A Safe Home Quarantine Digital Solution for COVID-19: A Proof-of-Concept Study

Mohan Dass Pathmanathan, MD[1], Mohd Aizuddin bin Abdul Rahman, MBBS[1], Law Kian Boon, M.Sc.[1], Kuan Pei Xuan, MD[1], Wong Xin Ci, MD[1], Kalaiarasu Peariasamy, FDSRCS[2]

[1]Digital Health Research and Innovation Unit, Institute for Clinical Research, National Institutes of Health, Malaysia, [2]Director Office, Institute for Clinical Research

ABSTRACT

Introduction: Malaysia has implemented home quarantine for COVID-19 patients with mild symptoms in response to an overwhelming number of positive cases. However, monitoring of warning signs is crucial as these patients may experience silent hypoxia at home. The study aimed to assess the functionality and usability of a newly developed home quarantine digital solution called CODIQ-My. **Methods:** The CODIQ-My consists of a biosensor, a mobile application and centralized monitoring dashboard for health officers. Important vital signs (temperature, oxygen saturation and pulse rate) were captured by the biosensor remotely and transmitted to the monitoring dashboard via the paired mobile application. A built- in Global Positioning System is used for verifying quarantine compliance. The patient is required to fill a self-reported questionnaire on their symptoms. Each patient was required to use the system two times a day for three days consecutively. **Results:** A total of 31 mild COVID-19 patients from MAEPS were recruited into the study between 21 May and 23 June 2021. During the study period, 193 (98.0%) check-in attempts were performed and recorded 455 (78.6%) vital readings successfully and 3 (9.7%) patients failed to use the CODIQ-My due to technical delay. A total of 472 alerts were triggered, with 207 (43.9%) for device communication failure, 149 (31.6%) for user photo mis-match, 64 (13.6%) for quarantine breach, 32 (6.8%) for abnormal vital signs, and 20 (4.2%) for biosensor failure. **Conclusion:** The CODIQ-My is a feasible digital solution for safe home quarantine. Its use can help to enhance healthcare system during a major outbreak of infectious diseases like the COVID-19.

Adverse Events Following Immunization of COVID-19 at Queen Elizabeth Hospital

Lim Ming Yao, MBBS[1], Lem Fui Fui, PhD[1]

[1]Clinical Research Centre, Queen Elizabeth Hospital, Sabah

ABSTRACT

Introduction: The COVID-19 pandemic has brought about catastrophic repercussions globally. The fundamental solution to this natural calamity is herd immunity made possible by the development of vaccine against this virus. In Malaysia, front liners were among the first to be vaccinated. In this study, we aimed to describe and summarise adverse events following immunisation (AEFI) using Pfizer Comirnaty vaccine as reported by healthcare workers in the hospital settings. **Methods:** The AEFI data were collected via three routes. Firstly, at the observation zone immediately post vaccination. Secondly, when the patient visits the emergency department of Queen Elizabeth Hospital, Sabah, Malaysia. Thirdly, information collected on the mySejahtera app. The data were then collated from these ADR forms for the purpose of this study over the period from 2nd March 2021 to 9th June 2021. **Results:** There were 80.6% females, in contrast with the 19.4% males. The median age was 33-year-old. 64.5% of them reported history of allergy. The five most commonly reported adverse events were rashes (27.7%), globus pharyngeus (27.1%), dizziness (25.8%), pruritus (23.2%) and nausea (16.8%). In all 86.5% of the subject required treatment and the two most commonly administered treatment are intravenous steroid and intravenous antihistamines. **Conclusion:** Gender preponderance among female have also been reported studies conducted in Korea and Italy. In terms of frequency of reported adverse events, rashes and fever were also listed as common events in another study done in Italy. In USA, thrombocytopenia cases were reported, in our study, however, we did not capture any cases of bleeding tendency which could be suggestive of thrombocytopenia.