information, Thanks for your time
Zandra Johnson

TIA Care Model Letter to Staff

Want to learn more about TIAs???

From: Zandra Johnson (johnsz6@unlv.nevada.edu)

To: mary.bondmass@unlv.edu; jessica.doolen@unlv.edu; johnsonzandra@yahoo.com

Date: Wednesday, November 4, 2020, 10:53 AM PST

Dr. Bondmass, and Dr. Doolen, below is the email I am going to send to staff, pre and post likert scale presentation and post CE if they want hours, please let me know if you have any questions or problems accessing the links, Thank you

Hi, as many of you know I am enrolled at UNLV in my DNP -Doctoral degree program for Doctor of Nursing Practice. Part of the DNP program is to do a scholarly project with the purpose of translating evidence into practice. I have spent many hours, weeks, and semesters on researching low risk TIA care and in specialized clinics. I would appreciate it if you would help me with this by taking a brief pre survey on your comfort level to diagnose, evaluate and manage a low risk TIA patient in specialized urgent clinics, watch my powerpoint presentation for about 25 minutes, and then complete a post survey on your comfort level. By clicking on the link to open the survey monkey you are consenting to be part of my project. No names will be used, identifications of participants, and there are no repercussions for not participating (other than you will not gain possible knowledge). Please help me in my project by participating. If you have any questions please call me 505-220-0656, text me, or email me. There is also a link included if you want continuing education hours. Thanks again for your time, Zandra Johnson FNP-BC

1. Please click on pre-survey before watching my powerpoint:
<https://www.surveymonkey.com/r/ZYGNSWN>
2. Watch my presentation, you need to download for it to play automatically

TIA care model Zandra Johnson 2020 presenter fi...

3. After viewing my presentation, please take a brief post survey (7 questions- same as pre-survey) <https://www.surveymonkey.com/r/ZMC6KHR>
4. If you want continuing education hours please click on link you can print your certificate Thanks again for you time hope you learned something



CE certificate and evaluation.pdf

**Pre-and Post-Likert,
Achievement Award**

TIA Care Model

By clicking on the survey you are consenting to be part of Zandra Johnson's doctoral project

Top of Form

Question Title

* 1. How comfortable are you with identifying a stroke verses TIA



Question Title

* 2. How comfortable are with using a FAST exam



Question Title

* 3. How comfortable are you in identifying mimics of a TIA



Question Title

* 4. How comfortable are you in using a ROSIER scale to distinguish between mimics, strokes and TIA



Question Title

* 5. How comfortable are you in knowing which labs and diagnostic tools to order



Question Title

* 6. How comfortable are you in ordering imaging for a TIA



Question Title

* 7. How comfortable are you in ordering outpatient tests, medications and referrals for a TIA



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Powered by  SurveyMonkey®

Post Survey- TIA Care Model

Thank you for watching my power point. Please participate in my post survey so I can compare pre and post test to see if I increased your comfort level on evaluating and managing TIA in specialized urgent care.

Top of Form

Question Title

* 1. How comfortable are you with identifying a stroke verses TIA

Question Title

* 2. How comfortable are with using a FAST exam

Question Title

* 3. How comfortable are you in identifying mimics of a TIA

Question Title

* 4. How comfortable are you in using a ROSIER scale to distinguish between mimics, strokes and TIA

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Question Title

* 7. How comfortable are you in ordering outpatient tests, medications and referrals for a TIA

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TIA Care Model Certificate of Achievement

 NINIA NEVADA NURSES ASSOCIATION	Certificate of Achievement
Name: _____ Nevada RN # _____	
is hereby awarded 2 contact hours of nursing continuing education for successful completion of:	
<u>TIA Care Model - Transient Ischemic Attacks</u> <u>presented by Zandra Johnson, MSN, FNP-BC CEN</u>	
Date: _____	
	
Nicola Aaker, MSN, MPH, RN Nevada Nurses Association	
Approved CEU provider by the Nevada State Board of Nursing Nevada State Board of Nursing Provider #NV000603	
This certificate must be retained by attendee for at least four (4) years.	
This program has been approved for 2 Continuing Education Credit. Each nurse should claim only those hours that he/she actually spent in the educational activity.	

Literature Review

Reference (short title of article or Systematic Review (SR) & year	Type of evidence (Primary research, SR, just informational for background on topic)	Purpose statement (Question or problem address in article of SR)	Design and Procedures – including intervention & appropriateness of stats	Results & Conclusions Any appropriate or major limitations to consider	Evidence Rating (i.e., GRADE, SORT, etc)
Transient ischemic attack-proposal for new definition 2002	Informational	Change the definition of TIA so providers will manage with more urgency and realize it is medical emergency.	Information on TIA so providers will realize it is an emergency and not wait 24 hours to evaluate outcomes of patients.	Advised to change name so providers deal with TIA emergently. Limits no studies were cited.	Low expert opinion Level VII
Urgent care vs ER	Informational	Cost of urgent care vs emergency room	Cost were given by United Healthcare insurance company	It is cheaper to manage a patient in urgent care verses sending them to the emergency room	Low expert opinion Level VII
Using the National Institute of Health Stroke scale	Informational	The evaluate if the NIH score has evolved, wanted to also give providers information on background of NIH score	Research was done to determine if the NIH score has evolved over time	The NIH score has evolved over time	Moderate IV
Stroke: A road map for subacute of	Informational	Practice recommendations for evaluation of stroke	Risk stratification for stroke based on ABCD2 score and acute of a TIA and stroke	Scoring for TIA based on risk. Referenced express study	Moderate IV
Definition and evaluation of ischemic attack, 2009	Systematic review	Review of scientific advances regarding the definition, urgency, and evaluation of	Formal evidence review included a structured literature search of Medline from 1990 to June 2007 and data synthesis	Providers should not wait 24 hours to evaluate and manage a TIA. TIA should have vessel imaging, cardiac evaluation, and lab	High several high-quality studies were evaluated. Level 1

		TIA and aid clinician in management	employing evidence tables, meta-analyses, and pooled analysis of individual patient-level data.	tests.	
Clinical policy: Critical issues in evaluation of adult patients with suspected transient ischemic attack in the emergency department, 2016	Systematic review	Reviewed level of evidence in management of TIA in emergency room	Researching clinical policy on management of patients in emergency room presenting with a TIA	Policy on low-risk patients	Level 1
Referral pathways for patients with TIA, 2017	Systematic review	Identify the features and effects of a pathway for emergency assessment and referral of patients with suspected TIA in order to avoid admission to hospital.	Data was evaluated from studies on TIAs and then analyzed. They described the setting, assessment, referral, management, and outcomes from 8 mostly cohort studies.	Research was from clinics and emergency rooms they were trying to use information in pre-hospital setting-paramedics. No information from pre-hospital setting was obtained.	Moderate further research needs to be done involving paramedics. Level IV
Most stroke patients do not get a warning, 2009	Population based cohort study	Examine short term risk of stroke after TIA diagnosis.	Cohort study examined 177 patients from March 1997-February 1998 to see if they had a stroke 90 days after diagnosis	Showed risk of stroke was substantial further evaluation and management were needed to avoid stroke.	Moderate Level IV
Two aces, 2011	Primary research	Evaluate a new emergency TIA triage system ABCD.	224 patients were observed from June 2007 to December 2009, 157 outpatient and 67 hospitalized after ABCD stroke score and imaging was done.	Low rate of hospitalization based on ABCD stroke score triage system (30%). Recurrent strokes were low from both hospitalized and non-hospitalized patients. More studies need to be	Moderate, one high quality study Level VI

				done including randomized.	
Short-term prognosis after emergency department diagnosis of TIA, 2000	Cohort study	Determine short term risk of stroke and adverse events after diagnosis of TIA.	16 hospitals in California were studied from March 1997 to February 1998. 1707 patients were studied mean age of 72 years identified by ER as having a TIA.	Adverse short-term risks were substantial after presenting to ED with TIA. Patients with TIA symptoms need to be evaluated and managed promptly.	Moderate one high quality study used. Level IV
Effects of urgent management for transient ischaemic attack, 2009	Prospective population-based study	Identify cost and outcomes after identification of TIA before 2004, and after 2004.	Patients were referred to specialty clinic after TIA for 2 years. 91,000 patients were studied.	Patients that were sent to a specialized outpatient clinic had fewer incidence of stroke, saved money, hospital admission and acute costs.	Moderate one high quality study used. Level VI
Early stroke management associated with better outcomes, 2011	Randomized controlled trial	Identify if there is a difference of managing a stroke with rtPA 0-90 minutes after stroke vs 91 to 180 minutes	Eight centers with over 40 hospitals used for study. After 24 hours they evaluated both groups using NIH stroke scale.	Patients managed in 0-90 minutes had better outcomes in 3 months then those managed 91-180 minutes.	Moderate one high quality study used Level IV
Transient ischaemic attack clinics provide equivalent and more efficient care, 2012	Cohort study	Analysis was done including care, process, economic and re-occurrence rate of TIA after evaluation in specialized TIA clinics.	of low to moderate risk TIA patients were compared at 7 and 90 days. They evaluated their demographics, risk profile, tests, prevention measures and recurrence of TIA.	No difference was found in the patients that were seen in the specialized outpatient clinic vs the hospital. There was a large savings outpatient compared to hospitalization. Study was only one	Low, observational study Level VI

				year and 336 patients	
TIA should TIA patients be admitted, 2015	Research systematic review	Two question were addressed if all patients with TIAs should be admitted and should they receive dual anti-coagulant therapy.	Systematic review of all relevant studies was done on evaluation after TIA and coagulation therapy.	It was proven not all patients need to be admitted. Dual anti-coagulants are still under study and no conclusion was made it was determined further studies need to be done.	High, Level 1 evidence from systematic review.
The value of specialized care for TIA and minor stroke, 2016	Research cohort study	Evaluate if there is a low risk of stroke 90 days after TIA.	TIA registry was used to see if there was a high risk of stroke 90 days after TIA	Not a randomized trial and no control group. It did show there was a lower risk than previously thought 90 days after TIA for stroke.	Moderate not randomized, no control Level IV
Is ischemic attack a medical emergency, 2015	Evidence based analysis	Explore if urgent evaluation and management in patients with a TIA decreased risk of stroke and death	Literature search from 2007 to 2013 showing studies if assessment and initiation of management during a TIA decreased stroke rates and death.	All studies indicated urgent assessment and management in TIA reduced stroke and death.	Moderate, only looked at combined intervention, would be better to look at individual interventions. Level 5
Inpatient versus outpatient of TIA or minor stroke: Clinical outcome	Randomized study	If all patients having a TIA needed to be hospitalized	100 patients randomly selected to be managed outpatient or be hospitalized for TIA.	No difference in stroke risk between the groups	Level 1 randomized study
Stratified, urgent care for transient ischemic attack results in low stroke rates, 2010	Cohort study research	Identify if there is a lower stroke rate 90 days if a TIA patient is triaged using ABCD2-based tool and outpatient	Cohort group having TIAs in two emergency rooms divided into 3 categories based on ABCD2 tool evaluated for stroke 90 days	Low 90-day stroke if assessed using ABCD2 tool and lower admission rates.	Moderate Level IV

		management.	after TIA.		
Rapid evaluation after high-risk TIA is associated with lower stroke risk, 2009	Cohort study research	Identify clinical outcomes from one group of patients admitted to high risk unit and compare to historical high-risk group.	Two groups of patients were observed to see if there was difference in preventing stroke. One group was admitted to rapid evaluation unit and the other group was patients in the previous year that were evaluated for TIA.	Group admitted to high risk unit P<0.001 compared to standard care group 0.05 to prevent stroke in future. Study was statistically significant.	Moderate Level IV

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Curriculum Vitae

Zandra Johnson MSN, FNP-BC, CEN
johnsonzandra@yahoo.com

Personal Statement

I am a highly motivated person willing to learn any new skill or procedure. I am interested in helping the community and patients that cannot afford healthcare. My co-workers and supervisors with whom I work with have provided me with superior recommendations to aid me in my search. I would appreciate the opportunity to present these to you, and to introduce myself as a candidate for the position at your office.

Skills

Assessment/diagnosis of acute/chronic conditions
Holistic care
Removal/insertion of IUD's
Implanon removal/insertion
Pelvic/Pap smears
Testopellet insertion
Urgent PC treatment
Incision and Drainage of Abscesses
Patient education
Specialty preceptorship in cardiac clinic
Interpretation of 12-lead EKG's
Suturing/removal of toenail/urgent care procedures

Education

ADN Albuquerque TVI
Graduated in top of class. Clinicals in OB/Pediatrics/Adults/Trauma ICU/Surgery
BSN University of New Mexico
Dean's list. Clinicals in case management and community health.
MSN- FNP University of Phoenix
Graduated University of Phoenix November 2012. GPA: 4.0 Sigma Theta Tau.
DNP
Enrolled in my second semester at UNLV anticipated graduation date is Summer 2021 GPA 4.0

Software Experience

Microsoft word, office, and excel. Several electronic medical records to include epic, allscripts, next Gen and clear practice.

Hobbies & Other Interests

My main hobby is running and spending time with my family. I enjoy competing in timed races, reading and biking.

Current Employment

FNP Southwest Medical

October 2016-current

Provide urgent and immediate care for patients in urgent care setting. Precept students from UNLV MD, NP program and students from Touro DO and PA program. Conducted video assessment for telemedicine patient visits

Work History

FNP

Dr. Gilliam Family Practice/Urgent Care

January 2013-June 2016

Provide medical care to a panel of patients to include routine and urgent visits. Independently diagnose, treat and prescribe medication for medical conditions to include scheduled drugs. Educate patients on preventative health care and prescribed treatments. Perform procedures to include punch biopsies, suturing, incision and drainage, and insert IUD's. Order diagnosis tests and labs.

FNP

Sutter Urgent Care

December 2012-June 2016

Provide urgent and emergent care to variety of patients.

FNP

Dr. Landgraf Family Practice

December 2011-December 2012

Provided medical care to both routine and urgent visits across the age span.

Shift supervisor

Kaiser Permanente

August 2010– 2014

Directed the flow and serves as a resource for a busy emergency room that is a stroke, STEMI, and trauma center.

Education Resource Nurse/Interim Manager Presbyterian Healthcare

2006-2010

Served as a clinical resource for clinicians caring for emergency room patients. Developed and coordinated education opportunities that promoted professional nursing practice and maximized patient's potential for health in the emergency room. Knowledge of various pharmacological agents used in patient treatment. Assumed full responsibility of assigned patients and ancillary staff to include technicians and clerks. Served as interim manager and charge nurse.

Flight Nurse

Med Flight Air Ambulance

2001-2003

Transported critically ill patients in a leer jet, domestic and international. Responsible to assess and implement a plan of care while transporting patients. Administer various medications and lifesaving therapies.

Senior Clinician/Permanent Charge Nurse- Interim Manager ER Lovelace

2000-2006

Senior Clinician 200-2003, experienced in taking care and triaging patients in need of acute care in Level 2 trauma center and STEMI center. Permanent charge Nurse/interim Manager ER 2004-2006- directed flow to include assignments to physicians in a busy emergency room.

Staff Nurse- ICU

St. Josephs Health care

1998-2000

Experienced in taking care of critically ill patients to include use of ventilators, pulmonary catheters, CVP, CVVH, EKG monitors, ventricular drains, and other equipment used in an ICU setting.

EMT-I

Regina Volunteer Rescue

1996-1998

Provided basic to intermediate-level emergency and non-emergency care to injured and ill patients. Assessed and managed patients, transported patients, and transferred information and patient care.

Accreditations:

ANCC-BC, DEA, NPI, CEN, TNCC, ENPC, STABLE, NRP, ACLS, PALS, FCCS, EMT-B, EMT-I class, Interpretation of EKG and 12- leads, CVVH, Use of Ventilator modes and nursing interventions, Hemodynamic monitoring, Diabetic resource person, Sheath Removal, taught Emergency course on ports, PICC lines, ABG's, chest tube and respiratory emergencies, Code blue committee, coordinated staffing in Emergency room.

Honors/Awards

Catch-Me award Presbyterian Hospital 2008 & 2009, New Mexico Nurse Excellence Award recipient in Emergency Care 2008, New Mexico Nurse Excellence nominee in Emergency Care 2005 and received mini-grant for Rhythm stimulator.

Community Activities

Regina Rescue, Regina NM-EMT-B, American Red Cross-Osan Air Force Base, South Korea, Zoo Run, Albuquerque, NM 2007,2008, and 2009 Susan G. Komen, volunteer at planned parenthood, and Run for the Cure 2008.

Languages

English- native language

Spanish-partial basic competence

Memberships

*Emergency Nurses Association
American Nurses Credentialing Center
National Academy of Dermatology Nurse Practitioners
Honor Society of Sigma Theta Tau International*

References -upon request