Roles of community health workers in advancing health security and resilient health systems: emerging lessons from the COVID-19 response in the South-East Asia Region

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Abstract

To enhance public health emergency preparedness, countries have strengthened core capacities required by the International Health Regulations (2005). In addition, recent major public health emergencies, including the coronavirus disease 2019 (COVID-19) pandemic, have reiterated the critical importance of underlying health systems and their resilience, including the roles of community health workers (CHWs). The aim of this study was to summarize the situation of CHWs in the World Health Organization South-East Asia Region, including their roles and the challenges they have faced during the COVID-19 pandemic response. We reviewed journal articles, policy documents, national guidelines, reports and online publications from development agencies, governments and media houses. Our review results, including three identified case studies, suggest that CHWs in the region have expanded their usual roles to meet the need for both maintenance of regular health services and demand for COVID-19 response activities. During the response, the regular role of a CHW in health education and promotion focused on awareness-raising and the promotion of “new normal” behaviours; CHWs also played critical roles in assisting in surveillance and contact tracing, and in ensuring that people followed isolation and quarantine guidelines. Concurrently, CHWs ensured continuity of essential health services. However, there were challenges, such as stigma, a lack of adequate training or protective equipment, and limited levels of incentives and recognition. Based on these findings, we recommend the development and implementation of long-term plans across the region to strengthen and support CHWs and recognize CHWs as an integral component of resilient health systems. Planning for CHWs as part of the primary health care system will enable local authorities to ensure that an adequate level of resources (including capacity-building, incentives, necessary equipment and consumables) is allocated to CHWs.

Keywords: community health worker, COVID-19, primary health care, public health emergency preparedness, resilient health systems, South-East Asia Region

Introduction

The world continues to face public health threats from infectious hazards, natural disasters and food safety events. To cope with health security threats and enhance public health emergency preparedness, countries have strengthened core capacities required by the International Health Regulations (2005) (IHR).¹ Recent experiences with major public health emergencies, including the coronavirus disease 2019 (COVID-19) pandemic, have reiterated the critical importance of underlying health systems and their resilience for countries to respond effectively to such events. One of the crucial components that has often been overlooked during peacetime is the critical role of community health workers (CHWs) in the response to outbreaks and other public health emergencies, including in prevention, preparedness and surveillance.²³ CHWs play essential roles in primary health care (PHC), as outlined in the 1978 Declaration of Alma-Ata.⁴ They enable the key features of the PHC approach, including meeting people’s health needs throughout their lives, facilitating multisectoral policy and action to address health determinants at community level, and empowering individuals, families and communities to take charge of their own health. The term “community health workers” is often used in a non-specific way. The International Labour
Organization defines CHWs as those who “provide health education and referrals for a wide range of services, and provide support and assistance to communities, families and individuals with preventive health measures and gaining access to appropriate curative health and social services”. The World Health Organization (WHO) guidelines on CHWs also recognize that there are blurred boundaries with other types of community-based health workers; the scope of the guidance has been expanded to include all types of community-based health workers.6

Globally, CHWs are increasingly recognized as a key component of effective COVID-19 responses. For example, experiences from Italy reveal that managing the COVID-19 epidemic requires a shift away from hospital-centred care and towards community-centred care.7 In times of crises, essential health services often decline, a trend that could be as dangerous as the pandemic itself. Viet Nam’s success in controlling the spread of COVID-19 was also attributed, in part, to its CHWs, village health volunteers, who understood their communities and had their communities’ trust.5

The WHO South-East Asia Region has been severely affected by COVID-19, with over 11 million cases and over 168 458 deaths as of 8 December 2020.9 The COVID-19 pandemic has further strained what was, in the majority of countries in this region, an already overstretched health system, including human resources for health. While the regional average density of doctors, nurses and midwives increased to 2.60 per 10 000 population in 2018, it is still far from the global threshold of 44.5 per 10 000 population estimated to be required to achieve the Sustainable Development Goals.10 During previous emergencies, CHWs have served as a bridge between the community and health services, as well as the agents of community participation in health.11 The region is considered a birthplace of modern CHWs because of the Jamkhed Comprehensive Rural Health Project, and different countries in the region have developed a variety of CHW programmes, varying in their structure, function and scope.11–15

Lessons from the COVID-19 pandemic, including the way CHWs have contributed to addressing this severe public health emergency, are likely to redefine our future efforts to strengthen resilient health systems and public health emergency preparedness. In this regard, we reviewed how the roles of CHWs have adapted to meet the formidable COVID-19 challenges in the South-East Asia Region and identified the lessons learnt from their experience. We present our findings in this paper, including case studies that exemplify how CHWs contributed to the COVID-19 response, and a discussion on the future directions for the roles of CHWs as part of resilient health systems in the context of health security and emergencies.

Findings

Overall status of CHWs and COVID-19 in South-East Asia

Table 1 summarizes the availability of select PHC workers per 10 000 population recently reported by Member States through the National Health Workforce Accounts, along with selected relevant IHR capacity indices and the COVID-19 case incidence for the 11 countries in the South-East Asia Region.10,16–18 PHC is carried out by different types of health workers and there is currently no standard that defines the categories of health workers considered to be PHC workers. Disaggregated data are limited for accurately quantifying which health workers are predominantly working in PHC, especially for doctors, nurses and midwives. Based on verified available data reported by Member States in the region, “select PHC workers” are CHWs, traditional practitioners, medical assistants and paramedical practitioners.

Within the region, India reported the largest cumulative number of confirmed people with COVID-19 infection and Maldives experienced the greatest case incidence rate (cumulative number of COVID-19 cases per 1 million population) as of 6 December 2020.9 The Democratic People’s Republic of Korea, Thailand and Timor-Leste reported fewer than 100 COVID-19 cases per 1 million population.

The reported PHC worker density per 10 000 population varied greatly across the region, from 0.5 to 13.2, with the notable outlier of Thailand, which reported as many as 157.7 PHC workers per 10 000 population, including 153 CHWs.

In the IHR State Party Self-Assessment Annual Reporting (SPAR), four of the eleven South-East Asia Region countries reported a score of 80% or more for human resources for the implementation of IHR capacities (average of 2018 and 2019 values). These findings suggest that multisectoral workforces are available and trained in these countries for the implementation of IHR capacities at all levels, including local levels. The presence of such workforces contributes to the resilience of communities.19 Of the eight countries that conducted the IHR Joint External Evaluation (JEE) mission between 2017 and 2019, three countries (Indonesia, Sri Lanka and Thailand) were assessed as having strong capacity in terms of communication engagement with affected communities, with regular briefings, training and engagement of social mobilization and community engagement teams, including volunteers, and feedback loops with community engagement teams.

Approach

We conducted a rapid evidence review by searching over 150 publications, including peer-reviewed publications, the grey literature, relevant policy documents, national guidelines and reports, factsheets, articles on news websites, speeches, conference presentations and proceedings, as well as websites of governments, international organizations (e.g.”

WHO headquarters, regional and country offices, United Nations agencies) and nongovernmental organisations (NGOs). Our focus was on community-based activities and interventions during the COVID-19 response, and the search criteria included combinations of the words “community health workers”, “COVID-19”, “accredited social health activists”, “pandemic”, “village health volunteers” and “primary health care” and each of the countries within the region.

Country case studies

The following case studies illustrate the contributions made by CHWs during the COVID-19 response in the South-East Asia Region.
Bangladesh, in refugee camps and the surrounding areas in Cox’s Bazar, to 860,000 Rohingya refugees and 472,000 Bangladeshis living.

As of April 2020, over 1,400 Rohingya refugees were trained as COVID-19 information and services in Cox’s Bazaar.

Community health volunteers contributed to controlling the spread of COVID-19 in Dharavi, Mumbai, India

In Dharavi, Mumbai, India, Asia’s most densely populated urban slum, in which approximately 1 million people live in an area of just over 2.1 km² (520 acres), physical distancing to limit the spread of COVID-19 was virtually impossible. The “Dharavi model” adopted by the municipal administration involved “chasing the virus” with tracing, tracking, testing and treating, including proactive screening and robust surveillance. To access the crowded area and its residents, the municipal corporation collaborated with local influential leaders, community organizations and NGOs, including hundreds of CHWs. These CHWS, who were designated as “COVID warriors”, were familiar with the densely populated area and trusted by the community. They provided information on COVID-19, ensured regular supplies of essential groceries and medicine in containment zones, and were equipped with a thermal scanner and a pulse oximeter to support screening efforts. The use of CHWs generated significant community capacity for a resilient response, and the spread of COVID-19 was contained within 2 months.

Village health volunteers in Thailand helped contain the spread

Established in 1977, Thailand’s village health volunteer (VHV) system played a crucial role in the country’s successful COVID-19 prevention activities and response. At the start of the pandemic in March 2020, to help the government with nationwide efforts in communication, contact tracing and the isolation of people who required home quarantine, VHVs were mobilized and trained and, for their protection, provided with face masks, shields, biohazard bags and alcohol-based hand sanitizer. During the month of March, VHVs visited 3.3 million households, providing information about preventive measures, encouraging mask use and social distancing, and dispensing cloth masks, alcohol-based hand sanitizer and health.

Table 1. Summary of the density of select PHC workers, relevant IHR capacities by State Party Self-Assessment Annual Reporting (SPAR) and Joint External Evaluation (JEE) scores and COVID-19 cases, South-East Asia Region, December 2020

<table>
<thead>
<tr>
<th>Country</th>
<th>CHWs</th>
<th>Medical assistants</th>
<th>Traditional medicine professionals and associate professionals</th>
<th>Paramedical practitioners</th>
<th>Total</th>
<th>SPAR score for human resources for the implementation of IHR capacities (%)</th>
<th>JEE score for communication engagement with affected communities (2017–2019)</th>
<th>COVID-19 cases (cumulative)</th>
<th>COVID-19 infections per 1 million population (cumulative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>3.4</td>
<td>0.9</td>
<td>2.8</td>
<td></td>
<td>7.1</td>
<td>40</td>
<td>3</td>
<td>475,879</td>
<td>2890</td>
</tr>
<tr>
<td>Bhutan</td>
<td>2.3</td>
<td>8.2</td>
<td>10.5</td>
<td></td>
<td>60</td>
<td>3</td>
<td>3</td>
<td>426</td>
<td>552</td>
</tr>
<tr>
<td>Democratic People’s Republic of Korea</td>
<td>2.0</td>
<td></td>
<td>2.0</td>
<td></td>
<td>80</td>
<td>NA</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>7.2</td>
<td>5.9</td>
<td>13.1</td>
<td></td>
<td>100</td>
<td>NA</td>
<td>9,644,222</td>
<td>6989</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td></td>
<td></td>
<td>80</td>
<td></td>
<td></td>
<td>4</td>
<td>569,707</td>
<td>2083</td>
<td></td>
</tr>
<tr>
<td>Maldives</td>
<td>8.6</td>
<td>4.5</td>
<td>13.2</td>
<td></td>
<td>20</td>
<td>3</td>
<td>13,199</td>
<td>24,343</td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>0.2</td>
<td>1.4</td>
<td>1.6</td>
<td></td>
<td>60</td>
<td>2</td>
<td>96,520</td>
<td>1744</td>
<td></td>
</tr>
<tr>
<td>Nepal</td>
<td>5.4</td>
<td>1.5</td>
<td>6.9</td>
<td></td>
<td>40</td>
<td>NA</td>
<td>23,885</td>
<td>8233</td>
<td></td>
</tr>
<tr>
<td>Sri Lanka</td>
<td></td>
<td>0.5</td>
<td>0.5</td>
<td></td>
<td>60</td>
<td>4</td>
<td>27,228</td>
<td>1272</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>153.3</td>
<td>4.4</td>
<td>157.7</td>
<td></td>
<td>80</td>
<td>4</td>
<td>40,72</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Timor-Leste</td>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td>3</td>
<td>31</td>
<td>31</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

*Data on PHC workers are based on the numbers reported by countries to the WHO Regional Office for South-East Asia and published in the latest report. Data collection on PHC workers started in the 2019 round of data collection and is at an evolving stage. Data are still incomplete.

*IHR SPAR data are available at the Global Health Observatory. Data are presented as the average of 2018 and 2019 values.

*IHR JEE mission reports conducted from 2017 to 2019 are available on the WHO website. Data are not available from the Democratic People’s Republic of Korea, India and Nepal, which have not yet conducted the JEE.

*Data on COVID-19 cases are cited from WHO’s COVID-19 weekly epidemiological update, 8 December 2020 (data as of 10:00 Central European Time, 6 December 2020) (https://www.who.int/publications/m/item/weekly-epidemiological-update-8-december-2020).
information flyers. Then, during the first 2 weeks of April, before the Songkran New Year, VHVs visited 8 million additional households to identify potential COVID-19 cases, focusing on high-risk groups, while ensuring that people adhered to prevention measures. During the Songkran New Year period in mid-April, before the announcement of the emergency decree regarding the lockdown, many Thai residents living in urban areas returned to their rural homes. Without the VHVs who knew their respective villages and had established the trust of their communities, it would have been a near impossible task to trace all the returnees who contracted COVID-19. Although the VHVs already had a range of other responsibilities, it was possible to piggyback on their current outreach efforts and capitalize on the trust established to enable effective COVID-19 screening, contact tracing and surveillance, which ultimately helped to limit the spread of the virus.

The roles of CHWs in the COVID-19 response
In non-emergency situations, the traditional roles of CHWs have included health education, routine immunization, supporting maternal and child health, family planning and reproductive health activities, and surveillance and contact tracing for communicable diseases. CHWs have played a critical role in promoting these “new normal” behaviours by engaging with their communities to understand people’s perceptions and by framing the behaviours in the relevant context, considering the micro culture and social systems that can differ greatly across communities, even within a country. This is no small feat as it requires addressing the often-pervasive resistance to change and promoting the normalization of community adaptation to new ways of thinking and behaviours in order to uphold public health and social well-being.

Countries in the region have approached the use of CHWs in the COVID-19 response in different ways. In India and Thailand the promotion of the “new normal” behaviours have been integrated in national CHW guidelines. In Indonesia and Maldives, CHWs who staff health posts have been providing COVID-19-related information to the community. In Myanmar, CHWs have been conveying messages across the slums of Yangon and in hard-to-reach areas.

Another important role that CHWs have played has been in preventing the spread of rumours and misinformation regarding COVID-19. In Indonesia, community volunteers, including CHWs, are part of the Indonesian government’s efforts, along with digital technology, to fight COVID-19 infodemics.

Assisting with surveillance, contact tracing and quarantine
CHWs’ contributions to the surveillance and screening of symptoms have played an important role in limiting the spread of COVID-19 in the region. In many countries, including Bangladesh, India, Nepal and Thailand, CHWs conducted symptomatic screening to detect people who might be infected with COVID-19. In India, as internal migrants returned home after lockdown, the CHWs, or accredited social health activists (ASHAs), screened 30–50 households per day for symptoms.

When systematically applied, contact tracing will break the chains of transmission of an infectious disease and thus is an essential public health tool for controlling the COVID-19 pandemic. However, given the considerable fear and stigma surrounding COVID-19, many people have been reluctant to report if they have been in contact with a suspected case. CHWs are trusted by their communities and are trained to convey challenging messages, and hence have been invaluable in communicating the importance of reporting contacts and providing reassurance on the available support in the face of stigma and similar challenges. People in contact with a COVID-19 case are quarantined while waiting for their test results, and, if found to have a positive test result, are isolated for a prescribed time to prevent potential contacts from contracting the virus. CHWs have played a crucial role in helping individuals and families to understand the importance of quarantine and isolation procedures, and in supporting those who are undergoing quarantine and isolation to ensure procedures are followed and that their essential needs are met.

Maintaining essential health services
The COVID-19 pandemic has absorbed health resources across the region, leading to the disruption of essential services, many at the primary care level, compounding the danger of the crisis to the public’s health. These essential services include services for maternal and child health, managing chronic diseases and addressing the needs of vulnerable people in the community (people with disabilities and special needs, refugees, migrant workers, the elderly). In the early stages of the COVID-19 response, CHWs were unable to continue to deliver normal services either because they were under lockdown or because their work was focused on the COVID-19 response. Many health programmes were put on hold during this period, including those for family planning, HIV/AIDS management, immunizations and child health, and malaria and neglected tropical diseases. Routine immunizations were also affected for the same reasons, as well as because people were afraid of contracting the virus. However, previous networks established for polio vaccination, including those using CHWs, have supported the COVID-19 response. Moving forward, these networks, and especially the CHWs, who have the trust of the community, are expected to play a critical role in the delivery and acceptance of the COVID-19 vaccine as it becomes increasingly available in the region. Focusing the provision of health care at the community level has also lessened the burden on the health care system, as demonstrated in the Cox’s Bazar case study described.
above. As countries start to learn to live with COVID-19, the delivery of health services has resumed in accordance with current public health and social measures, and CHWs make a vital contribution to this.

**Challenges faced by CHWs in the COVID-19 response**

Although CHWs have played invaluable roles in responding to the COVID-19 pandemic, it has not been without important challenges.

**Stigma and discrimination**

The exposure of CHWs to people with COVID-19 infection renders them as vulnerable to stigma as they are to the virus. People fear that they may contract the virus from CHWs and be subjugated to stigma and discrimination themselves, and many cases of violence and other forms of discrimination against health care workers, including CHWs, have been reported in the region. For example, an online media site in India reported that a mob of 100 people assaulted ASHAs who were collecting data on people with COVID-19-like symptoms. Without a system-wide approach and supportive network, CHWs alone may not be able to dispel the high levels of stigma and discrimination.

**Infection prevention and control**

CHWs’ safety, and the safety of their families, may be compromised without awareness of and adequate training on measures to prevent exposure to the virus, and the provision of personal protective equipment (PPE), such as masks, gloves and hand sanitizer, and instruction on their proper use. The media in the region have reported cases of CHWs not receiving adequate PPE, especially in the early stages of the pandemic when there was a shortage of supplies.

**Need for adequate training**

Across the region, and even within countries, the type and level of COVID-19 training provided to CHWs varied. Despite how essential such training is to the work and safety of CHWs, training was not always adequate, regular and appropriate.

There were, however, examples of innovative approaches to address this gap. In Thailand, VHVs stayed informed and updated about COVID-19 epidemiology and operational guidelines through the use of specially designed mobile applications and social media group chats. In Indonesia, training was provided via a webinar for health workers, including CHWs.

**Remuneration and incentives**

Monetary remuneration and non-monetary incentives, such as respect and recognition, are important for maintaining CHW motivation and minimizing attrition, especially as CHWs gain experience and skills and become integrated into their communities. There is no standardized approach to CHW remuneration and incentives regionally, and even within countries it can differ greatly. CHWs may receive government payments, NGO incentives, or financial rewards from their communities or the patients they serve, or they may receive no payments or incentives. Without a more harmonized approach to CHW remuneration and incentives, their motivation and performance may be inconsistent and unsustainable, which will consequently affect health outcomes.

**Discussion**

Our efforts to synthesize the roles that CHWs have played in the COVID-19 response in the South-East Asia Region have identified the considerable potential of CHWs to contribute to the pandemic response. We also identified important challenges. We found that in countries where CHW systems have already been in place for some time, the CHWs had the intimate knowledge and trust of their communities, which enabled them to mobilize quickly, communicate effectively and empower communities to protect themselves against COVID-19.

The IHR require countries to build core capacities at all administrative levels. At community level and/or primary public health response level, the IHR require capacities “(i) to detect events involving disease or death above expected levels for the particular time and place in all areas within the territory of the State Party; (ii) to report all available essential information immediately to the appropriate level of health care response; and (iii) to implement preliminary control measures immediately.” As described previously, our review has identified that CHWs are undertaking many of these IHR roles, including carrying out surveillance, screening, contact tracing and health promotion activities, assisting patients in home isolation, and encouraging and mobilizing people for testing.

The need to strengthen the engagement of CHWs in terms of health emergency preparedness and response is reflected in the IHR JEE tool, which calls for countries to ensure that they establish communication and engagement with affected communities, and that a multisectoral workforce strategy encompassing all relevant sectors of public health professions, including CHWs, is in place. It takes time to build systems, and system development needs to be guided by a long-term vision. In this regard, it is worth noting that VHVs in Thailand have been maintained and strengthened over 40 years and have contributed to various health programmes, including those addressing health security threats. It is likely that VHVs in Thailand have made an important contribution to the overall COVID-19 pandemic response as part of a whole-of-society response, as described in the case study. Thailand has also reported significant achievements on the related indicators in the IHR SPAR and JEE and has maintained the case incidence of COVID-19 at a low level. Although it is not within the scope of this study to examine causal relationships between the CHW programme and COVID-19 outcomes, the experiences of Thailand may provide a strong case to call for long-term investment and recognition of CHW programmes as an integral part of efforts to advance IHR capacities and resilient health systems.

The response of CHWs during the COVID-19 pandemic has also revealed the challenges they have faced while making essential, and often personally difficult, contributions. A key issue we identified was that of stigma and discrimination, and even violence, shown towards CHWs, along with the fear that CHWs may expose members of their family and the community to the risk of COVID-19 infection. There was minimal, if any, concern for the safety of CHWs, as our review found that CHWs did not receive adequate training on infection prevention and control, including how to use PPE in their work. As the pandemic evolved rapidly, the training they received was variable, especially for those in remote areas.
different settings, recognition or performance-based incentives are not sufficient, especially taking into consideration the risks associated with CHWs’ work.

Countries need to respond to the diverse challenges and adapt to emerging needs. The 15 key recommendations contained in the WHO guideline on CHWs (2018) remain relevant and comprehensive to guide countries, and additional guiding frameworks have been proposed.6,52,53 These range from selection, education and management, to integration into health systems and the provision of a set of evidence-based policy options. We would like to highlight the following three recommendations that countries can adapt to their health systems context when addressing the challenges identified in this paper.

First, include resources for incentives in health system resource planning and provide a financial package commensurate with the job demands, the job complexity, number of hours worked, training and roles that CHWs undertake. Despite the significant roles carried out by CHWs in this pandemic, their payment and recognition do not necessarily match their contributions. Although additional financial incentives such as a hazard allowance and annual leave have been discussed for other health workers, CHWs often have not been included in this planning. It is critical that CHWs are integrated into the whole health system and that their incentives are planned and provided accordingly.

Second, adopt service delivery models that include CHWs carrying out general tasks as part of integrated PHC teams. CHWs do not exist in isolation. They are both part of the community and part of the PHC system. They are often trained in specific health services or activities, but they are most effective and most efficient when integrated into the comprehensive PHC system.

Third, ensure that CHWs have sufficient and quality-assured commodities and consumables through the overall health supply chain. Including CHWs in the PHC system will enable local authorities to ensure that sufficient equipment and consumables are provided to CHWs in a timely manner.

Conclusion

Experiences during this pandemic remind us that CHWs are the vital link between their community and the health system – providing a strong case for the idea that sustained investments in CHW programmes serve as public health emergency preparedness measures as part of resilient health systems. Such investments also contribute to advancing the implementation of the IHR to enable health events to be detected, events to be reported at the appropriate level and control measures to be implemented in a timely manner. CHWs deserve adequate training to ensure that their knowledge and skills are up to date, equipment and supplies to protect themselves, and decent remuneration and recognition for the contributions they make. We must take this opportunity to once again shed light on the roles of CHWs at the forefront of, and as a fundamental element of, our health systems and accelerate our investments in and support for CHWs.

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Acknowledgements: The authors express sincere appreciation to Dr Pushpa Ranjan Wijesinghe, Dr Nilesh Buddh, Dr Francis Inbanathan, Dr John Prawira, Dr Maung Maung Htike and the WHO country offices in the South-East Asia Region for providing important information for the study; Dr Jos Vandelaer and Dr Stephanie Topp for their review of and feedback on the earlier versions of this manuscript; and Dr Alaka Singh for inspiring the development of this manuscript.

Source of support: None.

Conflict of interest: None declared.

Authorship: SB and PW were responsible for research, analysis and writing the manuscript. MZ provided inputs on health system and human resources for health and reviewed the manuscript. WLSP provided inputs on the CHW roles in countries. MK contributed to the conceptualization of the study and writing and editing of the manuscript.


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