



## National registry of myocardial infarction

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The Registry of Myocardial Infarctions (MI Registry) is a national registry in Iran that collects and reports the data on myocardial infarctions. Its main advantage is that it covers the whole country and is mandatory for hospitals to register the MI cases in it. Then, the qualified individuals at the provincial and national levels can get intended reports and make appropriate decisions. Such reports, further to the policy makers and managers, can be very valuable for researchers.

The registry is a unique and comprehensive source of data that can provide priceless reports which can be used in management, policy making, resource allocation, and for research purposes. The data of MI patients from all around the country are entered into the registry by the hospitals in which the MI patients are admitted. The data include the demographic information (name, gender, date of birth, literacy, nationality, health insurance, city, and province), admission data (date and time of the first signs of the attack, date and time of admission in the hospital emergency department, date and time of admission in cardiac care unit-CCU, name of the doctor, and the number of patient's medical record), medical history (coronary heart disease, hypertension, diabetes, high cholesterol, number of cigarettes if smoking, history of CABG and/or PCI and its date), clinical condition (the patient's condition in terms of rhythm and heart block according to the diagnosis of the doctor), interventions (thrombolytic therapy, CABG, PCI, and date and time of each intervention if applied), laboratory results (positive or negative Troponin T and Troponin I, amount of CPKMB, maximum Troponin T and Troponin I, and date and time of each laboratory test), and the discharge information (the patient's status when discharged from CCU-stable or dead, prescribed drugs, final diagnosis, and date and time of discharge).

Based on the recorded data, the registry can provide several reports. One of the reports is the number of MIs within a user-defined time period. By using this report, we will be able to easily calculate the incidence rate of the MI in the country (1). The incidence rate can be calculated for various age groups, males, females, and for the provinces and cities separately (2, 3). We can also determine the disease-specific mortality rate for the MI. These epidemiologic reports can help us to identify the high risk geographic regions, age and gender groups. Then, we will be able to concentrate the reduction efforts on these areas and groups. From a resource allocation perspective, such reports can be used to allocate the resources to the preventive programs that focus on the identified high risk areas and groups. We can also use the above-mentioned reports to determine the trend of MI incidence in the country overall and in the geographic regions separately. It will help us to assess the efficiency of the preventive programs.

Further to the managerial and policy making applications of the reports of the MI registry that we discussed, the registry can provide the researchers with very valuable data (4, 5). For example, by studying the beginning time of the attack signs, time and type of interventions, and the result of treatment, the golden time to treat the MI patients can be determined (6). Similarly the effect of background conditions (such as smoking, hypertension, diabetes ...) on the incidence of MI or the differences resulting from such conditions can be investigated by using the reports of the registry (7, 8). Also using the data of the registry, the case fatality of MI can be calculated (9) and the efficiency of the interventions can be examined (10, 11). The pattern of treatments can be extracted and then compared with the guidelines or recommendations (2). By doing this for the physicians individually, we can provide doctors with feedback so that they probably change their prescription behavior.

The main disadvantage of the registry is parallel data entry because all of the data entered into the registry are recorded at the hospitals either in patient's medical record or in the electronic hospital information system (HIS) or both of them.

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In other words, a considerable amount of time and effort is wasted due to duplication. If a comprehensive HIS exists in the hospital that if it has the ability to report the intended indicators and to safely transfer data to the authorized bodies out of the hospital, there will be no need for double data entry. Thus, there is no need for the registry at all.

The national registry of myocardial infarctions provides valuable information for the managers, policy makers, and researchers. Although the current use of the registry can provide us with considerable and undeniable contributions in controlling and preventing MI, it is recommended that the HISs be improved in the future to prevent the parallel data entry and process so that the qualified individuals at the provincial and national levels can easily get the intended reports from the HISs.

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