

# Assessment of awareness and attitude of EMS personnel concerning pre-hospital stroke care based on American Stroke Association Guideline



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**Received:** 12 February 2020

**Accepted:** 25 March 2020

**Published online:** 6 April 2020

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**Competing interests:** None.

**Funding information:** This study was financially supported by Guilan University of Medical Sciences with grant number 2031.

**Citation:** Asadi P, Monsef Kasmaei V, Zia Ziabari SM, Bakian S, Noyani A. Assessment of awareness and attitude of EMS personnel concerning pre-hospital stroke care based on American Stroke Association Guideline. Journal of Emergency Practice and Trauma 2020; 6(2): 68-72. doi: 10.34172/jept.2020.05.

## Abstract

**Objective:** Emergency medical services (EMS) is a critical component of health care system and the forefront of stroke care. The prominent role of EMS in stroke care is timely and accurate diagnosis of acute ischemic stroke and transfer of the patients to stroke centers. The present study aimed to assess the "awareness" and "attitude" of EMS personnel concerning prehospital stroke care based on American Stroke Association (ASA) guideline in Rasht town.

**Methods:** This was an analytical cross-sectional study. The participants, consisted of all EMS personnel (n=115) in Rasht town in 2012, entered the study based on census method. Awareness and attitude of EMS personnel toward prehospital stroke care were assessed using a questionnaire based on ASA guideline. The questionnaire had two sections. The first part contained demographic data and the second part had multiple choice items (Likert-type scale response anchors) to assess awareness and attitude of the personnel. The questionnaires were filled out by the personnel. The collected data were analyzed using descriptive and inferential statistics using SPSS software version 20. *P* value less than 5% was considered significant.

**Results:** Ninety people participated in this study. The average of age and working experience of participants were  $36.84 \pm 8.02$  and  $11.36 \pm 5.71$ , respectively. Most of the participants had bachelor degree (n=33, 36.7%) and majored in medical emergency (n=43, 47.8%). Most of them were contract employees (47.8%). Mean scores of awareness and attitude of the personnel were 26.68 (the total number of score = 51) and 32.56 (the total number of score = 80), respectively.

**Conclusion:** Findings revealed poor awareness and attitude of EMS personnel toward prehospital stroke care based on ASA guideline in Rasht Town. We recommended retraining courses to promote awareness of EMS personnel.

**Keywords:** Awareness, Attitude, Stroke, Prehospital care

## Introduction

Ischemic stroke is a common neurological disorder and the leading cause of death worldwide. Studies have shown that 6.5 million people died of stroke, 25.7 million survived, and 10.3 million were just diagnosed with stroke in 2013 (1). Two percent of emergency calls were related to ischemic stroke in the prehospital system in the United States. This accounts for 1% of the calls in Iran (2). Emergency medical services (EMS) is the critical component of the health care system and the forefront of stroke care (3). The prominent role of EMS in stroke care is timely and accurate diagnosis of stroke and transfer of diagnosed patients to stroke centers (4). In addition to specific treatments for stroke, EMS personnel should be cautious of patients' movement while transferring them to the hospital, either with an ambulance or a helicopter.

If necessary, they should administer oxygen therapy, control fluid therapy, treat hypoglycemia, and monitor heart and blood pressure (5,6). Unfortunately, prehospital emergency personnel do not have enough knowledge to accurately differentiate ischemic stroke from ischemic stroke imitators. For example, the results of a study showed that a quarter of patients initially diagnosed with stroke and dispatched to the hospital by EMS personnel were treated and discharged from the hospital with other medical reasons (7,8). A study in Germany showed that 51% of ischemic stroke cases were diagnosed by EMS personnel (9). Therefore, it is essential to use an appropriate prehospital screening tool for timely and accurate diagnosis of ischemic stroke and quick transfer of patients to specialized centers (10). Several prehospital scales have been designed for the diagnosis of stroke.

