COVID-19

Jahan, Yasmin; Rahman, Atiqur

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Discussion

COVID-19: Challenges and viewpoints from low-and-middle-income Asian countries perspectives

Yasmin Jahan [a,*], Atiqur Rahman [b]

[a] Graduate School of Biomedical and Health Sciences, Hiroshima University,1-2-3 Minami-ku, Hiroshima-shi 734-0046, Japan
[b] Department of Society and Culture (IKOS), Division Ageing and Social Change, Linköping University, Sweden

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ABSTRACT

The crisis of coronavirus disease (COVID-19) is growing and has a potential impact on low-and-middle-income countries (LMICs), particularly in Asian regions, which, have reported less so far. The main purpose of this article is to discuss the challenges of COVID-19 management in Asian LMICs and propose some future guidelines to control the transmission and spread. Due to a highly dense population, low-resourced health system, lack of testing kit, and tracing, the ultimate impact could be lasting. It is highly likely that Asian LMICs were not in the center of receiving high priority by the international community in order to take effective prevention strategies. This might upsurge caseloads. Like the symptoms, mode of transmission varies largely due to a number of unknown clinical features of the virus, defining a risk group only based on some limited criteria such as age and disease with comorbidity could be risky. Recently some of the Asian LMICs launched contact tracing app. However, the study has identified several healthcare challenges in Asian LMICs such as shortage of supply of PPE, inadequate long-term care services, the socio-cultural differences which require utmost consideration. In addition, to control infection and enhance prevention, some pertinent problems need to be addressed. Based on that, some multifactorial approaches can be taken in line with international guidelines. Finally, this paper recommends developing a strong and resilient healthcare monitoring system.

1. Introduction

The current outbreak of coronavirus disease (COVID-19; previously 2019-nCoV) has reported in Wuhan, China in December 2019 [1]. Later on, the virus has overtaken the burden of morbidity and mortality around the world with a quick and dexterous spread compared to China. The WHO declared the outbreak a pandemic on 11 March 2020 [2]. At that time, it affected more than 203 countries and territories around the world. There was total 10,074,394 number of cases, 500,611 died and recovered 5,453,897 until this article writing (reported up to 27 June 2020; Table 1) [3]. Among the total confirmed cases, 1,860,488 people were infected from Asian regions, 47,291 people died and of that confirmed cases, 21 low- and middle-income countries (LMICs) had reported 822,106 confirmed cases and 22,401death [3]. In line with the above-mentioned discussion, this article aimed at disclosing the current situation in the Asian region with a special focus on LMICs. The main interest is about the challenges of COVID-19 management in LMICs and propose some possible future directions to limit the transmission and spread.

2. Symptoms and transmission

The clinical symptoms of COVID-19 are identified as fever, cough, rhinorrhoea, sneezing, sore throat and fatigue, while other symptoms included sputum production, headache, haemoptysis, diarrhoea, dyspnoea, and lymphopenia [4–6]. In addition, there are other abnormal features like acute respiratory distress syndrome and acute cardiac injury. The incidence of grand-glass opacities in subpleural regions of both lungs to increased inflammation can be found with chest X-ray that led to death [5].

Due to the zoonotic nature, coronaviruses can be transmitted between animals and people. The genomic sequence analysis of COVID-19 showed 88% of transmission occurs primarily from person-to-person transmission through droplets of saliva or discharge from the nose when an infected person coughs or sneezes [7,8].

3. Risk group for COVID-19

Based on currently available information and clinical expertise, older adults and people of any age who have underlying medical conditions

* Corresponding author.
E-mail addresses: dr.yasminjahan@gmail.com, d160207@hiroshima-u.ac.jp (Y. Jahan).

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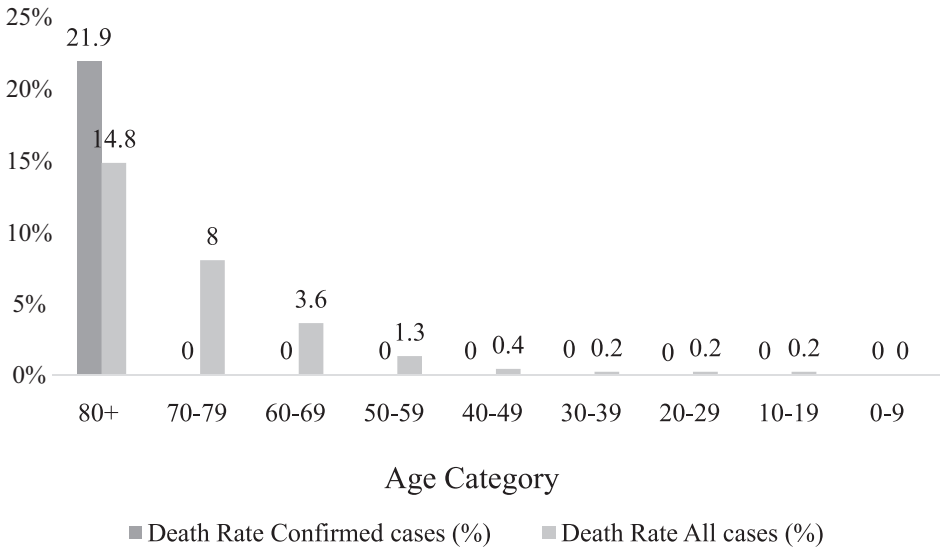

Fig. 1. Age category and death rate of COVID-19 cases.

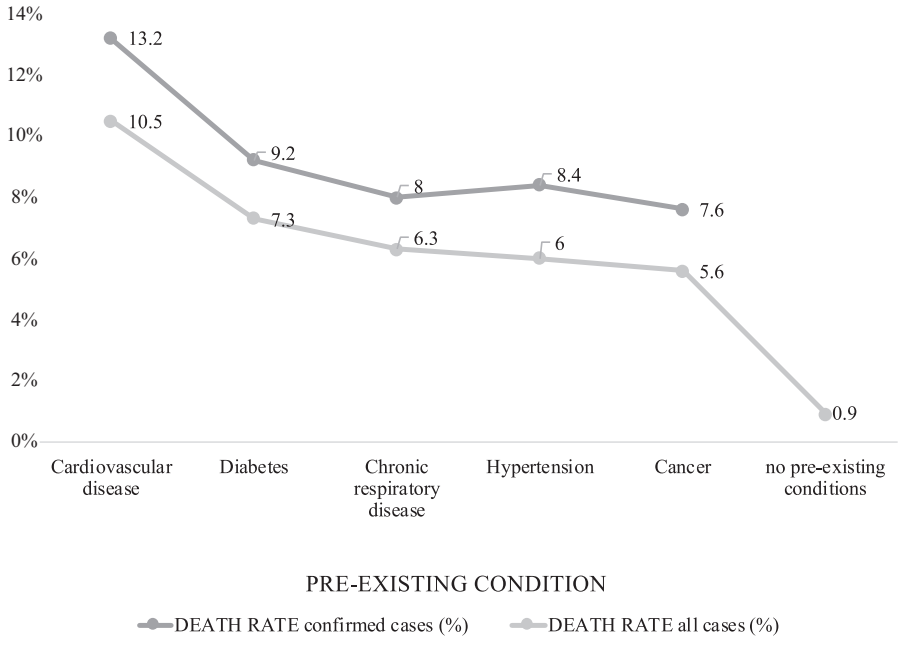

Fig. 2. Comorbidities and death rate of COVID-19 cases.

Table 1
Global distribution of COVID-19 according to the Region category.

Region	Total cases	Total Deaths	Total recovered
Africa	374,596	9,519	181,179
North America	3,022,268	165,418	1,315,369
South America	2,102,161	81,207	1,202,808
Europe	2,401,452	190,469	1,341,384
South-East Asia	2,164,644	53,872	1,404,587
Oceania	9,273	126	8,570

might be at higher risk for severe illness from COVID-19. Fig. 1 shows that the people aged 65 years and more are at risk for COVID-19 death. Additionally, Fig. 2 shows that the people with chronic lung disease, moderate to severe asthma, serious heart conditions, immunocompromised including cancer treatment and severe obesity (body mass index >40) are at high-risk for COVID-19 [9]. Little is known about the transmission from pregnant mother to her child [10], but pregnant women should be monitored since they are known to be at risk with a severe viral illness.

4. Treatment

Till now, there is no approved treatment against COVID-19. However, the clinical management includes infection prevention and control measures; supportive care including supplementary oxygen and mechanical ventilatory supports are needed when indicated.

5. Challenges in low- and middle-income Asian countries

The effective outbreak preparedness of LMIC countries to tackle such magnitude is undoubtedly difficult for Asian LMICs. Given the context, public health responses of COVID-19 in this region require specific attention in order to develop a sustainable policy.

First, the most concerning issue in Asian LMICs is the fragile healthcare infrastructure to respond to COVID-19. This current pandemic can potentially paralyze the existing health systems with the expense of pri-

mary healthcare requirements [11]. The ability to respond to the growing demand would face difficulties for people with comorbidities who need intensive care support.

Second, there is a considerable shortage of supply of personal protective equipment (PPE) for frontline healthcare workers accompanied by panic buying as well as hoarding. Moreover, the access to self-protective supplies such as gloves, medical masks, respirators, goggles, face shields, gowns, and aprons are relatively limited in this region could eventually hinder to control the rapid spread of COVID-19.

Third, a significant number of older adults live in Asian LMICs where the minimum required healthcare services are limited and incapable of providing adequate elderly care during the pandemic. Thus, the risk of COVID-19 could be more devastating if appropriate preventive measures are not taken timely.

Fourth, the high density is a common feature in most of the Asian LMICs. The social distancing policies need to consider the socio-cultural context as well as the circumstances of the people living a community. Moreover, it is important to take appropriate actions for people who live alone or dependent on others.

6. Infection control and prevention

we propose several approaches to mitigate the general risk of transmission and to control the COVID-19.

First, to limit human-to-human transmission like social distancing could play a crucial role whereas disinfection of cities and communities will not be effective as COVID-19 is not spread by the airborne route [12]. Nonetheless, some Asian countries including LMICs launched contact tracing apps to trace infected persons and prepare a risky zone. In case of a suspected infection, the users can check if the symptoms are compatible with those of COVID-19 patients and they will be instructed and sent to the nearest basic health unit [13].

Second, it is important to use N95 masks and protective clothing (goggles and gowns) especially in hospitals where health-care workers are in direct contact with infected patients. It is necessary to adopt different epidemic prevention measures, and reduce the waste of PPE, due to its lack of supply. However, there is no evidence found that surgical masks prevent the acquisition of COVID-19 [14].

Third, public health education must be based on scientific evidence to reduce the anxiety and distress caused by misinformation. In particular, epidemiological findings need to be reported in a timely and objective manner so that they can be assessed and interpreted accurately.

Fourth, The WHO made it clear that there are currently no known approved treatments for COVID-19 and did not recommend the use of antiviral drugs, antibiotics, or glucocorticoids. The condition of critically ill patients with COVID-19 could be detrimental if they take the drugs of unknown efficacy. Hence, continuous monitoring, and clinical trials are urgently required in this context [10]. Likewise, the development of a vaccine is an urgent public health priority.

Fifth, we need to minimise social disruption and adverse economic impact through national and international collaboration . Besides, it is necessary to address the uncertainties such as clinical severity, extent of transmission and infection, and treatment options, and accelerate the development of diagnostics, therapeutics, and vaccines.

7. Recommendation

To understand the epidemiological changes of COVID-19 infection, a strong and resilient monitoring system could be developed immediately in Asian LMICs. The screening mechanism should be foolproof so that the infected individuals could be detected and isolated within a short time. Furthermore, awareness program campaign towards COVID-19 and hygiene and sanitation practice, and benefit of home quarantine knowledge at the community level, at the educational institutions through social media involvement can be organized.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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