

# Cardiovascular risk factors in Middle Eastern patients undergoing percutaneous coronary intervention: Results from the first Jordanian percutaneous coronary intervention study

Ayman J. Hammoudeh <sup>a,\*</sup>, Imad A. Alhaddad <sup>b</sup>, Yousef Khader <sup>c</sup>, Ramzi Tabbalat <sup>d</sup>,  
Eyas Al-Mousa <sup>a</sup>, Akram Saleh <sup>e</sup>, Mohamad Jarrah <sup>f</sup>, Assem Nammass <sup>g</sup>,  
Mahmoud Izraiq <sup>h</sup>

<sup>a</sup> Cardiology Department, Istishari Hospital, Amman

<sup>b</sup> Cardiology Department, Jordan Hospital, Amman

<sup>c</sup> School of Allied Medical Sciences, Jordan University of Science and Technology, Irbid

<sup>d</sup> Cardiology Department, Khalidi Medical Center, Amman

<sup>e</sup> Cardiology Section, Internal Medicine Department, Jordan University Hospital, Amman

<sup>f</sup> Cardiology Section, Internal Medicine Department, King Abdullah University Hospital, Irbid

<sup>g</sup> Cardiology Department, Ibn Haitham Hospital, Amman

<sup>h</sup> Cardiology Department, Specialty Hospital, Amman

a,b,c,d,e,f,g,h Jordan

**Background and aims:** Cardiovascular disease (CVD) is the leading cause of death in the Middle East. We sought to study the prevalence and coexistence of 6 cardiovascular risk factors (RFs) among patients who underwent percutaneous coronary intervention (PCI), and to evaluate the impact of age and gender on the presence of multiple RFs. **Methods and results:** In this prospective, multicenter study, 2426 consecutive patients were enrolled. Mean age was 59.0 ± 10.1 years and 500 (20.6%) were women. Acute coronary syndrome and stable coronary disease were the indications for PCI in 77.1% and 22.9%, respectively. Hypertension was present in 62.3%, diabetes in 53.8%, hypercholesterolemia in 48.8%, smoking in 43.5%, family history of premature CVD 39.4% and obesity in 28.8%. Only 3.8% did not have any of these RFs. Presence of ≥3 and ≥4 RFS was observed in 57.4% and 29.5% of patients, respectively. Presence of ≥3 RFs was more common in women than men (69.0% vs. 54.5%,  $p < 0.0001$ ), and among patients 41–65 years of age than older or younger patients (60.1% vs. 52.0% vs. 48.3%, respectively,  $p = 0.017$ ). **Conclusions:** Cardiovascular RFs are highly prevalent in this PCI Middle Eastern population undergoing PCI. More than half and more than one-fourth of the patients had at least 3 or 4 RFs; respectively. More women than men and more middle aged patients than older or younger patients had significantly higher rates of presence of multiple RFs.

© 2016 The Authors. Production and hosting by Elsevier B.V. on behalf of King Saud University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

**Keywords:** Cardiovascular disease, Risk factors, Middle Eastern patients, Percutaneous coronary intervention

**Disclosure:** Authors have nothing to disclose with regard to commercial support.

Received 3 August 2016; revised 17 September 2016; accepted 9 October 2016.

\* Corresponding author at: Istishari Hospital, 44 Kindi Street, PO Box 954101, Amman 11954, Jordan.  
E-mail address: [hammoudeh\\_ayman@yahoo.com](mailto:hammoudeh_ayman@yahoo.com) (A.J. Hammoudeh).



P.O. Box 2925 Riyadh – 11461KSA  
Tel: +966 1 2520088 ext 40151  
Fax: +966 1 2520718  
Email: [sha@sha.org.sa](mailto:sha@sha.org.sa)  
URL: [www.sha.org.sa](http://www.sha.org.sa)



1016–7315 © 2016 The Authors. Production and hosting by Elsevier B.V. on behalf of King Saud University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer review under responsibility of King Saud University.

URL: [www.ksu.edu.sa](http://www.ksu.edu.sa)

<http://dx.doi.org/10.1016/j.jsha.2016.10.002>



Production and hosting by Elsevier

Please cite this article in press as: Hammoudeh A.J. et al., Cardiovascular risk factors in Middle Eastern patients undergoing percutaneous coronary intervention: Results from the first Jordanian percutaneous coronary intervention study, J Saudi Heart Assoc (2016), <http://dx.doi.org/10.1016/j.jsha.2016.10.002>

## 1. Introduction

Cardiovascular disease (CVD) is the leading cause of death worldwide and in the Middle East [1–3]. By 2020, the mortality burden from noncommunicable diseases, mostly attributable to CVD, is expected to occur mainly in low- and middle-income countries [4]. International [5,6] and regional [7–10] studies have identified a set of common CVD risk factors (RFs) that are found to be highly prevalent in Middle Eastern communities, including hypertension (HTN), diabetes mellitus (DM), hypercholesterolemia, obesity, cigarette smoking, physical inactivity, family history of premature CVD, and poor diet.

The vast majority ( $\geq 90\%$ ) of Middle Eastern patients diagnosed to have coronary artery disease (CAD) have at least one of the four classical RFs, i.e., HTN, DM, cigarette smoking, and hypercholesterolemia, and the coexistence of two or more RFs [11,12] or three or more RFs [5,8,10] is present in the majority of these patients. The presence of multiple cardiovascular RFs negatively impacts patient prognosis by potentiating the development of atherosclerosis [13] and increasing the intensity, diversity, and cost of long-term medical care. Prevalence of RFs has not been studied in an exclusive percutaneous coronary intervention (PCI) population in this region. The studies that addressed the prevalence of RFs involved patients admitted with acute coronary syndrome (ACS) and treated conservatively or those who underwent coronary angiography and subsequent PCI or coronary surgical revascularization [7–9], patients diagnosed to have stable coronary disease who did not have coronary angiography [8], patients who sustained cerebrovascular events [6], or individuals assessed in an outpatient clinic setup [5,10].

Data from the recently completed first Jordanian PCI Registry were analyzed to determine the prevalence of six cardiovascular RFs among patients who underwent PCI for ACS or stable coronary disease.

## 2. Methods

### 2.1. Study population

The first Jordanian PCI Registry is a multicenter, prospective study that enrolled consecutive patients who underwent PCI in 12 tertiary care centers in Jordan (January 2013–February 2014) and were then followed up for 1 year after the index hospitalization. Patients signed an informed

### Abbreviations

ACS	acute coronary syndrome
BMI	body mass index
CAD	coronary artery disease
CVD	cardiovascular disease
DM	diabetes mellitus
JoPCR1	The first Jordanian PCI Registry
HbA1c	glycosylated hemoglobin
HTN	hypertension
NSTEACS	non-ST-segment elevation ACS
PCI	percutaneous coronary intervention
RF	risk factor
SD	standard deviation
STEMI	ST-segment elevation myocardial infarction

consent form prior to entry to the study. The two major indications for PCI were ACS, including ST-segment elevation myocardial infarction and non-ST-segment elevation ACS, or stable coronary disease, including chronic stable angina and silent ischemia. The prevalence rates of the following six RFs were assessed in every patient during the index hospital stay: HTN, DM, cigarette smoking, hypercholesterolemia, obesity, and family history of premature CVD.

### 2.1. Study measures

All RFs were defined according to standard definitions [14]. Patients were considered to have HTN if they had either systolic blood pressure elevated above 140 mmHg and/or diastolic blood pressure above 90 mmHg on several occasions during hospital stay, were diagnosed to have HTN, or were prescribed anti-HTN medications by a treating physician. DM was defined according to the standard criteria set by the American Diabetes Association, i.e., fasting serum glucose  $\geq 126$  mg/dL, 2-hour glucose level  $\geq 200$  mg/dL, or glycosylated hemoglobin value  $\geq 6.5\%$ . DM was also diagnosed in patients who had unequivocal hyperglycemia and classical symptoms of DM (polyuria, polydipsia, and unexplained weight loss) and casual plasma glucose  $\geq 200$  mg/dL, and those with a prior diagnosis of DM or who were prescribed antidiabetic medications by a treating physician [15,16]. Body mass index (BMI) was calculated according to the standard formula [body weight (kg)/height (m<sup>2</sup>)]. Weight and height were measured as early as possible after hospital admission and when the clinical situation of each patient was stable enough to allow taking these measurements. Patients who were cigarette smokers at enrollment were considered current smokers. Patients who never smoked and past smokers who quit at least 1 month prior to enroll-

Download English Version:

<https://daneshyari.com/en/article/8669887>

Download Persian Version:

<https://daneshyari.com/article/8669887>

[Daneshyari.com](https://daneshyari.com)