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CONFLICT OF INTEREST

M. F. Bachmann is a board member of Saiba AG, involved in the development of RBD-CuMV a vaccine against COVID-19. All other authors declare no conflict of interest.

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Asia-Pacific perspectives on the COVID-19 pandemic

To the Editor,

Coronavirus disease 2019 (COVID-19) has affected over ten millions of people globally since the World Health Organization declared it a pandemic on 11 March 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

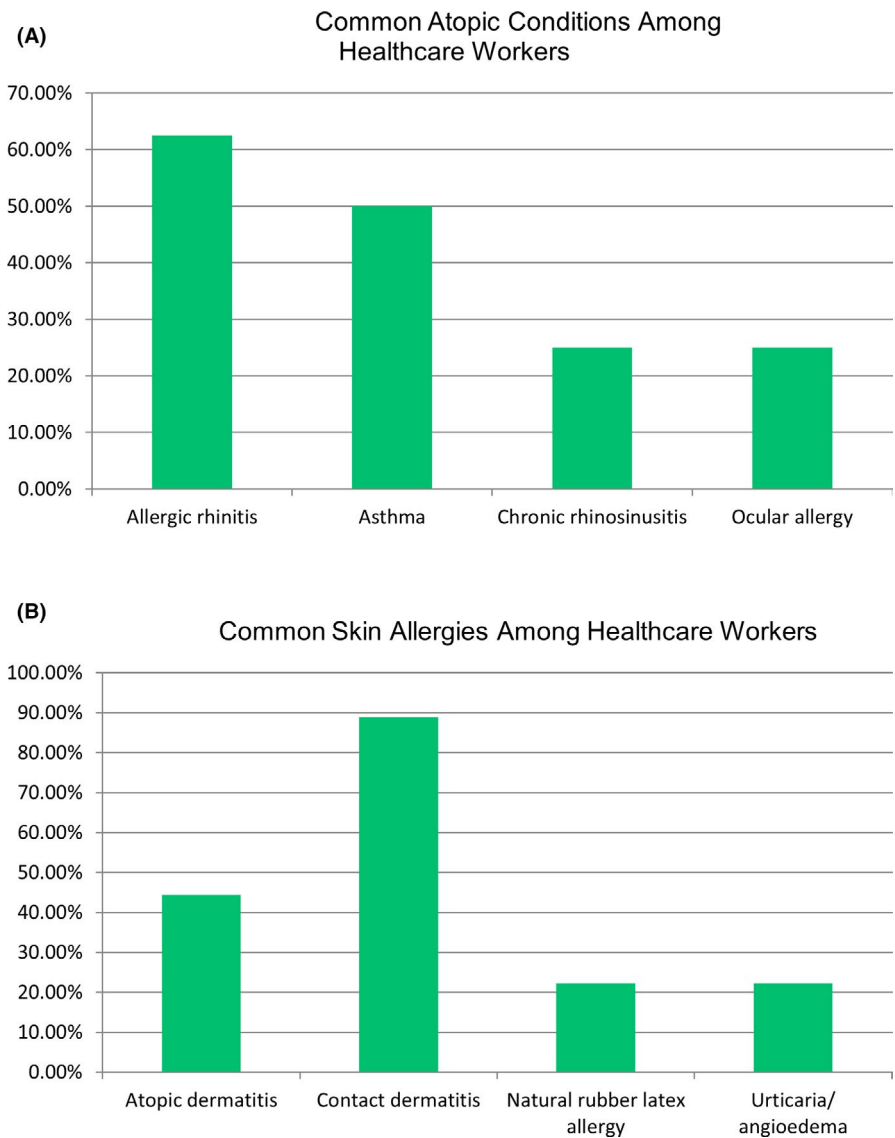
factors),^{3,4} therapeutics/access to clinical trials,⁵ impact on clinical immunology and allergy services/therapeutics,⁶ occupational health and mental well-being (supporting information S1, S2) of healthcare providers in the region.

A questionnaire comprising 44 questions was electronically sent out to 15 member countries of APAAACI using Survey Monkey® on 8th May 2020. The questionnaire was sent out to member societies through their presidents who responded based on the prevailing COVID-19 situation during the survey period in each

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%	Anti-viral: Remdesivir	72.7%
Hydroxychloroquine or chloroquine	30.8%	Anti-viral: Lopinavir/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%
		Anti-viral: Favipiravir	18.2%
		Interferons	9.1%
		Ribavirin	9.1%

FIGURE 1 Common atopic conditions and skin allergies among healthcare workers.



of their countries. Member societies were asked to consolidate the responses from their individual society members, both adult and paediatric allergists, many of whom were actively involved in

their country's COVID-19 response. Certain questions required a single-best response, whereas others allowed multiple responses. As such, the total responses for those questions allowing multiple

responses may not add up to 100%. 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 results are reported as percentages out of the denominator of 14 respondents.

The most common clinical phenotypes among children and adults based on prevailing national public health statistics comprised acute respiratory infection (76.9%), asymptomatic individuals (15.4%), and pneumonia (7.7%). Acute respiratory distress syndrome and cytokine release syndrome were the least common clinical phenotypes (Figure S1). Intensive care was most often needed among those aged 61 years and above (61.5%) followed by the 40–60 years 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 (33.3%) and malignancy (16.7%) were the most common among a list of comorbidities reported by respondents, where multiple responses were allowed. Asthma and obesity were only reported by 8.3%, respectively (Figure S2).

National guidelines for COVID-19 were available in 84.6% of the respondents' countries. Ongoing 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. Examples of immunosuppressive therapies included oral ciclosporin for atopic dermatitis and chronic urticaria and moderate doses of prednisolone for severe asthma. Biologics included anti-IgE monoclonal antibodies (omalizumab) for allergic asthma and chronic urticaria, anti-interleukin (IL)-4 receptor antagonist (dupilumab) for atopic dermatitis, and anti-IL-5/IL-5R monoclonal antibody (mepolizumab/reslizumab/benralizumab) for severe asthma. 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; whilst 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%), chronic rhinosinusitis (25%) and ocular allergy (25%) were the most common allergic conditions exacerbated by the prolonged use of surgical masks/N95, eye protection/ goggles. Possible reasons could include inhalation of fabric dust entrapped in the masks triggering nasal and bronchial mucosal irritation, increased breathing effort and rebreathing of the exhaled air, face masks causing more humid and hot micro-environment, and physical pressure from masks on the ears and the face causing local irritation. 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, and repeated hand-washing (Figure 1).

The pandemic has provided our speciality with 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,⁷ potentially mediated by polyethylene glycol, polysorbates⁸ and other unknown mechanisms,^{5,3} 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.

In contrast to the United States, United Kingdom and Europe, there were more regions within Asia were wearing of face masks, public health policies, contact tracing using mobile applications as an enabler, rapid testing and isolation have significantly contained community outbreaks, with comparatively low mortality, for example, Australia, New Zealand, Singapore, Taiwan and Thailand. However, there remain larger countries with dense urban populations, for example, India, Philippines, Malaysia and Indonesia which face challenges including second and third waves of infections. Hopefully, the roll-out of COVID-19 vaccinations in the region from February 2021 will be able to eventually induce herd immunity and reduce the incidence of new community infections.

Lessons learnt from the first year of the pandemic provide crucial information for public health, infection prevention and control, and vaccination policies including risk stratification and safe implementation of vaccines as we work towards disease control and economic recovery for the region. New testing and therapeutic modalities continue to evolve especially with SARS-CoV-2 mutations/variants developing over time.


CONFLICT OF INTERESTS

None of the authors has any conflicts of interest in relation to this manuscript.


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 questionnaire and the manuscript and contributed to the survey. All other authors contributed to the survey data and review of the manuscript.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.