Weekly Evidence Report

Health Technology Assessment Philippines

04 - 10 December 2021

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Unit reviewed for the period of December 04 to December 10, 2021. The HTA Unit reviewed a total of 18 studies for the said period.

Evidence includes 3 studies on Epidemiology; 1 studies on Transmission; 3 studies on Drugs; 3 studies on Vaccines, 1 study on Equipment and Devices; 1 study on Medical and Surgical Procedures; 1 study on Traditional Medicine; 2 studies on Preventive & Promotive Health; and 3 studies on Other Health Technologies.

The following report notes that 1 study had not been peer-reviewed, which is highlighted accordingly.

Sections

Epidemiology

Transmission

Drugs

Vaccines

Equipment & Devices

Medical & Surgical Procedures

Traditional Medicine

Preventive & Promotive Health

Other Health Technologies

Evidence on Epidemiology

Local COVID-19 Tracker: https://www.doh.gov.ph/covid19tracker
Local COVID-19 Case Tracker: https://www.doh.gov.ph/covid-19/case-tracker

Date	Author/s	Title	Journal/ Article Type	Summary
07 Dec 2021	WHO Global	Weekly epidemiological update on COVID-19 - 7 December 2021	*WHO Global (Situation Report)*	• Compared to the past week: weekly incidence plateaued (4M new cases); weekly deaths increased by 10% (52,000 new deaths) • As of Dec. 5, 265M cases have been confirmed and over 5.2M deaths reported globally. • 10% decrease in reported cases in the Western Pacific (199,495 new cases) and SEA regions (109,044 new cases) in the last 7 days • 49% increase in deaths in SEA region (5,324 deaths) in the last 7 days • 54 countries with verified cases of Omicron variant, including 3 SEA countries. This variant is not yet present in the Philippines.
10 Dec 2021	Centers for Disease Control and Prevention	SARS-CoV-2 B.1.1.529 (Omicron) Variant — United States, December 1–8, 2021	*Morbidity and Mortality Weekly Report*	• B.1.1.529 (Omicron) was designated as a variant of concern on Nov. 26, 2021. It has numerous mutations with potential to increase transmissibility, confer resistance to therapeutics, or partially escape infection- or vaccine-induced immunity. • Of the 43 cases of COVID-19 attributed to Omicron variant, 34 completed the primary series of an FDA-authorized COVID-19 vaccine ≥14 days before symptom onset. 14/34 received an additional or booster dose; 5/14 persons received the additional dose <14 days before symptom onset. • 6/43 had previous SARS-CoV-2 infection • One vaccinated patient was hospitalized for 2 days, and no deaths have been reported to date.

Evidence on Vulnerable Population Epidemiology

Date	Author/s	Title	Journal/ Article Type	Summary
10 Dec 2021	Nomah et al.	HIV and SARS-CoV-2 Co-infection: Epidemiological, Clinical Features, and Future Implications for Clinical Care and Public Health for People Living with HIV (PLWH) and HIV Most-at-Risk Groups	*Co-infections and Comorbidity / Review*	• PLWH under effective ARV treatment are not at higher risk of acquiring SARS-CoV-2. • There is currently no evidence that TDF could reduce the risk of SARS-CoV-2 infection or severe COVID-19 outcomes in PLWH. • HIV-associated co-morbidities, low CD4 (<200 cells) cell counts, and in particular unsuppressed HIV viraemia are associated with poorer COVID-19 clinical outcomes and death among PLWH. • In a small study including PLWH, the Pfizer vaccine induced a robust humoral and cellular response comparable to healthy individuals 7-17 days after the 2nd dose. • In a single-arm, open-label study, the safety and immunogenciity of Astrazeneca was found to be similar among PLWH and HIV-negative participants. • PLWH with low CD4 counts (below 200 cells/μL or even below 350 cells/μL) are at higher risk of developing severe COVID-19 [22] and could be considered as a priority group for COVID-19 vaccination

Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
04 Dec 2021	Ribaric et al.	Hidden hazards of SARS-CoV-2 transmission in hospitals: A systematic review	*International Journal of Indoor Environment and Health / Systematic Review*	• Recent evidence has shown that 11–15% of SARS-CoV-2 infections of hospitalized COVID-19 patients were acquired in hospitals. • The prevalence of virus-laden, fine aerosols in hospitals was significantly higher than that of coarse aerosols or droplets, with a peak in size ranges <1 μm. • Findings suggest that aerosols can both dominate particle exposure during close patient or staff contacts and remain suspended in the air over longer distances • Findings collectively indicate that normal breathing and speech by COVID-19 patients represent a serious hazard of in-hospital SARS-CoV-2 transmission • Aerosol-generating procedures significantly increased SARS-CoV-2 contamination. These included tracheotomy, tracheal intubation, several forms of non-invasive oxygen supplementation.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
06 Dec 2021	Mahroum et al.	Ferritin – from iron, through inflammation and autoimmunity, to COVID-19	*Journal of Autoimmunity / Review*	• Early in the pandemic, ferritin served as a marker of severity and prognostic factor of COVID-19 • Aspects of COVID-19 that resemble hyperferritinemic syndromes in terms of severe manifestations include systemic inflammatory response syndromes (SIRS) and acute respiratory disease syndrome (ARDS) • Ferritin promotes further pro-inflammatory mediator release, increasing the inflammatory burden by the activation of NF-κB leading to upregulation of ferritin gene transcription.
07 Dec 2021	Kroon et al.	Risk and prognosis of SARS-CoV-2 infection and vaccination against SARS-CoV-2 in rheumatic and musculoskeletal diseases: a systematic literature review to inform EULAR recommendations	*Annals of the Rheumatic Diseases / Review*	• Tumour necrosis factor alpha inhibitors (TNFis) were not associated with COVID-19-related hospitalisation in four studies (two low RoBs), while two studies suggested a 'protective' effect. • Rituximab seems to be associated with an increased risk of COVID-19-related complications and death. • While glucocorticoid users, in particular those receiving a daily dose above 10 mg of prednisone or equivalent, seem to be at an increased risk of hospitalisation, COVID-19-related complications and death, there is evidence that this may be largely due to confounding by disease activity. • SARS-CoV-2 vaccines are immunogenic in patients with RMDs, although the antibody response is lower compared with healthy controls.
08 Dec 2021	Kokkotis et al.	Systematic review with meta-analysis: COVID-19 outcomes in patients receiving anti-TNF treatments	*Alimentary Pharmacology & Therapeutics / Systematic Review*	• Patients receiving anti-TNF treatments for their underlying disease have an almost 50% lower probability to be hospitalised compared to those receiving any other treatment. • No difference was found regarding the risk for hospitalisation for COVID-19 for populations without COVID-19 • The study identified a negative association between anti-TNFs and severe disease course defined as ICU admission or death.

Evidence on Vaccines

NYT Coronavirus Vaccine Tracker:
https://www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html

Bloomberg Vaccine Tracker:
https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/

London School of Hygiene and Tropical Medicine Vaccine Trial Mapper and Tracker:
https://vac-lshtm.shinyapps.io/ncov_vaccine_landscape/

ACIP Files:
https://drive.google.com/drive/u/0/folders/1v-jd66qIIxnUkfzXWKqiD0mkVvqy_VvJ?pli=1

Date	Author/s	Title	Journal/ Article Type	Summary
09 Dec 2021	World Health Organization	Updated interim recommendations for the use of the Janssen Ad26.COV2.S (COVID-19) vaccine	*WHO Departmental News*	• Interim guidelines for Janssen have been updated based on the Dec. 7 Strategic Advisory Group of Experts (SAGE) meeting. • Primary analysis results of an ongoing Phase III trial (ENSEMBLE 2) show higher vaccine efficacy for a 2-dose regimen (2-month interval) for Janssen as compared to a single dose regimen. There are no vaccine effectiveness studies yet on a 2-dose regimen for Janssen. • A small immunogenicity study found that administration of Janssen 6 months after the initial dose increased geometric mean antibody titres by about 9–12-fold relative to the level 29 days after the first dose. • WHO recommends a second dose of Janssen for immunocompromised persons aged 18 years and older. This dose should be given 1-3 months after the first dose.
09 Dec 2021	Zhao, H., Yongtuan, L., & Wang, Z.	Adverse event of Sinovac Coronavirus vaccine: Deafness	*ScienceDirect Article in Press / Case study*	• The main adverse events caused by Coronavirus inactivated vaccine are pain and swelling at the injection site, and less severe reactions such as fever or allergic reaction. • A 30-year-old male patient was admitted to the hospital due to hearing loss in the right ear with tinnitus and dizziness four days after receiving a single dose of the Sinovac Coronavirus vaccine. • A 64-year-old female patient was admitted to the hospital due to developing hearing loss in her left ear, accompanied by tinnitus,persistent chirping sound, ear tightness, slight dizziness, and no sense of rotation four days after receiving the Sinovac Coronavirus vaccine.

Evidence on Vaccines (cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
10 Dec 2021	Katz et al.	Early effectiveness of BNT162b2 Covid-19 vaccine in preventing SARS-CoV-2 infection in healthcare personnel in six Israeli hospitals (CoVEHPI)	*ScienceDirect Article in Press / Prospective Cohort Study*	• This study aimed to evaluate early VE against any SARS-CoV-2infection by conducting a prospective cohort study among HCP insix hospitals in Israel in the period immediately following the startof the vaccination campaign. • Adjusted two-dose VE against any PCR-confirmed infection was 94.5% (95% CI: 82.6%-98.2%); adjusted two-dose VE against a combined endpoint of PCR and seroconversion for a 60-day follow-up period was 94.5% (95% CI:63.0%-99.0%).

Evidence on Equipment & Devices

Date	Author/s	Title	Journal/ Article Type	Summary
06 Dec 2021	Ishak et al.	Diagnostic, Prognostic, and Therapeutic Value of Droplet Digital PCR (ddPCR) in COVID-19 Patients: A Systematic Review	*Journal of Clinical Medicine / Systematic Review*	• This article aimed to assess the diagnostic performance of droplet digital PCR (ddPCR), also to evaluate its potential role in prognosis and management of COVID-19 patients. • Most studies reported ddPCR was more accurate than RT-qPCR in detecting and quantifying SARS-CoV-2 levels, especially in patients with low viral loads. • ddPCR was highly effective in quantifying SARS-CoV-2 RNAemia levels in hospitalized patients, monitoring their disease course, and predicting their response to therapy. • These findings suggest ddPCR could serve as a complement or alternative SARS-CoV-2 tool with emerging diagnostic, prognostic, and therapeutic value, especially in hospital settings.

Evidence on Medical & Surgical Procedures

Date	Author/s	Title	Journal/ Article Type	Summary
06 Dec 2021	Li et al.	Efficacy and Safety of Mesenchymal Stromal cells Therapy for COVID-19 Infection: A Systematic Review and Meta-analysis	*Current Stem Cell Research & Therapy / Systematic Review & Meta-analysis*	• This study aimed to assess the safety and efficacy of stem cell therapy for COVID-19 • There were no severe adverse events in all included studies. There were no significant differences in adverse events between the control and experimental groups. • The meta-analysis found that stem cell therapy effectively reduced the high mortality rate of COVID-19; and it does not increase the incidence of adverse events.

Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary
07 Dec 2021	Ahmed et al.	Plant lectins as prospective antiviral biomolecules in the search for COVID-19 eradication strategies	*Biomedicine & Pharmacotherapy / Review*	• Lectins have potent anti-infectivity properties for several RNA viruses including SARS-CoV-2. • Mannose-binding lectins deficiency in serum influences innate immunity of the host and facilitates infectious diseases including COVID-19. • Mannose-specific/mannose-binding lectins (MBL) have potent efficacies like anti-infectivity, complement cascade induction, immunoadjuvants, DC-SIGN antagonists, or glycomimetic approach, which can prove useful in the strategy of COVID-19 combat along with the glycobiological aspects of SARS-CoV-2 infections and antiviral immunity.

Evidence on Preventive & Promotive Health

Evidence on Screening

Date	Author/s	Title	Journal/ Article Type	Summary
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Evidence on Personal Measures

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Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
08 Dec. 2021	Tully et al.	The effect of different COVID-19 public health restrictions on mobility: A systematic review	*PLoS ONE / Systematic Review*	• Research has shown that the COVD-19 public health restrictions have had the anticipated effect on reducing transmission, in part characterised by reduced mobility • Countries that introduced more stringent public health restrictions experienced greater reductions in mobility, through increased time at home and reductions in visits to shops, workplaces and use of public transport. Stay-at-home orders were the most effective of the individual strategies, whereas mask mandates had little effect of mobility.
10 Dec 2021	Mazza et al.	Public health effectiveness of digital contact tracing in the COVID-19 pandemic: A systematic review of available data	*Acta Biomed / Systematic Review*	• Digital contact tracing (DCT) has been increasingly adopted in different countries to support conventional contact tracing efforts to control the COVID-19 pandemic. • Several studies on automated contact tracing for COVID-19 found out that a very high DCT uptake is required to substantially suppress transmission. • While some evidence is available on its adoption and use in selected settings, very scant data is available on its effectiveness in the fight against COVID-19. As digitalization provides new tools for infection control at the population level, solid research is needed to quantify the public health effects of their application.

Evidence on Other Health Technologies

Date	Author/s	Title	Journal/ Article Type	Summary
06 Dec. 2021	Ellis et al.	The Application of e-Mental Health in Response to COVID-19: Scoping Review and Bibliometric Analysis	*JMIR Mental Health / Systematic Review*	• With the onset of COVID-19, the potential benefits of the use of e-mental health programs have been greatly reinforced by the need for mental health services to adapt to social distancing and stay-at-home measures. • Younger children and older adults, who may be less familiar with technology, may find it more difficult to access the benefits of e-mental health. • Frontline workers directly involved in the care of patients with COVID-19 have been identified as being at particularly high risk for mental health issues as a result of excessive workloads and work hours, insufficient protective equipment, feeling inadequately supported, as well as the high infection rate among medical staff.
07 Dec 2021	World Health Organizatio n	WHO recommends against the use of convalescent plasma to treat COVID-19	*WHO News release*	• WHO recommends against the use of convalescent plasma for non-severe COVID-19 patients. Evidence confirms no benefit for these patients. • Current evidence shows that convalescent plasma does not improve survival or reduce the need for mechanical ventilation, while it has significant costs. • Randomized clinical trials on convalescent plasma use for severe and critical COVID-19 patients may still continue.
09 Dec 2021	Appleton et al.	Implementation, Adoption, and Perceptions of Telemental Health During the COVID-19 Pandemic: Systematic Review	*Journal of Medical Internet Research / Systematic Review*	• Synchronous modalities such as video conferencing are comparable to face-to-face delivery in terms of quality of care, reliability of clinical assessments, and treatment outcomes and adherence. • Telemental health may be difficult for new patients, physical health aspects of care, service users without a private space at home to use for therapy, and support requiring physical presence such as exposure therapy or role play. • Implementation of telemental health allowed some continuing support to the majority of service users during the COVID-19 pandemic. • However, not all service users can be reached by this means, and better evidence is now needed on long-term impacts on therapeutic relationships and quality of care, and on impacts on groups at risk of digital exclusion and how to mitigate these.

Note. Studies that have not been peer-reviewed are highlighted in red.

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