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Social distancing at health care centers early in the pandemic helps to protect population from COVID-19

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ABSTRACT

The impact of COVID-19 outbreak has been unequal across Spanish regions. The epidemic wave has been smoother in the Region of Murcia (RM) (6 deaths/100,000 residents). Physical distance from health centers from day 0 is an additional social distancing measure that confers an advantageous starting position in the fight against COVID-19. Late healthcare distancing measures are not as powerful as the early ones.

Spain is a European country with a decentralized public health system organized in 17 autonomous communities (CCAAs). The COVID-19 outbreak advanced rapidly and significantly, although the impact has been unequal across regions.

The Region of Murcia (RM) is a Mediterranean region with a semi-arid climate in the southeast of Spain. It is a region with one of the highest poverty rates in Europe, but with an established public health network, similar to the rest of the CCAAs in Spain. In the RM (6 deaths/100.000 residents), the epidemic wave has been smoother (Fig. 1) and more controlled than in other CCAAs (Ministerio de Sanidad, Consumo y Bienestar Social, 2020). While surrounding provinces are experiencing collapse of their health care systems, in the RM the number of COVID-19 cases is much lower.

This comment describes some of the measures undertaken in the RM that might help other areas of the planet where the COVID-19 pandemic outbreak is growing.

On March 8, 2020 (day 0), the first patient was diagnosed in the RM with COVID-19, and on March 14, when the Spanish government declared the state of alarm, there were 53 confirmed cases in the RM. We believe that it is imperative that strong campaigns be implemented to reduce visits to health care centers during the explosive phase of the outbreak (day 0 to +7), as these centers are important sources of infection in the general population.

From March 9, a state of social alarm was simultaneously established in whole Spain and the effect was noted in every CCAA. In the RM, a growing institutional pressure and a community-based using a strategic social media campaign to temporarily discourage visits to healthcare providers during the very beginning of the local epidemic were key to the region's low incidence of COVID cases. It was implemented as follows:

Day +0. Health authorities offered a phone hotline where people could call at the onset of symptoms to make a suspected diagnosis (wit test), tracing the chain of contagion in a detailed and exhaustive way.

From Day +1. To increase the state of social alarm a simple social media messages (telephone, WhatsApp or twitter #NoVayasAlMédico, #QuédateEnCasa #HeroDoctor …) that called on the population to avoid going to healthcare centers and promoting distance medicine.

Day+3. Gentle social distancing measures were implemented (avoid large crowds).

Day +5. Regional authorities decreed the stay at home order in the RM and the closure of educational centers.

What was different in RM that was not done in the rest of the CCAAs

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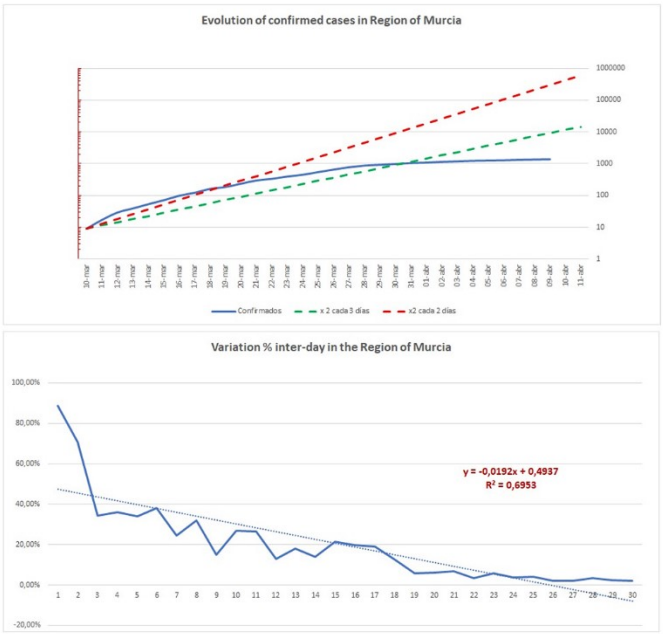

Fig. 1. Evolution of confirmed cases (PCR test of nasopharynx specimen) in Region of Murcia (Spain).

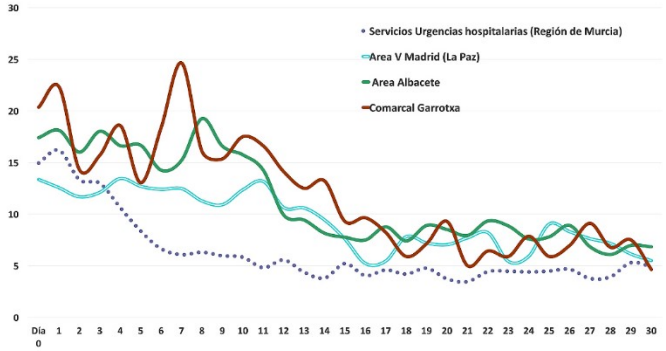

Fig. 2. Hospital Emergency Department visits (number x10,000 inhabitants) in 4 different areas of health. Day 0 = first case declared in each autonomous community. Regional Hospital Emergency Services of Region of Murcia (RM) (reference population 1,478,000 inh), Area Hospital Albacete (reference population 228,000 inh) and Area 5 Hospital La Paz Madrid (reference population 527,000 inh). Garrotxa Area (reference population 56,000 inh). Data source and acknowledgments: Servicio Murciano de Salud, Hospital General Universitario de Albacete, Fundació Hospital d'Olot i Comarcal de la Garrotxa y Servicio de Control de Gestión del Hospital Universitario La Paz de Madrid.

in Spain is that institutional pressure and groups of activists, stakeholders, and physicians worked as amplifiers of state of social alarm from March 9 (Day +1) to avoid going to healthcare centers. Fig. 2 illustrates the early decrease in the Region's emergency service of Murcia between Day 1–6, the level of activity and health attendance remained low throughout the crisis.

Another factor that is uncertain but seems to have cushioned the spread are high temperatures and wet weather. Several studies have shown that the incidence of COVID-19 at the population level is lower at higher temperatures and levels of humidity (Paez et al., 2020; Tobías and Molina, 2020; Wu et al., 2020). The last month of February and the first half of March the temperatures were the warmest in the last 80 years of records, (Agencia Estatal de Meteorología,AEMET, 2020). However, the climate and weather influences of SARS CoV-2 spreading, remains unclear (Gutiérrez-Hernández and García, 2020).

The national state of emergency in Spain was declared on the 14th (day +6). By March 16 (+8), the remote diagnostics system (telemedicine) was running using mobile apps/phone calls in public healthcare services of RM.

We believe that what happened in the RM during this first stage (explosive phase) could have contributed differentially to the extension of the outbreak in the RM compared to other regions. From day 0 to +7 and beyond, in other regions similar measures of social distancing were maintained, but high levels of sanitary activity were maintained, which influenced as an early trigger in the spread of the outbreak.

Our reflections based on experience:

1. Health policymakers must quickly abandon beliefs that health care systems are infallible against COVID-19 and leadership must be based on honesty and transparency;
2. The critical level to implement all possible measures to stop the pandemic is 10–15 patients.
3. A physical distance from health centers from day 0, it is an additional social distancing measure that confers an advantageous starting position in the fight against COVID-19. Late healthcare distancing measures are not as powerful as the early ones.
4. These measures help to save time to ensure telephone follow-up of health services from the second week, with the confinement of the population in progress. Quick distancing from health centers to ensure a #HeroDoctor strategy (remote medicine) at the start of the outbreak can help prevent the collapse of the health system.

Contributors

JAO conceived the study. JAO and MRM designed the study method and acquired the data. JAO, MRM, ACA, FCL and LC drafted the manuscript. All authors commented on drafts and reviewed and edited the final manuscript. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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