Asia-Pacific Perspectives on the COVID-19 Pandemic

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Letter to the Editor

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To the Editor

Coronavirus disease 2019 (COVID-19) has affected over tens of millions of people globally since the World Health Organization declared it a pandemic on March 11, 2020.[1] The Asia-Pacific is a diverse geographical region with different health care systems and levels of access to specialist services. This survey was commissioned by the Asia Pacific Association of Allergy Asthma and Clinical Immunology (APAAACI) Task Force on COVID-19 with the premise to understand the epidemiology,[2] clinical profile (including severity and risk factors),[3, 4] therapeutics/access to clinical trials,[5] impact on clinical immunology and allergy services/therapeutics,[6] occupational health and mental well-being[S1, S2] of healthcare providers in the region.

A questionnaire comprising 44 questions was electronically sent out to 15 member countries of APAAACI using Survey Monkey ® on 8th May 2020. Responses were received from 14/15 (93.3%) member countries. The respondents were from Australia, China, India, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mongolia, Philippines, Vietnam, Singapore, Taiwan and Thailand.

The most common clinical phenotypes among children and adults comprised acute respiratory infection (76.9%), asymptomatic individuals (15.4%), and pneumonia (7.7%). Acute respiratory distress syndrome (ARDS) and cytokine release syndrome (CRS) were the least common clinical phenotypes **(Online supple-**

mentary Figure 1) . Intensive care was most often needed among those aged 61 years and above (61.3%) followed by the 40-60-year age group (38.5%). Paediatric cases were overall mild, with multisystem inflammatory syndrome in children rare. Hypertension (100%), diabetes mellitus (91.7%), cardiac disease (58.3%), chronic obstructive pulmonary disease (COPD) (33.3%), and malignancy (16.7%) were the most common comorbidities reported by respondents. Asthma and obesity were only reported by 8.3% respectively **(Online supplementary Figure 2)** .

National guidelines for COVID-19 were available in the 84.6% of the respondents' countries. On-going clinical trials were available among 69.2% of respondents, most commonly involving remdesivir (72.7%), hydroxychloroquine/chloroquine (45.5%), convalescent plasma or lopinavir/ritonavir (36.4%), corticosteroids or intravenous tocilizumab (27.3%) **(Table 1)** .

Immunosuppressive therapies (76.9%), biologics (69.2%) and allergen immunotherapy (53.9%) were continued in patients with allergies. Among the respondents, 92.3% reported a decrease in the frequency of regular / follow-up visits by allergy patients or stopping of clinic visits during the pandemic; while 61.5% actively conducted telehealth for diagnosis and treatment, patient education (61.5%) and patient assistance (53.9%).

Among healthcare workers, allergic rhinitis (62.5%), asthma (50.0%), chronic rhinosinusitis (25.0%) and ocular allergy (25.0%) were the most common allergic conditions exacerbated by the prolonged use of surgical masks/N95, eye protection/ goggles. Contact dermatitis (88.9%), atopic dermatitis (44.4%), natural rubber latex allergy (22.2%) and urticaria/angioedema (22.2%) were the most common skin conditions aggravated with use of gloves, personal protective equipment (PPE), and repeated handwashing **(Figure)** . The psychological and mental well-being of healthcare workers were also constantly monitored throughout the pandemic.

The pandemic has provided our specialty an opportunity to restructure our practice, promote the use of digital technology for clinical care/ medical education, and promote home and community management for hitherto hospital-based procedures like allergen immunotherapy. With the roll-out of community vaccination starting with Singapore, India and Indonesia since January 2021, the emergence of COVID-19 vaccine anaphylaxis, potentially mediated by polyethylene glycol, polysorbates and other unknown mechanisms,[S3] impacts our ability to risk stratify patients at risk of developing vaccine adverse reactions versus the benefits of increasing herd immunity and preventing moderate-severe COVID-19 infection in different parts of the Asia-Pacific - especially among the elderly with cardiovascular disease which is increasing within our region.

Lessons learnt from the first year of the pandemic provide crucial information for public health, infection prevention and control, and vaccination policies as we work towards disease control and economic recovery for the region. New testing and therapeutic modalities continue to evolve especially with SARS-CoV2 mutations/variants developing over time.

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References

1. Zhang JJ, Dong X, Cao YY, Yuan YD, Yang YB, Yan YQ, et al. Clinical characteristics of 140 patients infected with SARS-CoV-2 in Wuhan, China. Allergy 2020;75:1730-41.
2. Sokolowska M, Lukasik Z, Agache I, Akdis CA, Akdis D, Akdis M, et al. Immunology of COVID-19: mechanisms, clinical outcome, diagnostics and perspectives - a report of the European Academy of Allergy and Clinical Immunology (EAACI). Allergy 2020;75:2445-2476.
3. Gallo Marin B, Aghagoli G, Lavine K, Yang L, Siff EJ, Chiang SS, et al. Predictors of COVID-19 severity: A literature review. Rev Med Virol 2021;31:1-10.

4. Wang JY, Pawankar R, Tsai HJ, Wu LSH, Kuo WH. COVID-19 and asthma, the good or the bad? Allergy 2021;76; 565-567
5. Bonini S, Maltese G. COVID-19 Clinical trials: Quality matters more than quantity. Allergy 2020;75:2542-2547.
6. Lee JH, Lee Y, Lee SY, Van Bever H, Lou H, Zhang L, Park HS. Management of Allergic Patients During the COVID-19 Pandemic in Asia. Allergy Asthma Immunol Res 2020;12:783-91.

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AUTHOR CONTRIBUTIONS :

Author 1 Conceptualized the study, author 1 and 2 developed the survey questionnaire and contributed to the survey data, writing and development of the manuscript, authors 3 and 4 reviewed the survey questionaiire and the manucript and contributed to the survey. All other authors contributed to the survey data and review of the manuscript.

Online supplemental file for

Name list of APAAACI COVID-19 working group

Online supplemental references

Online supplemental Figures

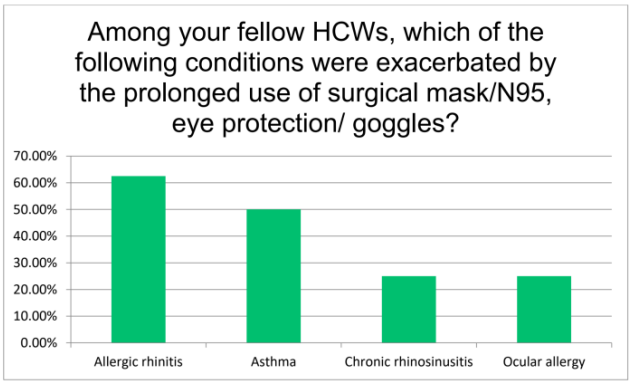
Figure S1 : Severity of COVID-19 Infection

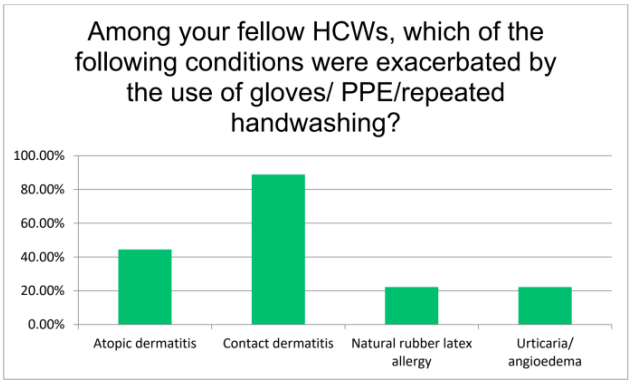
Figure S2 : Common Comorbidities Among Confirmed Patients

Table 1. Preferred Therapies versus Available Clinical Trials

Preferred therapies for severe COVID-19/ Cytokine Release Syndrome	% of Respondents (N=14)	Available Clinical Trials	% of Respondents (N=14)
Anti-virals (Remdesivir, Lopinavir/Ritonavir, Ribavirin, Arbidol, Favipiravir)	46.2%	Remdesivir	72.7%
Hydroxychloroquine or chloroquine	30.8%	Lopinvir/ritonavir	36.4%
Anti- IL6 (Tocilizumab)	15.4%	Hydroxychloroquine or chloroquine	45.5%
Corticosteroids	7.7%	Convalescent plasma	36.4%
Intravenous immunoglobulins (IVIg)	7.7%	Anti-IL6 (Tocilizumab)	27.3%
		Corticosteroids	27.3%
		Favipiravir	18.2%
		Interferons	9.1%
		Ribavarin	9.1%

Figure. Impact of Personal Protective Equipment on Healthcare Workers (HCWs) with Atopies/Allergies





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