Weekly Evidence Report

Health Technology Assessment Philippines

18 – 24 June 2022

Overview

The following report presents summaries of evidence the Department of Health (DOH) - Health Technology Assessment (HTA) Unit reviewed for the period of 18 June – 24 June 2022. The HTA Unit reviewed a total of 12 studies for the said period.

Evidence includes 2 studies on Epidemiology; 3 studies on Vaccines; 1 study on Drugs; 2 studies on Transmission; 1 study on Equipment and Devices; 1 studies on Medical and Surgical Procedures; 0 study on Traditional Medicine; 1 study on Preventive & Promotive Health; and 1 studies on Other Health Technologies.

Sections

Epidemiology	
/accines	
Drugs	
Transmission	
Equipment & Devices	
/edical & Surgical Procedures	
Traditional Medicine	
Preventive & Promotive Health	
Other Health Technologies	



Evidence on Epidemiology

Local COVID-19 Case Tracker:

https://doh.gov.ph/2019-nCoV?gclid=CjwKCAjwjtOTBhAvEiwASG4bCOmLzFMQIjh8DX_VVSGA-HmO0Pt5_Cscyk ID7xZv4zqIXG5vm9PM2xoC27QQAvD_BwE

Date	Author/s	Title	Journal/ Article Type	Summary
22 June 2022	WHO Global	Weekly epidemiological update on COVID-19 - 22 June 2022	WHO Global Situation Report	 Globally, the number of new weekly cases has continued to decline since the peak in January 2022. During the week of 13 until 19 June 2022, over 3.3 million cases were reported, a 4% decrease as compared to the previous week. The number of new weekly deaths declined by 16% as compared to the previous week, with over 7500 fatalities reported. As of 19 June 2022, over 536 million confirmed cases and over 6.3 million deaths have been reported globally. In this edition, the WHO, in collaboration with national authorities, institutions and researchers, routinely assessed if variants of SARSCoV-2 alter transmission or disease characteristics, or impact the effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied to control disease spread. Potential variants of concern (VOCs), variants of interest (VOIs) or variants under monitoring (VUMs) are regularly assessed based on the risk posed to global public health.
23 June 2022	Lopez-Le on,S et al.	Long-COVID in children and adolescents: a systematic review and meta-analyses	Scientific Reports/ a systematic review and meta-analyses	 This systematic review and meta-analyses were reported following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) reporting guideline. It examines the prevalence of long-COVID signs and symptoms in children under the age of 18 with a diagnosed case of COVID-19 (confirmed via real-time reverse transcription-polymerase chain reaction (rt-PCR), antigen or antibody (or serology tests) We have used PubMed and Embase to identify observational studies published before February 10th, 2022 that included a minimum of 30 patients with ages ranging from 0 to 18 years that met the National Institute for Healthcare Excellence (NICE) definition of long-COVID, which consists of both ongoing (4 to 12 weeks) and post-COVID-19 (≥ 12 weeks) symptoms. Random-effects meta-analyses were performed using the MetaXL software to estimate the pooled prevalence with a 95% confidence interval (CI). Heterogeneity was assessed using I2 statistics.

Evidence on Epidemiology (Cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
23 June 2022	Lopez-Le on et al.	Long-COVID in children and adolescents: a systematic review and meta-analyses	Scientific Reports/ a systematic review and meta-analyses	 (cont.) The prevalence of long-COVID was 25.24%, and the most prevalent clinical manifestations were mood symptoms (16.50%), fatigue (9.66%), and sleep disorders (8.42%). Children infected by SARS-CoV-2 had a higher risk of persistent dyspnea, anosmia/ageusia, and/or fever compared to controls. Limitations of the studies analyzed include lack of standardized definitions, recall, selection, misclassification, nonresponse and/or loss of follow-up, and a high level of heterogeneity.

Evidence on Vaccines

Bloomberg Vaccine Tracker: <u>https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/</u> WHO COVID-19 Vaccine Tracker:

https://www.who.int/publications/m/item/draft-landscape-of-covid-19-candidate-vaccines

WHO SAGE Vaccine Recommendations:

https://www.who.int/groups/strategic-advisory-group-of-experts-on-immunization

Local COVID-19 Vaccine Updates: https://doh.gov.ph/vaccines

Date	Author/s	Title	Journal/ Article Type	Summary
20 June 2022	Kolahchi, Z et al.	Acute ischemic stroke and vaccine-induce d immune thrombotic thrombocytope nia post COVID-19 vaccination; a systematic review	Journal of Neuro Sciences/ a systematic review	 This systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline. Out of 447 articles. 140 duplicates were removed. After screening and excluding irrelevant articles, 29 studies (43 patients) were identified to be included. From all cases, 22 patients (51.1%) were diagnosed with AIS associated with Vaccine-induced immune thrombotic thrombocytopenia (VITT). Among AIS associated with VITT group, all received viral vector vaccines except one Among 43 patients with AIS, at least 6 patients (14%) died during hospital admission. AIS has been reported as a rare complication within 4 weeks post COVID-19 vaccination, particularly with viral vector vaccines. Health care providers should be familiar with this rare consequence of COVID-19 vaccination in particular in the context of VITT to make a timely diagnosis and appropriate treatment plan.

Evidence on Vaccines (Cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
24 June 2022	Tang, K et al.	Impaired serological response to COVID-19 vaccination following anti-cancer therapy: a systematic review and meta-analysis	Medical Virology/ a systematic review and meta-analyses	 Accumulated data suggested that oncologic patients, especially those with anti-cancer therapy have an impaired immune response to COVID-19 vaccination. However, the exact effect of anti-cancer treatments on post-vaccination response has not been elucidated yet. A total of 39 studies were finally included comprising 11075 oncologic patients. Overall, humoral response were found significantly decreased in patients undergoing anti-cancer treatments compared with those without active treatment. seroconversion rates were significantly lower in patients with chemotherapy, targeted therapy and steroid usage , while there was no significant association between immunotherapy or hormonal therapy and seroconversion after vaccination. Subgroup analyses showed therapies with anti-CD20 antibody , BCL2i were significantly correlated with the risk of negative humoral response to vaccination. The results demonstrated that specific oncologic therapies may significantly affect serological response to COVID-19 vaccines in patients with cancer. Thus, an adapted vaccination strategy taking the influence of active treatment into account is in need, and further research on the effect of a third dose of vaccine and the role of post-vaccination cellular response in oncologic patients is also needed.
17 June 2022	WHO	Interim statement on decision-makin g considerations for the use of variant updated COVID-19 vaccines	WHO Statement	 Current COVID-19 vaccines, which are based on the ancestral strain of the SARS-CoV-2 virus, continue to exhibit strong protection against severe disease and death across all virus variants seen to date. Achieving high coverage rates with the primary series and first booster doses in the highest and high priority-use groups in every country remains the priority. However, the emergence of variants of concerns has resulted in a rapid decline of the protection against symptomatic illness. There is therefore a need to assess whether variant-updated COVID-19 vaccines, especially to Omicron, would improve vaccine performance. Such vaccines should aim to provide even greater and more durable protection against severe disease and death, and broader protection against future variants that may be even more antigenically distant to the index virus.

Evidence on Vaccines (Cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
17 June 2022	WHO	Interim statement on decision-makin g considerations for the use of variant updated COVID-19 vaccines	WHO Statement	 Variant-updated vaccines are under clinical development and will in due course be assessed by regulatory authorities. Once these vaccines have received WHO emergency use authorization or approval by a stringent national regulatory authority, they will be considered by SAGE for policy recommendations. Policy recommendations will address different use-case scenarios for Omicron-updated vaccines and include consideration of programmatic aspects. The full public health benefit of variant-updated vaccines and their value proposition over current vaccines can only be quantified once vaccine effectiveness data have been obtained.

Evidence on Drugs

Date	Author/s	Title	Journal/ Article Type	Summary
22 June 2022	Bouillon,K et al.	Association of Statins for Primary Prevention of Cardiovascular Diseases With Hospitalization for COVID- 19: A Nationwide Matched Population- Based Cohort Study	Journal of the American Heart Association / a matched- cohort study	 The French National Healthcare Data System database was used to conduct a matched- cohort study. For each adult aged ≥40 years receiving statins for the primary prevention of cardiovascular diseases, one nonuser was randomly selected and matched for year of birth, sex, residence area, and comorbidities. The association between statin use and hospitalization for COVID- 19 was examined using conditional Cox proportional hazards models, adjusted for baseline characteristics, comorbidities, and long- term medications. Its association with in- hospital death from COVID- 19 was also explored.

Evidence on Drugs (Cont.)

Date	Author/s	Title	Journal/ Article Type	Summary
22 June 2022	Bouillon,K et al.	Association of Statins for Primary Prevention of Cardiovascular Diseases With Hospitalization for COVID- 19: A Nationwide Matched Population- Based Cohort Study	Journal of the American Heart Association / a matched- cohort study	 (cont.) All participants were followed up from February 15, 2020, to June 15, 2020. The matching procedure generated 2 058 249 adults in the statin group and 2 058 249 in the control group, composed of 46.6% of men with a mean age of 68.7 years All types of statins were significantly associated with a lower risk of hospitalization, with the adjusted HR ranging from 0.75 for fluvastatin to 0.89 for atorvastatin. Findings support that the use of statins for primary prevention is associated with lower risks of hospitalization for COVID- 19 and of in- hospital death from COVID- 19.

Evidence on Equipment and Devices

Date	Author/s	Title	Journal/ Article Type	Summary
21 June 2022	Risch, M et al.	Investigation of the use of a sensor bracelet for the presymptomatic detection of changes in physiological parameters related to COVID-19: an interim analysis of a prospective cohort study (COVI-GAPP)	BMJ Open/ A Randomized Controlled Trial	 Awareness of the importance of the microbial contamination of air and surfaces has increased significantly during the COVID-19 pandemic. The aim of this study was to evaluate the presence of bacteria and fungi in the air and on surfaces within some critical areas of large supermarkets with and without an ozonation system. Surveys were conducted in four supermarkets belonging to the same commercial chain of an Apulian city in June 2021, of which two were equipped with an ozonation system, and two did not have any air-diffused remediation treatment. There was a statistically significant difference in the total bacterial count (TBC) and total fungal count (TFC) in the air between A/B and C/D supermarkets. To the best of the knowledge of the authors, this is the first study evaluating the effect of ozone on commercial structures in Italy. Future investigations, supported by a multidisciplinary approach, will make it possible to deepen the knowledge on this method of sanitation, in light of any other epidemic/pandemic waves.

Evidence on Preventive & Promotive Health

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

Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
18 June 2022	Limbu,Y et al.	The Health Belief Model Applied to COVID-19 Vaccine Hesitancy: A Systematic Review	Vaccines/ A Systematic Review	 As of 10 June 2022, there have been over 532 million confirmed cases of COVID-19 globally, and over 6.3 million deaths COVID-19 continues to have an unprecedented effect on lives, livelihoods, economies, and so on. Several potential vaccines have been developed and nine are approved by the EUA and different countries, and three are approved for use in the United States There were three main inclusion criteria: (1) quantitative studies that used the HBM framework to examine relationships between HBM constructs and COVID-19 vaccine hesitancy and reported statistical tests of the relationships, (2) studies published in peer-reviewed journals, and (3) studies published in English between January 2020 and May 2022. This systematic review was performed according to the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). PubMed, Web of Science, Google Scholar, and Scopus databases were searched for articles on COVID-19 vaccine hesitancy against COVID-19. The vaccine hesitancy against COVID-19. The vaccine hesitancy was higher among diabetes patients and adult populations as compared to students and healthcare workers. Thus, COVID-19 vaccine educational campaigns should be tailored to specific groups such as patients with chronic conditions and adult populations.

Evidence on Preventive & Promotive Health (Cont.)

Evidence on Community Measures

Date	Author/s	Title	Journal/ Article Type	Summary
18 June 2022	Limbu,Y et al.	The Health Belief Model Applied to COVID-19 Vaccine Hesitancy: A Systematic Review	Vaccines/ A Systematic Review	 (Cont.) The results of this review revealed inconsistent findings on the relationship between HBM modifying factors (gender, age, education, and income) and vaccine hesitancy. Future research is needed to shed light on such inconsistent findings. The findings suggest that HBM provides a useful framework for explaining and predicting COVID-19 vaccine hesitancy. Thus, public awareness and educational programs aimed at reducing COVID-19 vaccine hesitancy should consider using HBM as a framework.

Evidence on Traditional Medicine

Date	Author/s	Title	Journal/ Article Type	Summary

Evidence on Transmission

Date	Author/s	Title	Journal/ Article Type	Summary
18 June 2022	Fattahi, et al.	Effective factors in people's preventive behaviors during covid-19 pandemic: a systematic review and meta-synthesis	BMC Public Health/ a systematic review and meta-synthe sis	 9 studies were well-chosen to reveal the impact of geo-environmental factors (including the natural environment and human activity) on global COVID-19 transmission, and to inform critical intervention strategies that could mitigate the worldwide effects of the pandemic. Since December 2019, the emergence and rapid spread of acute respiratory infectious diseases caused by the novel coronavirus have triggered an internationally unprecedented public health crisis. This novel coronavirus—severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) comes from the beta coronavirus family and is similar to SARS-CoV-1 in genome sequence (Cohen and Normile, 2020).

Evidence on Transmission (Con.t)

Date	Author/s	Title	Journal/ Article Type	Summary
18 June 2022	Fattahi, et al.	Effective factors in people's preventive behaviors during covid-19 pandemic: a systematic review and meta-synthesis	BMC Public Health/ a systematic review and meta-synthesis	 (Cont.) To effectively combat COVID-19 transmission, most countries have issued diverse intervention policies such as border lockdowns, self-isolation, and limited gatherings; evidence from China indicates that strict intervention measures are highly effective means of inhibiting the spread of COVID-19 This paper provides a comprehensive overview concerning the impact of geo-environmental factors on global COVID-19 transmission and emphasizes commonly reported geo-environmental factors, including climate, human mobility, and demographic factors, as well as human interventions. The impact of geo-environmental factors shows distinct spatiotemporal heterogeneity.
20 June 2022	Wang, D et al.	The impact of geo-environmental factors on global COVID-19 transmission: A review of evidence and methodology	The science of total environment/ A review of evidence and methodology	 This thematic synthesis was carried out in order to create a set of central themes that summarize all of the issues raised in the articles reviewed in this study. PRISMA 2020 was used as guidelines to direct this systematic review and meta synthesis. Five central themes emerged from 8 included articles, (1) Social factors (subthemes: environmental context, political leadership, multimedia), (2) Cultural factors (subthemes: national culture, religious culture, the family beliefs, work culture, foreign culture), (3) Economic factors (subthemes: economic situation of the individual, the government supports, infrastructures), (4) Personal factors (subthemes: people experiences, cognitive ability, physical factors, different motivational level, sense of responsibility, risk management, and self-management skills), and (5) Knowledge and Education factors (subthemes: access to information, skill training) Health policymakers and other public health officials in various countries can use the factors listed to develop appropriate, evidence-based policies.

Evidence on Medical and Surgical Procedures

Date	Author/s	Title	Journal/ Article Type	Summary
23 June 2022	ZHang,M et al.	Safety and efficiency of stem cell therapy for COVID-19: a systematic review and meta-analysis	BMC Public Health/ a systematic review and meta-analysis	 The included studies were assessed using the Risk-of-bias tool 1.0 and MINORS instrument. The adverse events, mortality, length of hospital day and laboratory parameters were analyzed by meta-analysis. We adhered to PRISMA reporting guideline. 17 studies that met the inclusion data were included. There were no significant differences in AEs and SAEs between stem cell therapy group and control group. The analysis showed that stem cell treatment could significantly reduce the mortality rate, but was not able to cause changes in length of hospital stay or most laboratory parameters. The present study shows that stem cell therapy for COVID-19 has a remarkable effect on efficiency without increasing risks of adverse events and length of hospital stay. It is potentially necessary to establish the criteria for COVID-19 for stem cell therapy

Evidence on Other Health Technologies

Date	Author/s	Title	Journal/ Article Type	Summary
23 June 2022	Giuste, F et al.	Explainable Artificial Intelligence Methods in Combating Pandemics: A Systematic Review	IEEE reviews in Biomedical Engineering/ A Systematic Review	 The recent confluence of large-scale public healthcare datasets combined with the rapid increase of computing capacity has resulted in a noteworthy increase in AI-based solutions for clinical decision-making. However, making these AI solutions adopted in clinical practice is slow. findings suggest that XAI can improve model performance, instill trust in the users, and assist users in decision-making. XAI approaches that can increase AI adoption based on lessons learned from COVID-19 and presented future trends with insights were reviewed . the implementation of XAI techniques will accelerate the translation of data-driven analytic solutions to improve the quality of patient care.