


## COVID-19: Case and Death Notification Problems in Turkey

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Dear Editor,

As known, the numbers of patients and deaths are the two most important data to prove the impact of an infectious disease. Epidemiological indicators (incidence, case fatality, mortality, etc.) are calculated based on these data.

Coronavirus disease (COVID-19) pandemic cases are categorized as “probable” and “confirmed” in Turkey. Those who have clinical findings and/or contacts with patients diagnosed with COVID-19 are categorized as “probable cases.” People who are diagnosed with COVID-19, according to the results of samples tested by molecular methods (polymerase chain reaction [PCR] tests), are defined as “confirmed cases” [1].

However, several factors may lead to negative test results. Some of these factors or technical problems are poor quality sample related to less available material from an infected individual, taking samples at an early or late phase of infection, improper testing process or transport, and PCR inhibition or virus mutation. Therefore, the probability of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in a person cannot be ignored as a result of a negative result in one and/or more tests [1]. Besides, PCR tests from the upper respiratory tract swabs may also be falsely negative because of the quality of sample and timing of sample collection and because of the viral load in the upper respiratory tract secretions peaks in the first week of symptoms [2].

Despite these facts, the Turkish Ministry of Health announces data regarding only the confirmed cases of COVID-19 by molecular methods and the deaths of confirmed cases. It does not share any data on cases that are diagnosed by clinical or epidemiological methods, as well as probable/suspected cases, and the deaths of these cases.

It is known that the World Health Organization (WHO) published a document on March 25, 2020 regarding the two international codes for cases and death records [3]. These codes are as follows:

- U07.1: COVID-19, virus identified (confirmed cases by laboratory tests (PCR))
- U07.2: COVID-19, virus not identified (clinically and epidemiologically diagnosed, probable and suspected COVID-19 cases).

Moreover, the WHO published the International Guidelines for Certification and Classification (Coding) of COVID-19 as Cause of Death on April 16, 2020.

The WHO Coding has been adopted by different institutions particularly the US Centers for Disease Control and Prevention and the European Centre for Disease Prevention and Control and is being used by many countries, such as England, Germany, and New Zealand.

China had shared data on cases, which were not confirmed, before the WHO published the coding guidelines. The Chinese Center for Disease Control and Prevention published the largest case series of COVID-19 in mainland China (72.314 cases) in February 2020 as confirmed cases (62%), suspected cases (22%), diagnosed cases (15%), and asymptomatic cases (1%) [4].

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The Turkish Medical Association (TMA) has drawn attention to this fact when it issued a statement “The Ministry of Health does not document deaths according to the WHO COVID-19 codes” on April 8, 2020 [5].

In addition to the TMA, the Association of Public Health Specialist, in its statement on April 9, 2020, refers to this fact and underlines that “any issue related to the coding, having no transparent debate about the case and death reporting [to the relevant bodies e.g., WHO] and not revise/correction in the system of coding/reporting may result in discredit in trust, which is a fundamental need in this period, and losing achievements.” [6].

In its statement dated April 17, 2020, the Turkish Thoracic Society states that compared with previous years, the health statistics point out a substantial increase in deaths in İstanbul and Trabzon provinces. The Society is concerned about the increase in deaths caused by COVID-19 [7].

The cases and reporting problems related to the COVID-19 pandemic are not limited to not publishing data on cases or deaths, which are not confirmed, only. Furthermore, the Ministry of Health does not share any epidemiological data (age, gender, city, comorbidity, symptoms, etc.) with the public. For example, we have data only about the number of tests now. We do not even know how many people have been tested until today.

Consequently, the distribution of cases and deaths due to COVID-19 is still unknown; incubation and transmission periods are not known; and infectious disease indicators, such as basic reproduction number (R0) and effective reproductive number (Re) cannot be calculated in Turkey. Furthermore, independent scientists are unable to analyze and assess the impacts of measures—such as residential segregation on people older than 65 years and lockdowns in metropolitan cities during weekends to mitigate the effects of the outbreak—from scientific criteria.

No scientific evaluation is made for risk groups (elderly people, people with chronic diseases, poor, migrants/refugees, smokers, etc.). Moreover, there is no official statement on health manpower who are infected or have lost their lives.

In conclusion, COVID-19 pandemic management is far away from being a transparent process. The Ministry of Health does not publish data about probable/suspected cases, which are clinically and epidemiologically diagnosed yet not confirmed by laboratory tests. Therefore, neither professional organizations and chambers nor independent scientists can assess the real impact of the pandemic.

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