

Role of telemedicine network provided by pharmacies to detect acute myocardial infarction in patients with chest pain during coronavirus pandemia

F. Fioretti¹, M. Piazzani¹, D.S. Cani², A. Madureri², G.F. Gensini³, F. Gabbrielli⁴, G. Bollani⁵, F. Glisenti⁵, S. Nodari¹

¹University of Brescia, Department of Medical and Surgical Specialities, Cardiology section, Brescia, Italy; ²Civil Hospital of Brescia, Cardiology Department, Brescia, Italy; ³Italian Society of Telemedicine and e-Health, Rome, Italy; ⁴Istituto Superiore di Sanità, Rome, Italy; ⁵Health Telematic Network (HTN), Brescia, Italy

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Background: During the lockdown period in Italy, from March 11th to May 4th 2020, a progressive increase in COVID-19 cases occurred in all Italian regions, in particular in the Lombardy Region. The current rise in COVID-19 cases has led to an increasing involvement of hospitals, in order to face the Coronavirus outbreak, shifting healthcare resources towards the management of COVID+ patients. This has led, on the other hand, to a progressive decrease in hospital admissions due to conditions not associated with SARS-CoV2 infection. During COVID-19 outbreak period, it has been observed a decrease in hospital admissions for acute myocardial infarction. This phenomenon put in serious difficulty the clinical management of COVID-free patients with cardiovascular disease, at the beginning of phase 2 (starting from May 4 2020).

Purpose: In this scenario, we aimed to verify the impact of telemedicine during lockdown, in comparison with the same period in 2019.

Materials and method: We analyzed 12-lead ECGs recorded by 5000 country pharmacies, evaluated and stored in one telemedicine platform provided by Health Telematic Network (HTN), in cooperation with our Cardiology Department, Federfarma (Pharmacists' National Association), and Italian National Health Institute.

Results: During the lockdown period, were recorded 6,104 ECGs in territorial pharmacies, compared to 17,280 ECGs done in the same period

in 2019. Chest pain symptom represented the cause of recording ECG in 298 patients (4.88%) during the lockdown period, compared to 402 patients (2.33%) in the same period in 2019, with an increase of 109.86%.

In the Lombardy Region, during lockdown period, were reported 118 accesses to territorial pharmacies for chest pain (about 39.50% of total cases in Italy). Among these, 36 accesses were in the province of Brescia (about 30.50%), whereas 28 of them were in the province of Bergamo (about 23.73%). Among ECGs performed, 8 showed typical abnormalities of acute myocardial infarction with ST elevation (STEMI, 2.68%) in the lockdown period, compared to 7 STEMI (1.74%) detected in the same period in 2019, with an increase of 54.17%. These patients were referred to Emergency Department (ED) suddenly, for the therapeutic intervention.

Conclusion: These data shown that a large number of patients with cardiovascular symptoms preferred to go to territorial pharmacies rather than hospitals during the COVID outbreak period. Telemedicine played a prominent role in managing patients with cardiovascular symptoms at home. Moreover, this service allowed patients with STEMI to access to the hospitals faster, avoiding the risks of a serious diagnostic delay. Furthermore, by analyzing the data of Lombardy Region, it was possible to show how a significant component of access to local pharmacies for chest pain occurred in the region most affected by the COVID-19 outbreak.

