Introduction

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INTRODUCTION

A stroke is the brain equivalent of a heart attack which can be a sudden and catastrophic event. Blood must flow to and through the brain to function. If its flow is obstructed, by a blood clot moving to the brain, or by narrowing or bursting of blood vessels, the brain loses its energy supply, causing damage to tissues leading to occurrence of stroke. The longer blood flow to the brain is interrupted the greater chance of permanent brain damage. Within minutes, brain cells begin to die; two million brain cells die every minute during stroke, and 14 billion synapses for each minute remain untreated. This is the equivalent of 3.6 years of accelerated brain aging per untreated hour increasing the risk of permanent brain damage, disability, or death **(American Stroke Association (ASA), 2010; Alberts etal., 2011).**

According to WHO, 15 million people worldwide are diagnosed with stroke annually, about 4.5 million patient die from stroke every year and five million remain permanently disabled placing a burden on family and community. Stroke accounts for 9% of all deaths worldwide and is a major cause of severe disability. Although the incidence of stroke is decreasing due to increased awareness and modification of risk factors such as hypertension and smoking, the absolute number of strokes continues to rise as a result of an ageing population and increased life expectancy (**Centers for Disease Control and Prevention, 2012; Murphy etal., 2013; Sidney etal., 2013)**

The two main types of stroke are ischemic and hemorrhagic, accounting for approximately 87% and 13%, respectively. Strokes caused by blocked blood vessels to the brain or ischemic strokes, lead to cerebral infarction, whereas hemorrhagic strokes caused by ruptured

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vessels in and around the brain lead to intra cranial hemorrhage (ICH) and sub arachnoid hemorrhage (SAH). Ischemic strokes are commonly caused by atherosclerotic disease of extracranial or intracranial vessels that circulate blood to the brain. Approximately 20% of ischemic strokes are caused by large-vessel atherosclerosis (extracranial or intracranial segments of carotid or vertebrobasilar arteries), and 25% of ischemic strokes are due to small-vessel disease that causes lacunar or subcortical strokes. Another 20% are caused by cardiogenic embolism, most frequently from atrial fibrillation. Approximately 30% of ischemic strokes are termed cryptogenic, for which the exact cause of stroke remains unknown. (**Lukovits etal., 2011; Cha etal., 2012; Alspach, 2013**)

Hemorrhagic stroke is commonly caused by either primary ICH or SAH. Overall, ICH accounts for 10% of all strokes and SAH accounts for 3%. Common causes and risk factors for ICH are hypertension, bleeding disorders, African-American ethnicity, aging, vascular malformations, excessive use/abuse of alcohol, and liver dysfunction. The primary cause of SAH is a ruptured cerebral aneurysm often causing tissue damage due to pressure-related changes.(**National stroke Foundation, 2010**; **Langhorne etal., 2011)**

Patients with suspected acute stroke should be triaged with the same priority as patients with acute myocardial infarction or serious trauma, regardless of the severity of neurological deficits. Given the narrow therapeutic windows for treatment of acute ischemic stroke, timely emergency department (ED) evaluation and diagnosis of ischemic stroke are paramount. **(Acker etal., 2007; Ireland etal., 2010; Jonasson etal., 2012**)

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The evaluation and initial treatment of patients with stroke should be performed expeditiously. Organized protocols and the availability of a stroke team speed the clinical assessment, the performance of diagnostic studies, and decisions for early management. The clinical assessment (history, general examination, and neurological examination) remains the cornerstone of the evaluation. Stroke scales, such as the NIHSS, provide important information about the severity of stroke and prognostic information and influence decisions about acute treatment. Because time is critical, a limited number of essential diagnostic tests are recommended. Additional diagnostic studies, including cardiac and vascular imaging, often are time consuming and may delay emergency treatment. Stroke protocols and pathways should clearly define which tests must be performed before acute treatment decisions and which may be performed subsequent to acute stroke therapies. **(Edward et al., 2013)**

Emergency nurses (ENs) play a vital role in acute stroke care, so they should have adequate knowledge about evidence-based stroke management to improve stroke care in the ED, decrease clinical risk associated with acute stroke and decrease stroke related mortality by prevention of complications in the first 24 to 48 hours after stroke. In order to improve the emergency nursing management of ischemic stroke, information about guidelines and decision support, tools for use in emergency must be practical and have high levels of clinical utility for maximum uptake in a busy clinical environment. Knowledge about ischemic stroke guideline act as a guide for triage decision making, initial assessment, ongoing nursing care and specialist referrals. Although elements of the ischemic stroke guideline may seem reflective of usual emergency nursing practice, the ischemic stroke guideline was aimed to assist all levels of staff to provide optimal care to patients with acute

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ischemic stroke (**Adams et al., 2007;Summers et al., 2009; Jones etal. 2010**)

Nurses' knowledge about ischemic stroke has a direct effect on nurses' practice, decreasing complication and optimizing patient care. In a study conducted by **McKenna, (2007),** mentioned that nurses who had knowledge based on scientific evidence, have been able to make better decisions, higher quality care, shorten patient's hospital stay, reduce costs, and bring better cost effectiveness for the patient. In another study conducted by **Ebrahim (2012)** which was done at Alexandria University, it was found that nurses' knowledge about stroke is correlated with nurses' performance. Also **Considine & Mc Gillivray (2009)** reported that employing evidence based care for stroke patients resulted in improving care and better health outcomes. A review of the literature found that multiple studies assessed nurses' knowledge about stroke but few studies were found that assessed emergency nurses' knowledge about evidence-based ischemic stroke care.

Nurses address human responses to alterations or potential alterations in health. A strong policy emphasis on clinical effectiveness means that health care professionals are increasingly called upon to justify the evidence base for their decisions, both to consumers and those in position to create and support health care policy. Most nurses would agree that evidence based practice (EBP) should be "usual and customary" in their organizations The Joint Commission (JC) requires nurse executives to ensure quality nursing care including incorporating current research findings into practice. This is a challenging goal because many nurses do not understand nor have the skills to seek and apply evidence to their day to day practice **(Catangui etal. ,2012).**

Open Knowledge

Significance of the study

This study provides baseline information on emergency nurses' knowledge about evidence-based nursing practice of ischemic stroke patients. It will provide strong body of scientific knowledge which will ensure the highest standards of nursing care practice. This can be achieved through adherence to the evidence based guidelines for evidence-based nursing practice of ischemic stroke patients, ultimately improving patients' outcomes. Improved outcomes will shorten patient's length of stay, hospitalization as well as benefit the patient financially with decreased hospital costs. Hospitals also gain benefits as they are continually faced with the challenge of providing cost effective services to patients and communities.

Therefore the current study is carried out to assess emergency nurse's knowledge about evidence-based nursing practice of ischemic stroke patients.

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