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Research Article

**THE STUDY OF CLINICAL SYMPTOMS OF MYOCARDIAL
INFARCTION IN MEN AND WOMEN HOSPITALIZED IN
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Mohamad Reza Havasian⁵, Morteza Salarzaei^{1*}**¹Student of Medicine, Students Research Committee, Zabol University of Medical Sciences, Zabol, Iran.²Department of Cardiology, Faculty of Medicine, Zabol University of Medical Sciences, Zabol, Iran.³Zabol University of Medical Sciences, Zabol, Iran.⁴Student of Medicine, Students Research Committee, Zahedan University of Medical Sciences, Zahedan, Iran.⁵Department of Periodontics, School of Dentistry, Ilam University of Medical Sciences, Ilam, Iran.**Abstract:**

Coronary heart diseases are the main reason of mortality in most of the industrial countries. At present, the most important cause of mortality is the cardiovascular diseases on top of which one can find coronary artery disease. The present research aims at studying the clinical symptoms of myocardial infarction in men and women hospitalized in the CCU of Imam Ali Hospital in Zahedan. The present study is an analytical cross-sectional study in which 210 patients were studied; they were diagnosed with acute myocardial infarction that was confirmed by a cardiologist. The patients were hospitalized in Imam Ali Hospital in Zahedan in 2016. The information of the patients was collected through the researcher-made questionnaire. The questionnaire includes demographic information and symptoms of acute myocardial infarction. The data were analyzed using SPSS 18 and chi-square test. Moreover, in the present study $p < 0.05$ was determined as the significance level. In the present study, 59 percent of the female participants and 72 percent of the male participants were married. Junior high school (middle school) was the most frequent educational level for both genders: 35 percent of the females and 45 percent of the males had this educational level. Moreover, with respect to symptoms such as anorexia, nausea, indigestion, heartburn, stomach flatulence, tinnitus, and vertigo, no significant difference was observed between the two groups ($P > 0.05$). However, symptoms such as vomiting, dyspnea, fatigue, and anxiety were significantly more in women than men were. The findings of the present study indicate that atypical symptoms especially in women are likely to cause women's delay to visit the doctor and delayed decision of diagnosing and treating by the medical team. Thus, it is essential and recommended to provide programs to teach the whole society as well as the healthcare workers especially in the emergency units of the hospitals.

Key Words: Clinical Symptoms, Myocardial Infarction, CCU, Zahedan.**Corresponding author:****Morteza Salarzaei,**
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INTRODUCTION:

Coronary heart diseases are the main reason of mortality in most of the industrial countries. At present, the most important cause of mortality is the cardiovascular diseases on top of which one can find coronary artery disease [1]. These diseases result in morbidity, remarkable reduced physical abilities, and decreased efficiency that are the regarded as the costly factors of the health cares. Once newer medical treatments and surgeries are created, the mortality rate arising from the coronary heart diseases has reduced over the past few decades [2]. The treatment through taking thrombolytic drugs will definitely reduce the mortality rate arising from acute myocardial infraction [3]. However, the treatment through applying thrombolytic drugs is closely related to time; the patients who refer in 6 hours after the prevalence of the symptoms will greatly take advantage of the drugs, while taking the drugs after 12 hours (after the prevalence of the symptoms) will have no benefit in the thrombolytic treatment. The most prevalent warning symptom of myocardial infraction is acute chest pain that can be felt in the middle of chest, epigastric region, and so on as restraining, feeling heavy, and ... and in some cases this pain spreads to the arms, stomach, back, lower jaw, and neck [4]. The most frequent case of diagnostic mistakes arise when the pain is under the process of Xiphoid and it is associated with digestive symptoms [5]. Accurate diagnosis of the abovementioned pain, in the first 24 hours especially within the first few hours after the acute pain, therapeutic measures, and providing accurate cares for the patient will reduce the extension of the infraction lesion and its complications [6]. Lack of information about the symptoms is one of the most important factors for the delay of patients suffering from coronary artery disease; these patients are not seeking to provide proper cares even within hours after the symptoms start to emerge [7]. Since in addition to the hospital delay in providing sufficient the treatment, the greatest delay is made by the patients themselves owing to the lack of information about the symptoms, well-informed nurses can have a significant role in reducing the delay made through providing the information about the symptoms [8]. As for the patients who have been hospitalized in different units for causes other than myocardial infraction and suffer from myocardial infraction, the unit nurses are the closest person they can access [9]. The patient will easily notice the occurrence of any change in the status of the patient. Given that one of the nurse's main goal is helping the diagnosis process, he/she can prevent the mortality of the patients through acquiring information and awareness about the symptoms. Some of the studies have indicated that clinical symptoms are different in men and women. Chen *et al* (2005) have indicated that a more

significant number of women have referred to chest discomfort, chest in other areas other than chest, and unjustifiable anxiety. Women have turned out to have less chest pain and left side chest pain [10]. As for the women, the pain usually started from the arms and other areas of the body and had spread to the chest [11]. With respect to pain quality, pattern, and intensity, no significant difference was observed between the two genders. Thus, we aimed to conduct the present research to study the clinical symptoms of myocardial infraction in men and women, so that we can encourage the patients to have well-timed visits to the medical centers through providing proper education and increasing the public awareness.

MATERIALS AND METHODS:

The present analytical cross-sectional study was conducted in 2016. In the present study, 210 patients were selected through purposeful sampling; they were diagnosed with acute myocardial infraction that was confirmed by a cardiologist. The patients were hospitalized in Imam Ali Hospital in Zahedan in 2016. The exclusion criteria of the present study were addiction to alcohol, mental problems, deceased level of consciousness, history of acute musculoskeletal pain at least one week before the symptoms start, digestive diseases such as peptic ulcer, and congestive heart failure. The data were collected through applying researcher-made questionnaire that included demographic information and symptoms of acute myocardial infraction. The data were then analyzed through using SPSS 18 and chi-square test [12-14]. Moreover, in the present study $p < 0.05$ was determined as the significance level.

FINDINGS:

The findings of the present study indicated that most of the participants were married: 59 percent of the female participants and 72 percent of the male participants were married. In both groups, 35 percent of the females and 45 percent of the males had the educational level of junior high school (middle school), and a few patients had academic degrees. As for women, 25 percent of the patients had a history of myocardial infraction; while this number was 27 percent form men. 64 percent of the women and 54 percent of the men had a history of myocardial pain. Moreover, most of the participants had a history of being hospitalized in the CCU; 52 percent of the females and 61 percent of the males. 35 percent of the females and 32 percent of the males had family members with a history of myocardial infraction. With respect to the demographic variables, no significant difference was observed between the two groups. Moreover, the pain quality was not statistically significant between the two groups. Symptoms

such as vomiting, dyspnea, and fatigue and anxiety were significantly higher than those of the men with 0.01, 0.001, 0.001, and 0.03 respectively. As for men, symptoms such hiccup, perspiration, and fainting were higher than those of women with 0.004, 0.001, and 0.01 respectively. Moreover, with respect to symptoms such as anorexia, nausea, indigestion, heartburn, stomach flatulence, tinnitus, and vertigo, no significant difference was observed between the two groups ($P>0.05$). Furthermore, symptoms such as vomiting, dyspnea, and fatigue and anxiety were significantly higher in women than those of men with 0.004, 0.001, and 0.01. With respect to clinical symptoms such as anorexia, nausea, indigestion, heartburn, stomach flatulence, tinnitus, and vertigo, no significant difference was observed between the two groups.

DISCUSSION:

Cardiovascular diseases are among the world's important health problems [15]; 13 million people suffering from coronary artery diseases live in the United States [16]. These diseases are the main factor of mortality for one fifth of the deaths in England and the main cause of women's deaths in western and developed countries [17, 18]. The mortality rate arising from heart disease is increasing in Iran [19]. The studies conducted in 1960s suggested that the main causes of disability and early deaths have changed from infectious and contagious diseases to chronic and degenerative diseases. Given the importance of this subject, the present research aimed at studying the clinical symptoms of myocardial infarction in men and women hospitalized in the CCU of Imam Ali Hospital in Zahedan. The findings of the present study indicated that there was a significant difference between men and women with respect to chest pain; women's chest pain was less than that of the men ($P<0.05$). Nikravanemofrad *et al* (2008) have stated that men experience more chest pain than women do after the myocardial infarction [20]. However, women experience more pain in areas other than chest. In the present study, the location as well as pain distribution pattern was different in the two genders; women were more likely to suffer myocardial infarction pain in areas such as jaw, neck, throat, shoulder, and left shoulder blade. Other studies have referred to the difference of the two genders in this regard. In their study, Thuressen *et al* (2005) have asserted that women experience the pain symptoms and discomfort more frequently in areas like neck, chin, and back. Moreover, some studies have indicated that women have referred to back pain and men have reported chest pain [21]. Culić *et al* have also have also stated that women have experienced the pain between two shoulder blades and back, and men experienced the middle and left chest pain [22]. In fact, the women participated in their study reported

the pain distribution from the chest toward the scapula, right arm, and between the two shoulder blades. However, the men reported the pain distribution from the chest toward left shoulder blade and left arm, scapula and both arms, and forearms and both hands. Symptoms such as vomiting, dyspnea, fatigue and anxiety were more frequently seen in women, and symptoms including hiccup, excessive perspiration, and fainting were more frequent in men. As for other symptoms such as anorexia, nausea, indigestion, heartburn, stomach flatulence, coughing, palpitation, blurred vision, tinnitus, and vertigo, no significant difference was observed between the two groups ($P>0.05$). Culić *et al* (2002) have indicated that women show symptoms such as nausea, dyspnea, and coughing more significantly than men do [12]. Moreover, men experience symptoms such as perspiration, flatulence, fainting, and hiccup more than women do. Their findings are consistent with those of the present study only with respect to symptoms such as perspiration, dyspnea, fainting, and hiccup.

CONCLUSION:

The findings of the present study suggested that it is likely that myocardial infarction coincides with a variety of other diseases. What seems to be important is that atypical symptoms especially in women are likely to cause women's delay to visit the doctor and delayed decision of diagnosing and treating by the medical team; this results in increased mortality. Thus, it is essential and recommended to provide programs to teach the whole society as well as the healthcare workers especially in the emergency units of the hospitals. It is recommended that other researchers study the correlation between age and other symptoms of myocardial infarction in different societies.

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