Hospital Epidemics Tracker (HEpiTracker): description and pilot study of a mobile app to track COVID-19 in hospital workers

Joan B. Soriano, E. Fernández, A. de Astorza, L.A. Pérez de Llano, J.A. Fernández Villar, D. Carnicer-Pont, B. Alcázar-Navarrete, A. García, A. Morales, M. Lobo

Abstract-

Background: Hospital workers are the most frequently and severely affected by the COVID-19 pandemic, and one of the population groups that can have the biggest impact on transmission. In this context, innovative tools are required to measure the symptoms compatible with COVID-19, the spread of infection, and testing capabilities within hospitals in real-time.
Objective: We aimed to develop and test an effective and user-friendly tool to identify and track the symptoms compatible with COVID-19 in hospital workers.
Methods: We present the development and pilot testing of HEpiTracker, a newly designed app to track the spread of COVID-19 among hospitals workers. Hospital staff in nine hospital centers across five Spanish regions (Andalucia, Balearics, Catalonia, Galicia, and Madrid) were invited to download the app on their phones via https://www.hepitracker.com and to register their daily body temperature, COVID-19-compatible symptoms and general health score, as well as any PCR and serological test results. Results: A total of 477 hospital staff participated in the study between April 8th and June 2nd, 2020. Of note, both health- (n=329) and non-health- (n=148) related professionals participated in the study, resulting in over two thirds of participants (68.8%) being health workers, with 43.4% physicians and 25.4% nurses, while the proportion of non-health workers by centre ranged from 40% to 85%. Most participants were female (67.5%; n = 323), with a mean (±SD) age of 45.4 (±10.6) years. Regarding smoking habits, 13.0% and 34.2% of participants were current or former smokers, respectively. The daily report of symptoms was highly variable across participating hospitals; whereas we observed a decline in adherence after an initial participation peak in some hospitals, other sites were characterized by low participation rates throughout the study period.
Conclusions: HEpiTracker is an already available tool to monitor COVID-19 and other epidemics in hospital workers. This tool has already been tested in real conditions. HEpiTracker is available in Spanish, Portuguese, and English and holds the potential to become a customized asset to be used in future COVID-19 pandemic waves and other environments.

Index Terms- App; COVID-19; E-medicine; Monitoring; Symptoms; Surveillance

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