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Preparedness to Face the COVID-19 Pandemic in Hospice and Palliative Care Services in the Asia-Pacific Region: A Rapid Online Survey

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Abstract

Background: Hospice and palliative care services provision for COVID-19 patients is crucial to improve their life quality. There is limited evidence on COVID-19 preparedness of such services in the Asia-Pacific region. **Aim:** To evaluate the preparedness and capacity of hospice and palliative care services in the Asia-Pacific region to respond to the COVID-19 pandemic. **Method:** An online cross-sectional survey was developed based on methodology guidance. Asia-Pacific Hospice and Palliative Care Network subscribers (n = 1551) and organizational members (n = 185) were emailed. Descriptive analysis was undertaken. **Results:** Ninety-seven respondents completed the survey. Around half of services were hospital-based (n = 47, 48%), and public-funded (n = 46, 47%). Half of services reported to have confirmed cases (n = 47, 49%) and the majority of the confirmed cases were patients (n = 28, 61%). Staff perceived moderate risk of being infected by COVID-19 (median: 7/10). > 85% of respondents reported they had up-to-date contact list for staff and patients, one-third revealed challenges to keep record of relatives who visited the services (n = 30, 31%), and of patients visited in communities (n = 29, 30%). Majority of services (60%) obtained adequate resources for infection control except face mask. More than half had no guidance on Do Not Resuscitate orders (n = 59, 66%) or on bereavement care for family members (n = 44, 51%). **Conclusion:** Recommendations to strengthen the preparedness of palliative care services include: 1) improving the access to face mask; 2) acquiring stress management protocols for staff when unavailable; 3) reinforcing the contact tracing system for relatives and visits in the community and 4) developing guidance on patient and family care during patient's dying trajectory.

Keywords

COVID-19, preparedness, hospice and palliative care, pandemic, epidemic, Asia-Pacific region

Background

On the 11th of March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic.¹ At the end of the same month, on 31st March 2020, more than half a million of confirmed cases of COVID-19 were reported globally (N = 750,890), including 36,405 deaths.¹ The Asia-Pacific region has been recognized as a potential hotspot for COVID-19 emergence and spread with 5,474,974 confirmed cases and 99,716 deaths in November 2020.^{2,3} WHO has called for countries to “ramp up their preparedness activities” to face the pandemic.^{4,5}

Under the WHO 2005 International Health Regulations (IHR), countries have to develop and implement preparedness and response plans in case of public health threats of international concern.⁶ Recent outbreaks like SARS, or influenza

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have tested these plans, and lessons were learnt.^{4,7-10} Despite the recent recognition of hospices and palliative care services' role and importance in responding to pandemics,¹¹ they have been overlooked in preparedness and response plans.^{6,12,13} Evidence showed that palliative care services improve care for patients who are highly vulnerable to and facing higher risk of dying of COVID-19.^{14,15}

COVID-19 has shaken different sections of healthcare systems and hospice and palliative care services have been left with limited information and guidance about how to adapt their work during the pandemic.¹⁶ Patients with comorbidities consistently have poor outcomes, and timely interventions to deliver appropriate care is critical to improving outcomes.^{14,17} Evidence-based recommendations for the role of hospice and palliative care in the COVID-19 patient management involve symptom control, timely communication and collaboration with other departments, bereavement care for family members and training on infection control for staff.^{11,18}

Assessing the preparedness of hospices and palliative care services, along with their deployment of appropriate measures in the Asia-Pacific region is urgently needed to inform the enhancement of appropriate and timely responses to prevent avoidable suffering in palliative care patients.

Methods

Study Design

A cross-sectional online survey developed from previous evidence of preparedness for pandemic, and methodological guidance (the Checklist for Reporting Results of Internet E-Surveys, CHERRIES) for survey design and implementation based on the IHR was conducted.^{19,20}

Sampling and Settings

We used convenience sampling to recruit representatives of hospice and palliative care services including hospice, home-based care, and hospital services in the Asia-Pacific region through the Asia Pacific Hospice Palliative Care Network (APHN). APHN currently has 18 sectors (a sector is a geographic region which may include 1 or more countries, or part of a country): Australia, Bangladesh, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Philippines, Singapore, Sri Lanka, Taiwan, Thailand and Vietnam. All subscribers (n = 1551), organizational members (n = 185) of the APHN who are involved in clinical care were invited to participate in this survey by email with a request for one response per service/organization. This survey was not circulated to Indian members in APHN as they were expected to be account for in our survey in India.²¹

Data Collection Tool and Process

The survey questionnaire was developed based on the WHO 2005 International Health Regulation⁶ and evidence informed

by national and international guidance on preparedness for epidemic.^{4,18,22} The detail of survey development was published elsewhere.²² This survey was adapted to the Asian context by evidence^{4,23} and consulting clinical experts (YK, MM, EH, GA and CG) in APHN. The questionnaire comprises 10 sections: 1) descriptive of services; 2) current COVID-19 situation in the service; 3) written procedures or guidance for COVID-19 and other infectious disease; 4) measures in place to avoid contagion; 5) communication and coordination; 6) resources available; 7) perceived effects on staff; 8) perception of the risk; 9) preparedness to offer support, and 10) additional comment. Response options were single or multiple choice, 1-10 Likert scales. Open text comments were encouraged for some questions to elicit participants' thought and experiences (see Supplemental Appendix 1).

Data were collected online using the *SmartSurvey*TM platform, which uses encryption and stores data in the UK. We used the option to authorize only 1 response per computer prevent duplicate responses. This survey was conducted online over 3 weeks from 10th June to 1st July 2020. Reminders to complete the survey were sent out twice over this period (17th and 30th June).

Data Management, Cleaning and Analysis

Data were exported from the survey platform into an Excel spreadsheet and subsequently imported into statistical software IBM SPSS® (version.26) for data analysis. Completed questionnaires were included for the final descriptive analysis. Categorical data were described using frequency and percentage; continuous data by median and interquartile range (IQR). Content analysis was used to analyze open-ended responses.²⁴ Participating countries were categorized into 2 groups (Western-Pacific region and South East Asia region) if necessary for analysis based on WHO definition.²⁵

Ethics Approval and Informed Consent

This study was granted ethical approval by the King's College London Research Ethics Committee (ref: MOD-19/20-19396). The ethics approval by APHN was waived based on local regulation. Informed consent was obtained from participants via ticking a box to enter the online survey. Data were collected and stored following the UK 2018 General Data Protection Regulation and local data management regulation.

Results

Participant Characteristics

Of 1736 emails sent, 98 people completed the survey and 97 responses were included in the final analysis as one record did not provide informed consent. The majority of participants were from Japan (n = 22, 23%), Singapore (n = 14, 14%) and Philippines (n = 12, 12%), respectively. The respondents were mostly medical doctors (n = 67, 69%), working in public or governmental funded services (n = 46, 47%) providing care to

a median of 350 patients (IQR: 120-650) per year. Half of the services were hospital-based ($n = 47$, 48%), and had beds ($n = 57$, 59%), with a median of 20 beds (IQR: 10-29) (see Table 1).

Reported status of COVID 19 and action taken. Supplemental Appendix 2 describes the COVID-19 situation in responding services and action taken. Around half reported that they had identified confirmed cases ($n = 47$; 49%) and the majority of the confirmed cases were patients ($n = 28$; 61%). The majority ($n = 39$; 40%) identified the confirmed cases at another department of the hospital where the palliative care service is located. Of 48 services reporting cases, they identified cases through telephone, email or social media communication and announcement among staff ($n = 14$; 33%). Isolating and quarantining the confirmed or suspected cases ($n = 17$; 24%), communicating with staff, patients and relatives ($n = 13$; 18%), and collecting personal protective equipment (PPE) for staff ($n = 11$; 15%) were the most commonly used actions if there were confirmed cases. Around one-fifth of services reduced care activities ($n = 13$; 25%) as a consequence, however, the palliative care services continued for users' physical and psychological support remotely ($n = 12$; 23%).

Perceived effects on staff and risk of infection. Table 2 reports the staff perception on effect and risk of infection regarding COVID-19. In general, respondents expressed moderate anxiety among staff on child care (median: 6, IQR: 5-8), family care (median: 6, IQR: 4.25-7), self being infected (median: 7, IQR: 4.5-8.5), and their interaction with the community (median: 7, IQR: 5-8). Respondents perceived low risks of staff being infected by COVID-19 (median: 3, IQR: 2-5) and services closure due to COVID-19 (median: 2, IQR: 2-4). Around one-fifth of the services were converted into COVID wards ($n = 16$; 17%), or closed due to COVID-19 ($n = 21$; 22%) (not reported in the table).

Communication, coordination and information systems. Tables 3 and 4 present the communication and coordination mechanisms in case of a COVID-19 case in the services. One-third of the services ($n = 36$, 37%) were informed by their local health authorities (e.g. Ministry of Health or Public Health Centre). A 24/7 mobile hotline ($n = 63$; 65%), email ($n = 49$; 51%) and telephone in the services ($n = 44$; 45%) would be the most commonly means to communicate with staff. Two-third ($n = 63$; 65%) reported having a designated focal point to manage up-to-date information and majority of them was the service's head or director ($n = 22$; 35%).

The vast majority reported that they had up-to-date contact list for staff (88%) and patients in the services (85%), mostly using electronic records. However, one-third of the services did not have records for relatives who visited the services ($n = 30$; 31%) and patients visited in the community ($n = 29$; 30%). The vast majority of the services had information systems collecting patients' symptoms (88%), outcomes (92%), treatment given (90%) and patients stay dates (91%), mostly using

Table 1. Description of the 97 Participants.

	n	%
Country/Sector	..	..
Western Pacific region	82	83
Japan	22	23
Singapore	14	14
Philippines	12	12
Malaysia	9	9
Hong Kong	8	8
Korea	6	6
Australia	4	4
Vietnam	3	3
Taiwan	2	2
Brunei Darussalam	1	1
Mongolia	1	1
South-East Asia region	15	15
Bangladesh	5	5
Indonesia	4	4
Sri Lanka	3	3
Myanmar	2	2
Thailand	1	1
Type of service categorized by funders:	..	..
Public or governmental	46	47
Non-profit charity	15	15
Private	14	14
Mixed ¹	10	10
Missing	12	12
Type of service categorized by settings:	..	..
Hospital-based ²	47	48
Non-hospital-based ³	20	21
Missing	30	31
Services having beds:	57	59
Respondent's current role(s):	..	..
Medical doctor	67	69
Medical doctor and manager	20	21
Nurse	4	4
Manager or responsible of the service	1	1
Other ⁴	2	2
Missing	3	3

1. Public and private ($n = 4$); Public and non-profit charity ($n = 2$); Private and non-profit charity ($n = 0$); Public, private and non-profit charity ($n = 4$).

2. Hospital-based: within hospital ($n = 20$), within hospital, inpatient and outpatient ($n = 15$), within hospital and inpatient ($n = 6$), within hospital, inpatient and outpatient, home care ($n = 2$), within hospital and outpatient ($n = 2$), within hospital and home care ($n = 1$), and within hospital, within community, inpatient and outpatient ($n = 1$).

3. Non-hospital based: inpatient ($n = 8$), inpatient and outpatient ($n = 4$), home care ($n = 3$), within community ($n = 2$), within community, outpatient and home care ($n = 1$), outpatient and home care ($n = 1$), and inpatient and academic institute ($n = 1$).

4. Other: project lead($n = 1$), lecturer in Medicine($n = 1$).

electronic records. However, a third did not record the date of relatives' visits ($n = 35$; 36%). Four-fifths of the services reported that they had inventory of protective materials, and of medication and medical supplies (see Table 4).

Infection control measures in place and relevant guidance. The majority of services ($n = 67$; 69%) had a definition for confirmed, probable and suspected cases, and a written procedure

Table 2. Perceived Effects on Staff and Potential Risks in the Upcoming Week (n = 97).

	Median (IQR)*
Perceived effects on work staff (n = 94, n = 3 missing):	..
Staff anxious about the need to care for their children who may not be at school	6 (5-8)
Staff anxious about the need to care for their own relatives	6 (4.25-7)
Staff anxious about getting infected themselves	7 (4.5-8.5)
Worried regarding potential issues for your interaction with the community if your service is known to manage a potential COVID-19 case	7 (5-8)
Perception of the risks in the coming week (n = 93, n = 4 missing):	..
Staff are at risk of being infected by COVID-19	3 (2-5)
Service is at risk of closing because of an infection in the service	2 (2-4)

*on a scale from 1 to 10.

Table 3. Communication Mechanisms in Place to Receive Information if There Is a Case in the Service or in Locality (n = 97).

	n	%
<i>Institutions or person who would inform the service*</i>
Local health authorities (e.g. Ministry of Health, Public Health Centre)	36	37
Other department in hospital (e.g. infectious dept, central management center)	32	33
Frontline healthcare staff working on COVID-19	10	10
No/not sure	4	4
Not applicable (e.g. home care and outpatient unit)	3	3
Patient or family self-report before admission	2	2
Missing	9	9
<i>Communication system(s) that will be used to receive information (tick all applied):</i>	..	..
Mobile phone available 24/7	63/97	65
Email	49/97	51
Telephone (in the service)	44/97	45
WhatsApp group	38/97	39
Other ¹	6/97	6
<i>Designated focal point person identified in the service responsible for collecting and sharing up-to-date information</i>	63	65
Service head/director	22	35
Frontline staff (e.g. physicians and nurses)	11	17
Nursing manager/head	10	16
COVID-related task force	5	8
Government officer	1	2
No detail provided	14	22
No	26	27
Unsure	5	5
Missing	3	3

*Data obtained from the analysis of open text questions.

1. Other: uncertain (n = 1); virtual platform and consultation (e.g. Zoom) (n = 2); pager (n = 1); national contact tracing app (n = 1); memoranda/intranet system (n = 1).

to deal with COVID positive case in the services. Palliative care services had adapted existing policies or guidance to prevent or contain infection, mostly regarding visitors (n = 86; 89%), personal protective equipment (PPE) (n = 85; 88%), and patient admissions (n = 79; 81%). However, one-third did not modify or were not sure they modified the procedures for patient death during the pandemic (n = 32; 37%). More than half reported the lacking of guidance modification on DNR orders (n = 59; 66%) and bereavement care (n = 44; 51%). About two-thirds involved cleaners in COVID-related information sharing and training (n = 67, 69%) and had a written procedure to manage staff COVID-related stress (n = 65, 65%) (see Table 5).

Resources available. Around one-third of respondents concerned about the access to hand hygiene and infection control resources (e.g. running water, soap, hand sanitisers, electricity, disinfectant products and thermometers) both in the facilities and communities. However, more services (around 45%) expressed their concerns about access to 'face mask' at both settings across all participating countries (see Table 6).

One-fifth of the respondents reported that they did not have access to personal protective equipment for visitors (n = 20; 21%). Around three-quarters of the services (n = 76; 78%) can identify isolation rooms for infection control. Around one-third of the services reported that they did not know how to safely dispose of highly infectious waste in the community (n = 25; 26%) (see Supplemental Appendix 3).

Potential to offer support. Around half of the services (n = 43; 44%) reported to have a protocol for symptom management and psychological support that could be shared. Of these 43 services having protocol, the vast majority considered they had capacity to provide training to non-specialists. Majority of them (n = 80, 82%) had education materials available for the facility, primarily (n = 72; 90%) and for the community (n = 54; 68%). One-third of the services had no training materials in the communities (n = 26, 33%). More than 90% of the services could use technologies (phone call and/or video conference) to provide care (see Table 7). Thirty-three services provided detail on the limitation to share expertise, including lack of staff and funding, limited time or perception of inadequate capacity to offer training.

About half of the services either had no or did not know the deployment plan with respect of staff (n = 50; 52%), volunteers (n = 51; 53%) and resources (n = 44; 45%) (Supplemental Appendix 4).

Discussion

Palliative care services in the Asia-Pacific region have already employed several measures to prepare and respond to the COVID-19 pandemic, which are in line with evidence-based recommendations and IHR.^{6,11} The majority of services adapted policy and guidance. Although, infection control measures were in place, some services reported concerns in

Table 4. Information and Inventory Systems Available (n = 97).

	Paper-based registry n (%)	Electronic record n (%)	Paper and electronic record n (%)	None n (%)	N/A or missing n (%)
Up-to-date contact list of					
all staff working in or for the service	26 (27)	41 (42)	18 (19)	9 (9)	3 (3)
all patients that attended or have attended the hospice or service	30 (31)	39 (40)	13 (13)	9 (9)	6 (6)
all relatives that visited or have visited the service	34 (35)	15 (15)	13 (13)	30 (31)	5 (5)
patients visited in the community	25 (26)	22 (23)	13 (13)	29 (30)	8 (8)
System collecting information ab out:					
patients' symptoms	26 (27)	46 (47)	16 (16)	5 (5)	4 (4)
patients' outcomes	23 (24)	53 (55)	13 (13)	5 (5)	3 (3)
treatment given	24 (25)	51 (53)	12 (12)	5 (5)	5 (5)
dates of patients' visits or stay	27 (28)	50 (52)	11 (11)	6 (6)	3 (3)
dates of relatives' visits	28 (28)	23 (24)	6 (6)	35 (36)	6 (6)
Up-to-date inventory system of	Yes n (%)	No n (%)	Not sure n (%)	Missing n (%)	
Protection material available for staff, patient and visitors	77 (79)	10 (10)	7 (7)		3 (3)
Medicines and other medical supplies	79 (81)	7 (7)	7 (7)		4 (4)

Table 5. Written Procedures, Policies and Recommendations in Place (n = 97).

	Yes n(%)	No n(%)	Unsure / Don't know n(%)	Missing n(%)
Case definition for confirmed, probable and suspected COVID-19 cases	67 (69)	25 (26)	5 (5)	0 (0)
A written procedure for "what to do" in case of COVID-19 among:				
patients	82 (85)	9 (9)	2 (2)	4 (4)
relatives and visitors	78 (80)	13 (13)	3 (3)	3 (3)
healthcare professionals	83 (86)	9 (9)	2 (2)	3 (3)
volunteers	74 (76)	15 (15)	2 (2)	6 (6)
community staff	60 (62)	27 (28)	5 (5)	5 (5)
In case of other infectious disease (SARS, H1N1 etc) among:				
patients	64 (66)	16 (16)	8 (8)	9 (9)
relatives and visitors	51 (53)	25 (26)	8 (8)	13 (13)
healthcare professionals	60 (62)	18 (19)	9 (9)	10 (10)
volunteers	56 (58)	21 (22)	8 (8)	12 (12)
community staff	49 (51)	27 (28)	10 (10)	11 (11)
A written procedure to support healthcare providers to manage the stress associated with COVID-19	65 (65)	25 (26)	6 (6)	1 (1)
Policies or procedures modified as a measure to avoid contagion:				
Policy for visitors / relatives	86 (89)	8 (8)	1 (1)	2 (2)
Policy for operator protection (Personal Protective Equipment)	85 (88)	6 (6)	4 (4)	2 (2)
Policy for patients' admission	79 (81)	15 (15)	1 (1)	2 (2)
Volunteer support policy	56 (58)	24 (25)	15 (15)	2 (2)
Patients' death	52 (54)	35 (36)	7 (7)	3 (3)
Do Not Resuscitation (DNR) order	28 (29)	59 (61)	8 (8)	2 (2)
Bereavement care	41 (42)	42 (43)	11 (11)	3 (3)
If yes to any above, the modifications were made based on				
Following the government instructions	35 (36)	-	-	-
Spontaneously	18 (19)	-	-	-
Both	38 (39)	-	-	-
Missing	6 (6)	-	-	-
Recommendations/guidance if you or someone in your household becomes ill with COVID-19 symptoms	87 (90)	7 (7)	1 (1)	2 (2)
If yes to above, were the recommendations made based on				
Following the government instructions	45 (46)	-	-	-
Spontaneously	13 (13)	-	-	-
Both	35 (36)	-	-	-
Missing	4 (4)	-	-	-
Cleaning staff included in information sharing and training regarding managing COVID-19	67 (69)	13 (13)	16 (16)	1 (1)

Abbreviations: DNR, Do not resuscitation; N/A, not applicable.

Table 6. Concerns About ACCESS to Resources Necessary for Infection Control in the Service or Surrounding Community (n = 97).

	Facility			Surrounding community		
	Yes n (%)	No n (%)	Missing n (%)	Yes n (%)	No n (%)	Missing n (%)
face mask	44 (45)	50 (52)	3 (3)	47 (48)	40 (41)	10 (10)
running water	27 (28)	65 (67)	5 (5)	30 (31)	57 (59)	10 (10)
soap	30 (31)	63 (65)	4 (4)	33 (34)	54 (56)	10 (10)
hand sanitizers (≥ 60% alcohol)	35 (36)	57 (59)	5 (5)	45 (46)	41 (42)	11 (11)
electricity	25 (26)	67 (69)	5 (5)	27 (28)	59 (61)	11 (11)
disinfectant products	35 (36)	58 (60)	4 (4)	38 (39)	47 (48)	12 (12)
Thermometers (contactless)	30 (31)	61 (63)	6 (6)	37 (38)	49 (51)	11 (11)

Table 7. Capacity of Palliative Care Services to Offer Remote Care and Support to the Wider Health System (n = 97).

	Yes n (%)	No n (%)	Missing n (%)
Protocol for symptom management and psychological support	43 (44)	51 (53)	3 (3)
If yes, capacity to offer training for non-specialists (n = 43)	35 (81)	8 (19)	0 (0)
Education materials about COVID-19 available	80 (82)	14 (14)	3 (3)
In services	72 (90)	8 (10)	0 (0)
In community	54 (68)	26 (33)	0 (0)
Technology available for remote care provision	72 (74)	22 (23)	3 (3)
Phone call	13 (18)	–	–
Video conference	2 (3)	–	–
Both	55 (76)	–	–
Other*	1 (1)	–	–
Missing	1 (1)	–	–

*Other: Robots (n = 1).

accessing resources for infection control (e.g. face mask and body temperature monitoring equipment). Our findings suggest that the provision of palliative care services in the community may be limited by a lack of infection control resources and lack of contact tracing information of visitors and their visits in the communities. About half of the services had capacity to share their expertise to non-palliative care specialists, such as training non-palliative care staff in using symptom management protocols.

The high concern about access to face mask was noted in all participating countries. This might be related to the early recommendations by governments in Asia on the effectiveness of face masks to contain the spread of the virus,²⁶ since supported by the WHO.²⁷ It is crucial to ensure adequate PPE provision to reduce staff and patient exposure to potential infection, and staff anxiety, and to offer psychological support for frontline

staff.²⁸ The respondents reported moderate anxiety relating to potential personal COVID infection and implications for their capacity to care for family. This is in line with findings from data using this survey in Africa,²² Indian²¹ and Middle-East.²⁹ Our findings revealed important concerns about accessing infection control and hand hygiene resources across all settings in the Asia-Pacific region. This may contribute to the reported anxiety and may increase stress among staff, while there is still a third of services without staff stress management protocols.

Contact tracing is key to identify cases and isolate the cases to contain the outbreak.³⁰ Participating services collect necessary information, communication system, however, there is a need to strengthen the collection of information about visitors and community visits to reinforce contact tracing capacity in case of infection. The lack of protocols for patient death, DNR order and bereavement care may compromise the end of life care quality. More attention to caring the dying COVID patients and their family members is needed as this is one of the pillars of palliative care.

The proportion services with no redeployment plan was high in comparison to previous survey in Africa²³ and India,²¹ but similar to the Middle-East.²⁹ This diverges from recommendations for palliative care to support the wider health system.¹¹ As governments and health care systems in Asia have learnt from previous experience on infectious disease control,^{31,32} alternative actions and advanced deployment plans may have been in place in other sectors and ready for this public emergency,³¹⁻³³ but not in palliative care despite evidence showed beneficial.¹⁷

One-fifth of palliative care services have been closed and a further one-fifth have been converted into COVID wards, which our partners from the APHN described as a situation fluid over time depending on the needs and COVID-19 spread. For example, in some Asian countries like Bhutan, palliative care services were closed temporarily while the staff was redeployed in other services. Their patients were followed-up over the phone and arrangements were made to get their medication delivered. Closure of services was most likely temporary and the services were made available as possible. However, it is crucial that plans regarding staff redeployment and alternative services provision are available in advance, before a service may be forced to close or adapt to an outbreak in the future.

Strengths and Limitations

This is the first survey to assess the COVID-19 preparedness of palliative care services in the Asia-Pacific region, using the International Regulations as a frame. This study provides much-needed insights to inform service planning in the region and further research. We employed guidance for survey development and implementation along with contextual adaptation to the Asian context. An international association and network (APHN) was used to engage the key stakeholders rapidly to answer this survey. While justified by the emergency context, our sampling method may have limited recruitment of palliative care services that are not members of the APHN. In addition, the high patient volume during COVID-19 response may

have reduced capacity to participate in the survey. Therefore, the low response rate is expected and may have limited the generalisability of our findings. However, it does indicate the breadth of challenges posed by COVID-19, especially with the use of open text comments. The majority of participating countries were from Western Pacific upper-middle and high-income countries, which may limit the interpretation of our findings. We reported the findings as a whole sample rather than subgrouping the results as we conducted a subgroup analysis between 2 groups (Western-Pacific region and South-East Asia region) and found no major differences in the findings. While the online survey platform was designed to record one answer per computer to meet our criteria of one respondent per service, it is possible that we received more than 1 response from single service or respondent who was not from services registered with APHN. However, the anonymous nature of the survey prevents us from verifying this so that we are unable to report response rate.

Conclusion

This study provides important information on resources and preparedness on COVID-19 management in hospice and palliative care services in the Asia-Pacific region, which could inform the current and future plan for upcoming threat of public health concerns. Based on our findings, we propose 4 recommendations for hospices and palliative care services in the Asia-Pacific region to strengthen their preparedness and capacity to respond to the current and future public health emergencies are: 1) improving the access to face mask; 2) acquiring stress management protocols for staff when unavailable; 3) reinforcing the contact tracing system for relatives and visits in the community and 4) developing guidance on patient and family care before and after patient's death.

Palliative care should be integrated into the COVID-19 patient management plan to reach the Universal Health Coverage.³⁴ This would support and strengthen the preparedness of hospice and palliative care services in the Asia-Pacific region.

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Author Contributions

C-P L, SB, YK, MM, EH, GA and RH adapted the Asia-Pacific survey version and protocol. All authors commented on the methods; C-P L, SB, YK and MM collected the data; C-P L, SB and RH developed the analysis plan and verified the final analysis; C-P L conducted the analysis; C-P L, SB, YK, MM and RH drafted the manuscript. All authors revised and approved the final draft.

Cheng-Pei Lin and Sabah Boufkhed are joint first authors.


Declaration of Conflicting Interests

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Supplemental Material

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