The clinical diagnosis of suspected COVID-19 cases admitted to Iran’s hospitals

In this algorithm, clinical diagnosis for suspected COVID-19 cases visiting Iran’s hospitals is presented. The COVID-19/Non-COVID-19 diagnosis is classified as admission diagnosis (stage I), midterm diagnosis (stage II), and final diagnosis (stage III). Admitted cases may have other comorbidities (i.e., diagnosis) as well. Here, only COVID-19 diagnosis status is considered.

Diagnosis agreement (Cohen’s Kappa): The overall agreement between COVID-19 diagnosis in Stage I and II is 49%, which indicates a relatively favorable agreement, especially because the two diagnoses are mainly performed by two different physicians. The overall agreement between COVID-19 midterm and final diagnosis is 42%, indicating a moderate agreement. Due to the low prevalence of the disease in the first days of the epidemic, these agreements are calculated based upon the data from the week 3 of the epidemic, onward.

The admission diagnosis is expected to be more influenced by the patient’s clinical symptoms and the disease prevalence in the area. Diagnosis in stage II and III, however, would be more influenced by laboratory and para-clinical information.

A note on Cohen’s Kappa coefficient of agreement: This coefficient calculates the percentage of identical diagnoses (either COVID-19 or non-COVID-19) to the total diagnoses made by the two physicians. The percentage is then corrected for the percentage of identical diagnoses that can be made by chance alone. A Kappa coefficient of 40-60% shows an "average" to "relatively favorable" agreement.