Symptoms of acute myocardial infarction: A correlational study of the discrepancy between patients' expectations and experiences

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ABSTRACT

Background: Patients' responses to acute myocardial infarction symptoms are affected by symptom incongruence, which is the difference between the symptoms they expect to experience and the symptoms they actually experienced during an acute myocardial infarction.
Objective: To examine the relationship of patients' demographics, clinical characteristics and sources of information about acute myocardial infarction with their symptom expectations, actual experiences and symptom incongruence.
Design: Descriptive correlational study.
Setting: Patients were recruited from ten hospitals in the two most populated cities in Jordan (Amman and Al Zarqa).
Participants: Jordanian patients with acute myocardial infarction were recruited. Inclusion criteria were age 18 years or older, diagnosis of acute myocardial infarction, oriented, mentally competent and fluent in Arabic. Exclusion criteria were experiencing acute myocardial infarction during a hospitalization or having severe psychiatric illnesses.
Methods: The Morgan Incongruence of Heart Attack Symptoms Index was used to quantify symptom incongruence and identify patients' expected and experienced acute myocardial infarction symptoms. Patients' information sources about acute myocardial infarction and demographic and clinical characteristics were collected by interview and medical chart review.
Results: Patients ($N = 299$) were mostly males (80%) and married (92%). The average age was 56 ± 12.3 years. Patients expected a limited number of acute myocardial infarction symptoms and these expectations were largely confined to typical symptoms and matched their experiences. Patients who were female, elderly, nonsmokers, poorly educated, with low income, and those who were normolipidemic, had no personal or family cardiac history, and were informed about acute myocardial infarction by relatives expected fewer symptoms (mostly typical and atypical) than their counterparts. Elderly patients and those with hyperlipidemia experienced fewer typical symptoms than their counterparts. Patients with

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ST-elevation myocardial infarction or previous myocardial infarction experienced more symptoms than their counterparts, yet only the former had more typical complaints. Characteristics that improved patients' awareness of AMI symptoms were mostly similar to those that decreased symptom incongruence.

Conclusions: Patients' expected and experienced acute myocardial infarction symptoms and symptom incongruence varied according to their demographic and clinical characteristics. Information sources that patients used to learn about acute myocardial infarction may contribute to symptom incongruence.

What is already known about the topic?

- Patients are often aware of the typical symptoms of acute myocardial infarction but are less knowledgeable of the atypical symptoms.
- The mismatch between expected and experienced acute myocardial infarction symptoms complicates patients' interpretation of symptoms and prolongs their prehospital delay.

What this paper adds

- Patients' demographic and clinical characteristics are linked with experienced and expected myocardial infarction symptoms and symptom incongruence.
- Patients relied on their relatives more than other information sources for their knowledge about myocardial infarction symptoms.
- Reliance on relatives as a main information source is associated with an increase in the gap between expected and experienced symptoms of myocardial infarction.

1. Introduction

Jordan, as did other countries in the Middle East, witnessed a shift in disease burden in the past two decades from infectious diseases to non-communicable diseases. Currently, the highest mortality rate (36%) for all diseases is associated with conditions of the circulatory system, mainly acute myocardial infarction (AMI) (Jordan Ministry of Health, 2013). Quick initiation of reperfusion therapy after the onset of AMI symptoms is crucial for improving survival rates and reducing infarct size. Prehospital delay, the time that has elapsed between the onset of AMI symptoms and the patients' arrival to the hospital, reduces the opportunity for early reperfusion of ischemic myocardial tissue (De Luca et al., 2008).

The delay in seeking treatment for AMI becomes significantly longer when patients develop symptom incongruence or the discordance between the symptoms they expect and the symptoms they actually experience during AMI (Abed et al., 2015b). Between 42% and 74% of patients with AMI experienced symptom incongruence (Chareonthaitawee et al., 2000; Song et al., 2010). During AMI, patients commonly expect a symptom experience similar to that seen on the media or that is highlighted by other information sources (i.e., internet, health care providers and significant others like relatives). This experience consists of typical symptoms with a sudden and relatively unremitting nature. Although complete consensus is lacking, typical manifestations of AMI are chest pain or discomfort, jaw pain or discomfort, pain radiation to jaw or shoulders, and dyspnea, in addition to symptoms being sudden, continuous, and severe. However, AMI may present with atypical manifestations that many patients do not expect (Henriksson et al., 2007). These atypical manifestations include, but are not limited to, abdominal pain, headache, palpitation, nausea and vomiting, in addition to symptoms being gradual, intermittent, or mild.

Experienced symptoms in AMI may vary according to patients' demographic (e.g., age, gender) and clinical characteristics (e.g., co-morbidities, smoking, AMI type; Arslanian-Engoren et al., 2006; Ryan et al., 2007). Elderly individuals, for example, tend to have intermittent chest pain that gradually increases in intensity while young patients commonly experience severe, radiating chest pain (Ryan et al., 2007). Men frequently complain of typical symptoms while women commonly describe atypical symptoms (Albarran et al., 2007; Arslanian-Engoren et al., 2006; Thuresson et al., 2005). Patients with comorbidities, such as diabetes mellitus (DM), are more likely to develop silent or asymptomatic AMI than their correspondants (MacInnes, 2005).

Patients commonly expect a specific AMI symptoms (i.e., the typical symptoms), and AMI presentation differs based on their demographic and clinical characteristics. These two factors suggest a potential relationship between patients' characteristics and symptom incongruence. This relationship, however, has not been investigated in the litrature. Further, the contributions of information sources about AMI to patients' expected AMI symptoms and subsequently to symptom incongruence are unexplored. Therefore, the purpose of the current investigation was to study symptom incongruence among Jordanian patients with AMI. Our specific aims were to examine the relationship of Jordanian patients' demographics (i.e., age, marital status, education, income, insurance, having spouse with cardiac history, having relative with cardiac history), clinical characteristics (i.e., smoking, HTN, DM, hyperlipidemia, cardiac history, AMI type), and information sources about AMI (i.e., mass media, internet, nurses or physicians, relatives, others or no source) with patients' expectations and actual experiences of AMI symptoms and with symptom incongruence.

2. Design

This, and other studies (Abed et al., 2015a,b) were derived from a large descriptive correlational study. It was