Influenza surveillance system and Covid-19

Ambra Castrofino

A Castrofino[1], G Del Castillo[1], F Grosso[1], A Barone[3], M Gramegna[2], C Galli[1], M Tirani[2], S Castaldi[1], E Pariani[1], D Cereda[2]
[1]Department od Biomedical Sciences for Health, University of Milano, Milan, Italy
[2]DG Welfare, Regione Lombardia, Milan, Italy
[3]Welfare Division, ARIA SPA, Milan, Italy
Contact: ambra.castrofino@unimi.it

The clinical presentation of symptomatic SARS-CoV-2 not only includes viral pneumonia, but also milder illness overlapping with influenza-like illness (ILI), allowing a potential tracking of the infection in the framework of the national influenza surveillance system (SS). By comparing the data recorded by the influenza SS in 2019-20 season to those collected for the previous years, we want to evaluate whether the implementation of ILI SS could succeed in early detection and monitoring of Covid-19 diffusion.

We analyzed the data recorded by the influenza SS and we compared the distribution of ILI incidence rate by week for 2017-18, 2018-19 and 2019-20 season in order to understand whether the SS detected any abnormality coinciding with Covid-19 outbreak.

The distribution of ILI cases in the three seasons presented a similar pattern up to the 9th week; after then, a reduction in the ILI incidence rate was observed in the 2017-18 and the 2018-19 season while an increase was detected for 2019-20. During 2019-20 season, three major characteristics stand out: i) at the beginning of Covid-19 epidemic (7th-9th week) 9,17/1000 cases were reported; ii) during the recognition of the COVID-19 outbreak (9th-10th week) 6,36/1000 cases; iii) during the spread of Covid-19 (10th-11th week) an unexpected increase to 7,72/1000 cases. Additionally, their geographical distribution was concentrated in the areas known to be most affected by the epidemic.

The influenza SS enabled us to detect the introduction and distribution of COVID-19. Implementation of the system should be prioritized in order to early identify new waves of Covid-19 but also any future novel respiratory pathogen. In order to empower the SS, it would be advisable to increase the population coverage about 2% which is the actual standard.

Key messages:
- The influenza surveillance system detected the first wave of Covid-19 in Lombardy Region, Italy.
- The influenza surveillance system should be implemented in order to bring a benefit both to the current situation and in sight of future public health challenges.