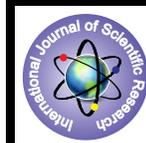# Comparison of Cares in Patient with Acute Myocardial Infarction Hospital in Prehospital with Current Guidelines

Nursing

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ABSTRACT   *Some progress has been resulted in the treatment of acute myocardial infarction; led to significant improvement of treatment result. This study was done aimed to evaluate the care of patients with angina and comparison to standard. In this descriptive-comparative study, 300 pre-hospital processes medical emergency center in Zahedan were selected and evaluated by sampling method. Conducted to evaluate the efficacy of each of the pre-hospital care, according to the standard procedure of extraction and on standard of state emergency the planed checklist and information were collected. Evaluation of patient care was performed from the moment of patient arrival to ambulance. Mean transfer time is 31.74 minutes compared to the standard (35 minutes). 95% of respondents had participated in the specialized course of heart and there is significant relationship between of the compliance measures of care of patients with acute myocardial infarction from arrival moment to ambulance to the adoption in hospital and passing emergency specialized courses of heart. Care performances don't consistent 91.3% with standard and 8.7% have not met the standards.*

Background

Coronary artery disease (CAD) constitutes the main cause of death in industrialized countries have an impact on morbidity, disability, and loss ability. Over the past few decades reduced gradually of the disease by improving diagnosis, prevention and treatment. In the United States occur annually approximately 1.2 million heart attacks. Almost half of all deaths in industrialized countries and 25% of deaths occur in developing countries due to CAD. It is predicted until 2020 year, the number of deaths due to CAD is greater than deaths of infectious diseases and allocated the death cause to own (1).

Statistics of the Iran country show that in a year from 800 deaths per day, about 360 of them are caused by cardiovascular disease. Of these, 198 people have died of a heart attack (2). Based approach in cardiac patients is beginning treatment as soon as possible after arrival at the bedside of the patient. Indeed, the staff practice of pre-hospital medicine emergency has a key role in the recovery of heart diseases (3). Primary coronary intervention in acute myocardial infarction should be done quickly in less than 90 minutes (4).

Today, emergency medical personnel in many countries have the ability to interpret electrocardiogram (ECG) for patients to be able to perform emergency reperfusion, the person in the shortest time to refer to the respective centers (5). Pre-hospital emergency personnel with the proper training can, if necessary, even use of anticoagulant drugs and in irregular heartbeat use of amiodarone (3).

The truth is bitter that less than 5% of all patients with cardiac arrest outside of the hospital will remain alive (3). Therefore, it should be careful focused on improving the knowledge and skills of emergency technicians to make progress as a result help to patients suffering from angina and cardiac arrest. Despite the obvious role of emergency medicine personnel in reducing mortality and morbidity after myocardial infarction, a study had to be in line with national guidelines and performance evaluations of medical emergency pre-hospital care of patients with acute myocardial infarction has been done.

Objective

Researcher is seeking that with the aim of comparing of care of patients with acute myocardial infarction with current guidelines for providing better pre-hospital care to patients with acute stroke heart. Thus, this study was done with aimed of survey of pre-hospital emergency in patients with current guidelines.

Materials and Methods

This analytical cross-sectional study paid to examine 300 pre-hospital processes in patients with acute myocardial infarction in the medical emergency and incident management center in 2011, in Zahedan. To evaluate the efficacy of each pre-hospital treatment, first, the standard procedure of references was extracted and designed checklist according existing national emergency. The first part of questioner include demographic information of emergency technicians as age, sex, education level, work experience in medicine emergency, participate in specialized training for cardiac emergencies, patients demographic characteristics, living area and distance to the hospital, elapsed time between contact to emergency and workers attend in the scene, early detection of technician and final diagnosis. The second part includes a check list pre-hospital care and the use of guideline therapy as observe the minimum transmission time to the hospital, the use of electro-shock and resuscitation of patients with cardiac arrest, the use of morphine sulfate, two intravenous lines, electrocardiography, care by three technicians.

In this study, scientific validity of tools was used from content validity. Thus, by study of books and scholarly and new articles related to the topic and using the tips and feedback of supervisors and statistics of questionnaire and then will be set and reviewed and evaluated 10 faculties of the university to evaluate its compliance with the objectives of the study and the cultural norms. After gathering comments and implementing reforms necessary final questionnaire was used to research. In this study used for the scientific reliability of the study instrument from test-retest that was shown the results of 85% correlation coefficient.

Finally, check list corresponding to the cases number of transfer of patients suspected with acute myocardial infarction were filled to Imam Ali Hospital of Zahedan (according to sample size). On the check list indicated that if staffs performance of emergency in

pre-hospital care is according to the standard or not and was coded compliance rate with standards based on percent of compliance as follows: weak, medium and strong. Data were collected using interviews and observation by the researcher.

Analyze by SPSS 16 software was performed based on descriptive statistics and inferential, Chi square and Sample t-test.

Results

In this study were studied 300 processes of pre-hospital care of patients with myocardial infarction. In this study, 146 persons (48.7%) of emergency technicians were between 25-35 years. In other words, most technicians were in the age group 25 to 35 years (Table1). In this study all technicians of provider of care were male. 91.7 % of them had associate degree education. 95.3 % of employees who were in this study, participated in specialized courses of hearts. 85.3 % of employees reported willingness to participate in specialized courses hearts. 165 persons (55%) of the respondents have less than 5 years of work experience . 60 persons (20 %) 5-10 years, 52 persons (17.3%) more than 20 years, 23 persons (7.7 %) , 20-10 years have work experience. Average of time to transfer the patient to the hospital in this study was 31.74 minutes.

The care of 274 processes (91.3%) wasn't consistent with the current standard if care in 26 of the cases (8.7%) did not comply with the current standard.

Pre-hospital care of patients with acute myocardial infarction and pre-hospital emergencies 115 Zahedan, including oxygen therapy, serum therapy, sublingual TNG spray, the principles of immobility of heart disease and carry by stretcher (Table 2). There is a significant relationship between adaptation of cares for patients with acute myocardial infarction from arrival moment to the ambulance to admission in Imam Ali hospital of Zahedan and age of technicians (P=0.413).

Discussion

In terms of age group 48.7% technicians were in the age group 25 to 35 years, according to standard procedures, 50% of those have to be 25-35 years, which was in line with the standard (6). All technicians who care were males. Compliance standards in relation were male and female (6). Education, emergency technicians, the study showed that 91.7% level of education was associate degree, while 10% compared to the standard of education of care givers should have been associate degree (6). 95.3% technicians had passed specialized cardiac care provider. Compared to the standard 100% employee must participate in specialized courses hearts (6)

Employment status of researched units indicates that the most percentage of frequency 55% and belong to less than 5 years of work experience. The role of pre-hospital emergency care in reducing the time between onset of symptoms and arrival at hospital, ECG obtaining and treatment onset is very important (7). In this study, there is a different between the time to transfer the patient to the hospital and current standard. So that, the time of patient transferring to hospital is less than standard time (35 minutes) (6). In the study of Johnson and his colleagues, patients were transferred to hospital one hour after the onset of symptoms and in all patients with acute myocardial infarction than other patients have lower latency to going to hospital (8).

Much evidence indicates that early treatment reduce morbidity and mortality and gives the best chance of survival and quality of life to patients (9).

Standard care for patients with acute myocardial infarction are include combined AED (Automated External Defibrillator) and CPR (Cardiac Pulmonary Resuscitation) and ALS (Advance life support) in patients with cardiac arrest, Morphine Sulfate for pain relief and aspirin to dissolve the clot, immobile patients to deliver to the hospital, oxygen therapy to transfer to the hospital, sublingual TNG spray , calm of the patient in the ambulance, reducing external stimuli inside the ambulance , care from patients emergency by three technicians of medical emergency, using recipes (consultation with a center doctor) for treatment in patients with chest pain. An attentive person should be passed heart specialized courses and have 3 years' work experience in emergence, getting two opened intravenous lines in patients with cardiac pain. The results of this study suggest that care in 91. 3 cases were consistent with existing standard and there was no match only in 8.7 % of cases. Due to the effect of morphine in patients with angina and myocardial infarction, to reduce pain of heart patients and anxiety reduce in cardiac patients is recommended to use this drug in the ambulance. Since the immobilization should be taken in the heart patient, it is suggested that three people do careof cardiac patient for transport to ambulance. At prehospital emergencies (115) in Zahedan, ECG isn't taken; it is recommended that ECG be takenin patients with chest pain in ambulance to diagnosis of myocardial infarction. A study in Germany showed that 88% of ambulances are taken ECG for patients with chest pain (10).

There was a significant relationship between adaptation of care for patients with acute myocardial infarction from arrival moment to the ambulance to hospital admission and emergency cardiac specialized courses of technicians (p=0.0437). Also, there is relationship between the care of patient and age of provider technicians. People in the age group of 25 to 35 years had been done care by more consistent with the standard.

There was a significant relationship between adaptation of care for patients with acute myocardial infarction from arrival moment to the ambulance to hospital admission and education of technicians (p=0.014).

There was not a significant relationship between adaptation of care from patients with acute myocardial infarction from arrival moment of the ambulance to hospital admission and experience in emergency medicine (p=0.36). People who have less than 5 years' experience in medicine emergency correspond more with existing standards.

Acknowledgments

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