Compliance of the Gulf Cooperation Council airlines with COVID-19 mitigation measures

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Running title: GCC airlines’ compliance with COVID-19 prevention

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Teaser

The airlines in the Gulf Cooperation Council region are now recommencing operation. By browsing the airlines’ official websites, we collated information relating to their compliance with COVID-19 mitigation measures. Most airlines complied with key mitigation measures, but failed to implement several other measures including ensuring COVID-19 self-assessment and in-flight-facemask use.
The Gulf Cooperation Council (GCC) is a political and economic cooperation of six Arab countries, including Saudi Arabia, the United Arab Emirates (UAE), Oman, Qatar, Bahrain and Kuwait. Eleven government-controlled commercial airlines, belonging to these countries, operate regionally and internationally.

Like the rest of the world, COVID-19 has hit the GCC countries and, as of 26 October, 2020, approximately one million individuals have been affected with over 8,200 fatalities.\(^1\) The UAE was the first country in the region to report the initial case of COVID-19 on 29 January 2020 in a family, who arrived from Wuhan, China, and, subsequently, the other countries announced their first COVID-19 cases linked to travel to Iran.\(^2\)

With an aim to limit the spread of COVID-19, the GCC countries adopted stringent policies that included eventual suspension of all airline flights,\(^3\) cancellation of Umrah (minor Makkah pilgrimage),\(^4\) and down-scaling of the Hajj 2020.\(^5\) The GCC airlines complied with the control measures, but most are now considering and/or resuming operation, whilst ensuring optimum preventive measures. To this end, we assessed the GCC airlines’ compliance with the COVID-19 public health risk mitigation measures.\(^6\)

The official English websites of the commercial airlines belonging to the GCC countries were reviewed to identify their guidelines on prevention of COVID-19. The websites were accessed between 1 August and 23 October, 2020. The following data were collected on a spread sheet: URL access date, airline names, whether domestic or international flight, resumed operation or not, measures undertaken to prevent and control COVID-19 listed in Table 1. Subsequently we also reviewed the websites of several key airlines, hitherto termed ‘exemplary airlines’ in Europe (e.g. Lufthansa), USA (e.g. Delta Airlines), Australia (e.g. Qantas) and South East Asia (e.g. Singapore Airlines) for a narrative comparison.
Most airlines in the Gulf region have resumed domestic, and limited international flights to selected destinations in the Middle East, and Europe, North America, Africa and Oceania.

Table 1 shows the safety measures implemented at each phase of embarkation. Five (45%) airlines ensured COVID-19 self-assessment measures before on-boarding with one airline using artificial intelligence (AI) platform to facilitate quick and simple electronic COVID-19 self-assessment. Six (55%) airlines mandated RT-PCR-based COVID-19 test certification and six (55%) others made ‘only online boarding pass’ compulsory.

All airlines mandated facemask use for all passengers on departure and arrival, ten airlines also reported mandatory personal protective equipment (PPE) use for ground staff, and another ten for crews. Eight (73%) airlines also reported pre-embarkation use of infrared thermometer, but no airline reported performing rapid diagnostic tests on passengers at the airport. Airport disinfection was reported by seven (64%) airlines, cabin disinfection conducted by the airline authority was reported by nine (82%) airlines. Five (45%) airlines reported leaving empty seats between passengers and seven (64%) airlines reported providing personal hygiene kits (hand hygiene products, facemask, etc.).

Mask use in-flight was required by nine (82%) airlines. Non-use of entertainment items (magazines and brochures) or use of only disposable items (e.g. headphones) was applied by five (45%) airlines.

Facilitating post-travel obligatory home quarantine, which is the responsibility of the Ministry of Health (MoH) of the destination country was reported by five (45%) airlines, and two airlines (18%) additionally provided health insurance covering medical expenses for 31 days post-travel, including quarantine for 14 days.
This analysis shows that most airlines in the GCC countries complied with key infection control guidelines, which is an improvement, when it is compared with an analysis of data from the global commercial airline conglomerates conducted in mid-2019. However, when compared with that of the exemplary airlines in Europe, USA, Australia and South-East Asia, the compliance of the Gulf airlines with COVID-19 preventive measures seems to be a little inconsistent. For example, self-assessment was reported by fewer than half of the GCC airlines, while all the exemplary airlines stressed self-assessment. Similarly, only nine GCC airlines reported in-flight facemask use to be compulsory, while all the exemplary airlines mandated in-flight facemask use. A recent report shows that use of a facemask is associated with reduced transmission of COVID-19 on flight, which is also corroborated by another study that shows facemask was protective against pandemic influenza among aircraft passengers.

Some infection control measures assessed here, including airport disinfection and enforcing non-travel of unaccompanied minors, are not the sole responsibility of the airlines, but are shared responsibilities of the airport, immigration, health authority and airline, and ensuring home quarantine is the responsibility of the MoH; hence the airlines cannot be solely implicated. There are, however, areas that airlines can and should improve; e.g. a couple of airlines failed to report mandatory use of PPE for cabin crew and ground staff, using infrared thermometer before boarding, or supplying personal hygiene kits. Five airlines provided no information on the need for a RT-PCR-based COVID-negative certification, possibly because such a requirement is not uniform across the destinations with some countries strictly requiring it and others not.
To our knowledge, this is the first report on the adherence of the GCC airlines with COVID-19 prevention measures, but it has some limitations. The data were collected from the airlines’ English websites, and the information were considered correct and current at its face value, as we did not check the authenticity of the information by a field survey. The actual compliance with and effective use of preventive measures at passenger level might be lower. For instance, passenger compliance with wearing a facemask in the airport may be lower, even though it is claimed in the websites that it was mandatory for all passengers. An airport-based photographic survey showed that, even in the best case scenario, facemask use prevalence among passengers is ≤46%, even during this COVID-19 era.\textsuperscript{10} Though it was not the focus of the present study, engineering measures used on aircraft, such as high-efficiency particulate air (HEPA) filters, can protect against COVID-19 transmission in-flight hence their optimum maintenance should be ensured.\textsuperscript{6}

In summary, the airlines in the GCC countries are generally compliant with the COVID-19 mitigation measures, but there is scope for improvement.

**Author statements**

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Authors’ contributions

N.Z.A: ideation, conceptualisation, methodology, formal analysis, investigation, data curation, writing original draft, writing review, and editing. S.M.A.: conceptualisation, methodology, validation, formal analysis, data curation, writing original draft, writing review and editing, and project administration. A.M.A.: data curation, validation, formal analysis, investigation. P.A.L.: checking analysis, writing review and editing. H.R.: conceptualisation, methodology, writing review and editing. All authors contributed to the final analysis and interpretation of the results. All authors contributed to the drafting of this manuscript and its approval for submission.

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Table 1: GCC Airlines’ compliance with COVID-19 mitigation measures

(Cells with plus sign (+) indicate compliance, cells with minus (-) sign suggest non-compliance, and cells with NA suggest no information available.)

| Airlines       | Pre-embarkation measures | Embarkation measures | Post-embarkation measures |
|----------------|--------------------------|----------------------|---------------------------|
|                | COVD-19 self-assessment | PCR certification   | Mandatory online boarding | Passe nger mask use at departure | Airport disinfection | Infrared thermometer use | Grou nd staff PPE use | Cabin disinfection between flights | Leaving seats vacant | Suppl ying personal hygiene kit | Passe nger mask use in-flight | Reduced in-flight service items | Non-travel for unaccompanied minors | Passenger mask use on arrival | Home quarantine |
| Saudi Airways  | NA                       | +                    | +                         | +                           | +                 | +                     | +                       | +                           | +                       | NA                           | -                    | -                     | +                             | +                      | +                     |
| Flynas         | +                        | +                    | +                         | +                           | +                 | +                     | +                       | +                           | -                       | NA                           | +                    | +                     | +                             | +                      | +                     |
| Flyadeal       | +                        | -                    | +                         | +                           | -                 | +                     | +                       | NA                          | NA                      | NA                           | +                    | -                     | -                             | +                      | +                     |
| Kuwait Airways | NA                       | +                    | +                         | +                           | -                 | NA                   | NA                      | +                           | -                       | +                           | +                    | +                     | -                             | +                      | -                     |
| Emirates       | NA                       | +                    | -                         | +                           | +                 | +                     | +                       | NA                          | +                       | +                           | +                    | +                     | -                             | +                      | +                     |
| Etihad         | +                        | +                    | -                         | +                           | +                 | +                     | +                       | -                           | +                       | NA                           | -                    | +                     | +                             | +                      | +                     |
| Flydubai       | +                        | +                    | -                         | +                           | +                 | +                     | -                       | NA                          | +                       | +                           | -                    | -                     | +                             | +                      | +                     |
| Air Arabia     | +                        | -                    | +                         | +                           | +                 | +                     | +                       | +                           | +                       | +                           | +                    | +                     | -                             | +                      | +                     |

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| Qatar Airways | NA | - | + | + | + | + | + | NA | NA | + | + | - | - | + | - |
| Gulf Air     | NA | - | - | + | - | NA | + | + | NA | NA | + | + | - | - | + | - |
| Oman Air     | NA | - | - | + | - | NA | + | + | NA | NA | + | + | - | - | + | + |