Letter to Editor

Differences among official statistics of mortality rates in Iran

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Dear Editor,

Death indicators and causes of death are both closely associated with socio-cultural, economic, and structural factors and determinants of health, with all of which being at the core of the planning, monitoring, and assessment of intervention programs in any healthcare system (1). In Iran, the diagnosis and official registration of deaths are carried out by two independent organizations. These two organizations are medical universities, which are under the supervision of the Ministry of Health and Medical Education (MoHME), and the Forensic Medicine Organization (FMO), which is under the supervision of the Judiciary. The death registration system (DRS) managed by the MoHME suffers from several shortcomings, including inconsistency in DRS administration, the duplicate recording and misclassification of deaths, geographical misalignment, the incompleteness of records, and missing values (2). Given the shortcomings mentioned, the inaccuracy and duplication of the official statistics of the mortality rate throughout the country are probable on the part of different official sources.

In this review, an outline of some of the cases with considerable differences between the mortality statistics registered by the MoHME and by the FMO has been presented. Because of the importance of death events and the respective consequences, the legislator has assigned tasks, such as the issuance of death certificates and the determining of the causes of some deaths, to the FMO, under the following conditions:

a) For all cases mentioned in Table 1, a death certificate will be issued by a forensic physician.

b) For the cases of death that occur less than 24 hours after the admission of the patient to the hospital, the forensic physician issues a death certificate.

c) For the cases of death occurring more than 24 hours after the admission of the patient to the hospital, the hospital physician issues a death certificate after consulting with the forensic physician.

d) The Cemetery Organization shall only accept the certificates issued, signed, and sealed by hospital physicians or forensic physicians and shall refrain from accepting other certificates.

Regarding the deaths occurring outside hospitals and health centers, especially in remote rural areas, verbal autopsy questionnaires are used in order to improve the quality of information about the causes of deaths, being performed by physicians (1, 3). In such cases, hospital physicians are not authorized to issue death certificates, since it can lead to incompatibility between the two official datasets. The possible solution to the problem could be establishing an effective and accurate relationship between the MoHME's dataset and that of the FMO. In fact, based on the instructions of the Judicial System of Iran, the causes of deaths must be written in Persian on the death certificate issued by the forensic physicians; codes or English words not allowed to be written. In other words, the causes of

deaths cannot be written in abbreviated forms by forensic physicians (4). To improve this relationship, closer cooperation between provincial health administrations and provincial forensic medicine centers is required so as to update and correct death statistics to address the underestimations of the mortality data. In addition, there is a need for organizing a technical team from the two above-mentioned organizations to check the statements related to the causes of deaths on death certificates against the ICD-10 codes for higher accuracy. Another possible solution could be the use of the FMO's data in cases where the researcher intends to study the deaths whose certificates are issued by the FMO. This solution prevents the underestimation of the cases of deaths, however, researchers' authority is limited in this case in terms of the variety of deaths. However, death registration by the FMO's dataset does not provide full coverage of the deaths throughout the country (1).

Table 1: The cases of death for which a death certificate will be issued by a forensic physician

1	Homicide and complete suicide
2	Deaths following any conflict or violence
3	Deaths caused by cold weapons or firearms
4	Deaths caused by traffic accidents and any other accident (in any form and at any time)
5	Deaths caused by poisoning, chemicals, medications, gases, etc.
6	Drug overdose deaths
7	Deaths caused by unexpected events, including earthquakes, floods, natural disasters, frostbite, heat stroke, lightning, etc.
8	Work-related deaths, including the ones caused by occupational accidents
9	Deaths occurred in prisons, detention centers, orphanages, camps, garrisons, sanatoria, guesthouses, etc.
10	Deaths on the streets and public places
11	Maternal deaths due to diagnostic and therapeutic measures during pregnancy, childbirth, or after abortion
12	Deaths during or after exercise
13	Sudden, unexpected, and unexplained deaths
14	Deaths arising from claims
15	Suspicious deaths and deaths due to an unknown cause
16	Deaths of unknown people
17	Deaths that seem to be resulted by crimes
18	The death of foreigners (people of foreign nationalities)

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