COVID-19 Pandemic and Disaster: Preparing Ageing Societies for Better Future in Indonesia

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インドネシアでも新型コロナウイルスの感染爆発が起き、死亡者の多くは60歳以上の高齢者だった。インドネシアでも今後は高齢化の進展が予想されるので、それにどう備えるべきかを考察した。

Abstract

COVID-19 (Coronavirus Disease-19) pandemic has played a special role in demographers' work to realize ageing societies in the future. Many factors might be associated with the risk of people who have been exposed to the Coronavirus. Age becomes one of the prominent factors that increase the probability of infected people getting the worse condition. Increasing age in line with the decreasing of physical condition. It is also increasing the propensity to have chronic diseases that can make the health condition worse for those who are exposed to the virus. Similar with many countries, most of death cases due to COVID-19 in Indonesia is dominated by older people. Focusing on demographic characteristics, this paper aims to understand the lessons learned from the COVID-19 pandemic, especially for preparedness towards ageing population in Indonesia. Using published data from Statistics Indonesia, it is shown that Indonesia faces an ageing population, and it comes with a great challenge in many aspects such as health system and better health protection. Data reveals that COVID-19 patients aged more than 60 years old tend to have a higher death risk when exposed to the virus. Of the older people who were over 60 and infected by the virus, almost 50 percent ended in death. Strengthening resilience should be achieved by including older people as a vulnerable group. However, the availability of health workers and hospital beds remains a challenge for Indonesia. Therefore, preparing a better health system and the environment is highly needed to face pandemic and other disasters in regard to face ageing population phenomenon.

Keywords Pandemic, COVID-19, Disaster, Ageing, Indonesia.

Introduction

Since last year, most countries strive to handle the Coronavirus Disease-19 (COVID-19) pandemic. After the World Health Organization (WHO) announced that COVID-19 as a pandemic, the cases remain high in many countries, including Indonesia. Globally, on March 24, 2021, there were 123,902,242 confirmed cases of COVID-19, and there were 2,727,837 death cases [1]. Meanwhile, there were 1,476,452 COVID-19 cases in Indonesia, and amount to 39,983 death cases [2].

COVID-19 pandemic is related to demographic aspects. The prominent variable of demographic determines the morbidity and mortality of COVID-19 cases is age. Older people tend to have a higher risk than other age groups, especially when COVID-19 exposes them. It can be one variable to predict to what extent the consequences might be faced in a country with an ageing population profile when the coronavirus spread rapidly. Similar to Dowd et al. (2020) that revealed countries with an ageing population tend to more severe than others when exposed to the COVID-19 [3].

Perhaps, this COVID-19 pandemic is the first occurrence in our lifetimes, and there are limited knowledge and experiences on how to deal with this situation.

However, the experiences and lessons of research on various aspects of the disaster, including public health emergencies, are relevant to face the health, social and economic crisis in the current situation. Focusing on the COVID-19 pandemic, several actions to warn and protect that have implemented are pose difficulties for people at risk. For example, people within the socially isolated population or those who lack literacy skills may not receive and understand detailed information about the COVID-19 pandemic. Also, the health behaviour to facing the situation is necessary. Using a mask, physical distancing, and often washing your hands becomes something to be done daily. However, some people remain to ignore to follow the rules.

Meanwhile, Sendai framework for action 2015-2030 highlight the importance to strengthen building resilience at any level and across different groups [4]. It also includes the agreement to give more efforts to disaster risk reduction. Disaster whose risk must be reduced includes disasters due to epidemics and pandemics. It can be achieved through understanding better risk and increase preparedness. At the national level, like Indonesia, the demographic structure is one of the most important aspects to consider that related to increase preparedness. In particular, entering the ageing population, the number of vulnerable people based on age will increase, leading to Indonesia becoming a more vulnerable country on the disaster.

Similar to disaster, the COVID-19 pandemic exposes the nature of the social fabric and seeks out its weaknesses. This pandemic situation shows the socio-economic gap on a big scale. There are different capacities of people in facing the impacts of the COVID-19 pandemic. For example, migrants workers tend to more vulnerable due to the COVID-19 pandemic. The policy regarding lockdown or physical distancing is affected migrant workers, especially those who live in urban areas, because of the business closure [5]. On the other hands, migrant workers have limited social safety nets. Research in India reveals that the COVID-19 pandemic is affected by the increase in unemployment [5]. In line with Liem et al. (2020), migrants are one of the groups vulnerable to the COVID-19 pandemic due to several factors such as health, economic, social, and psychology [6].

Therefore, it is crucial to understand the demographic characteristics to solve and control the COVID-19 pandemic. By understanding the age structure, we can identify the state or region with high risks facing coronavirus. World Health Organization mentioned that the risk of severity if infected by the coronavirus is higher for older people. Around 95% of death cases are dominated by the elderly. Meanwhile, amount to 48.5% of death cases due to COVID-19 in Indonesia was older people category with total positive cases in older people around 10.7% [2]. Focusing on demographic characteristics, this paper aims to understand the lesson learned from the COVID-19 pandemic especially for preparedness towards the ageing population in Indonesia.

Methods

This paper utilized data publication from Statistic Indonesia, Indonesia COVID-19 task force, Indonesia Health Ministry and other sources. The descriptive analysis shows the spreading of COVID-19 cases in Indonesia and provides the characteristics of the population whom COVID-19 exposes. Moreover, Statistics Indonesia's publication data also used to see the population projection in the future related to the ageing population phenomenon.

The distribution of COVID-19 Cases

When looking at history, the COVID-19 pandemic is not the first pandemic that infected human life. Indeed, this pandemic also will not be the last. However, there were great knowledge and experiences from history that can be learned to face this current pandemic. There are several pandemics which had occurred in the world, such as the bubonic plague (14th century), Spanish flu (1918), HIV/AIDS (20th century) and SARS (2002-2003) and MERS (2012) [7-11]. The current pandemic often related to the Spanish flu that occurred in 1918. Both diseases are caused by the virus that infects the respiratory tract. Also, the virus's character was relatively similar that could spread rapidly through close interaction [12].

Figure 1 shows the distribution of COVID-19 cases

in Indonesia. Coronavirus can spread rapidly, therefore, all the provinces in Indonesia have the cases, although the percentage not as much as the provinces in Java. The first four provinces which have the highest cases in Java such as DKI Jakarta, West Java (Jawa Barat), Central Java (Jawa Tengah) and East Java (Jawa Timur) [2]. The proportion of COVID-19 cases for those provinces is more than ten per cent, except for East Java (9.4%). Followed by East Kalimantan (Kalimantan Timur), South Sulawesi (Sulawesi Selatan) and Bali which have less than five percent of the total COVID-19 cases [2].

One of the reasons the provinces in Java become predominantly with COVID-19 cases is the high population density. More than half (56.10%) of Indonesia's population live on Java Island [13]. Moreover, the first case is found in DKI Jakarta, and some regions in West Java are closed to DKI Jakarta. The high mobility around DKI Jakarta causes the spread of the coronavirus very quickly. Although it was a little bit late, the policy of mobility restriction plays a role to control the spread of coronavirus in other provinces.

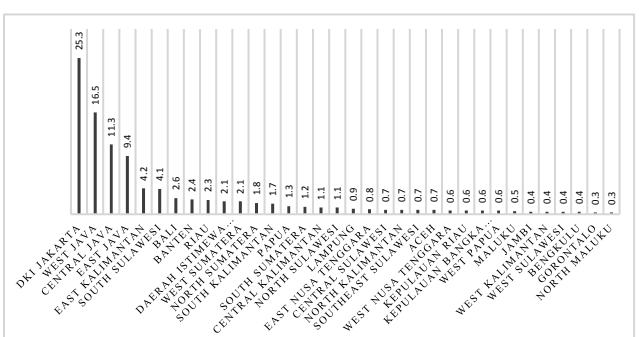

Fig. 1. COVID-19 cases by Province in Indonesia

Source: Indonesia COVID-19 taskforce. 2021. https://covid19.go.id/

Profiling the COVID-19 Patients

In this part, the profile of COVID-19 patients will be described by sex, age groups, and comorbidities. Figure 2 shows the proportion of COVID-19 cases by sex for four categories: positive cases, treatment or isolated, recovered, and deaths. In general, there is no significant difference between male and female in COVID-19 cases. The proportion of male is 49.1% and 50.9 of female for those who confirmed as COVID-19 patients [2]. However, the proportion of male is dominant for those who are dying due to the coronavirus. Data reveals that the amount to 57.1% of males is death due to the coronavirus and 42.9% for females [2]. The differences in proportion between male and female are 14.2%. Male has the higher propensity to death than female if they have exposed by the coronavirus.

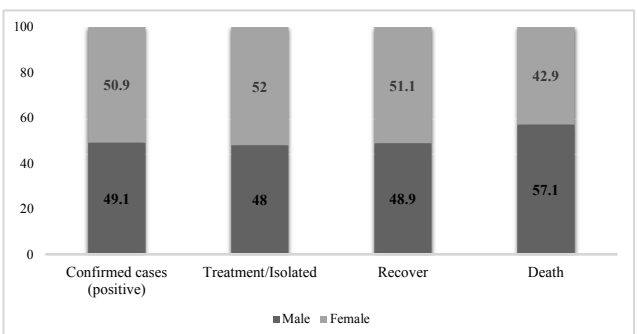

Fig. 2. COVID-19 Cases by Sex in Indonesia (%), 2021.

Source: Indonesia COVID-19 taskforce. 2021. https://covid19.go.id/

Furthermore, one of the prominent aspects in demography to understand the COVID-19 pandemic is age structure. Age structure also related to other vulnerabilities such as education level, socioeconomic status, living arrangement and housing [14]. Figure 3 shows the proportion of COVID-19 cases by age groups. Similar to WHO, older people have a higher risk to more severe when the coronavirus exposes them. As seen in the figure, the risk to get worse is increasing by ages. The highest proportion of the death cases due to COVID-19 is persons aged more than 60 years old (47.9) from the positive total cases in this category around 10.8%. This is followed by people aged 46-59 years old amount to 36.6% [2].

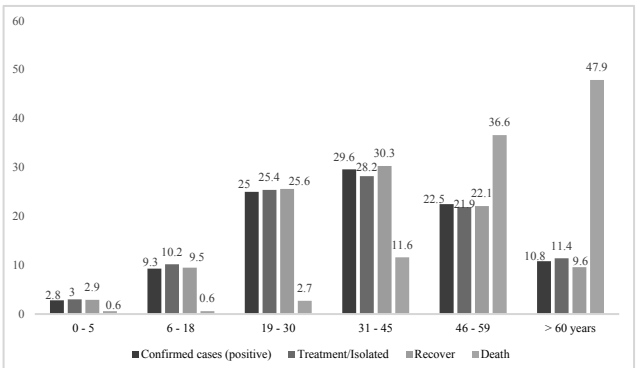

Fig. 3. The proportion of COVID-19 cases by age groups (%)

Source: Indonesia COVID-19 taskforce. 2021. https://covid19.go.id/

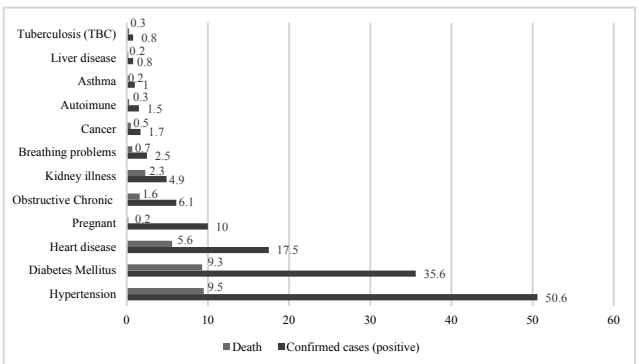

Fig. 4. Comorbidities of COVID-19 patients (%)

Source: Indonesia COVID-19 task force. 2021. https://covid19.go.id/

From this data, it is crucial to take seriously for a country with a high proportion of older people or those which are predicted to face the ageing population. It is because a similar pandemic can occur in the future. Based on the experiences regarding the past pandemics, also the COVID-19, demography becomes spotlight to give more understanding about this pandemic and supporting as basis policies. By considering the age structures, it can help predict the pandemic curve phase earlier, critical cases burden and supporting to plan the needs of bed and medical staff in the hospital [15].

Besides sex and age groups, data from Indonesia COVID-19 Taskforce also shows the comorbidities of COVID-19 patients. Health condition regarding chronic diseases plays an important role which increases the risk of severity due to coronavirus. Indeed, some comorbidities make the condition of COVID-19 patients getting worst. As shown in Figure 4, several comorbidities such as hypertension, diabetes mellitus and heart disease become the three diseases that have a high impact on COVID-19 patients. Almost 10% of COVID-19 who have comorbidities hypertension and diabetes mellitus were death.

Toward ageing population in Indonesia

According to data about the COVID-19 cases by age groups, it is necessary to pay attention to Indonesia's population dynamic for the next few years. Indonesia is facing an ageing population. The proportion of older people in 2010 at 7.6% of the total population or amounts to18,1 million people (Figure 5). It is predicted to increase to 19.8% in 2045 based on the 2015 Intercensal Population Survey [23]. In other words, in 2045, one out of five people in Indonesia is an older person. According to Statistics Indonesia, the life expectancy increased from 55.1 years in 1971 to 70.8 years in 2015 [16], and it is predicted to increase slightly until 72 years in 2035 [17].

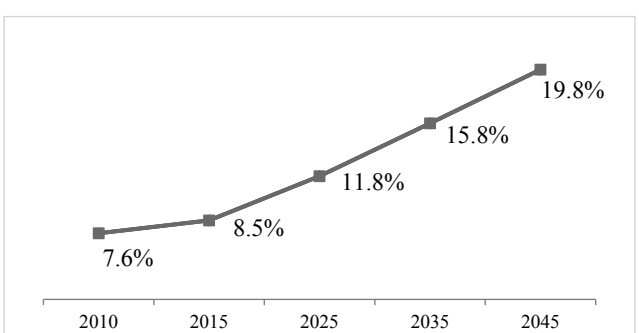

Fig. 5. Proportion of Older Indonesian in 2010 - 2045

Source: Statistic Indonesia, 2010; Bappenas, 2018, BPS, dan UNFPA, 2018

A glimpse of health system in Indonesia

Demographic aspects become essential to include in understanding the current pandemic. It can be a basis for policymakers to do preparedness during the pandemic or other disasters. It helps to address and understand the public health crisis.

Since 2014, the Indonesian government issued a policy regarding universal health coverages. It is targeted to cover all Indonesian citizens. Until 2016, the total of Indonesian citizens who have covered by health social security (Jaminan Sosial Kesehatan-JKN) at 171,939,254 [18]. In 2018, the number of participants registered in the JKN-KIS program (subsidy by the government) had reached 78.16% of the total Indonesian population (205,071,003 people) [19]. Moreover, the health facilities that collaborate with Health Social Security Institution (BPJS Kesehatan) amount to 27,105 [19]. Of the total population, there is 79.44% have covered by JKN both subsidy and non-subsidy.

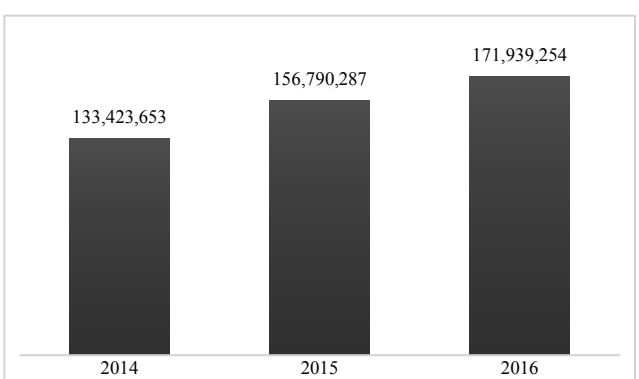

Fig. 6. Health Insurance Coverage in Indonesia (BPJS)

Source: BPJS Kesehatan, 2016.

Furthermore, the ratio of total beds to 1,000 in Indonesia has reached the standard minimum of WHO. Nevertheless, eight provinces did not meet the standard of WHO regarding the bed ratio, namely West Nusa Tenggara (0.74), East Nusa Tenggara (0.83), Banten (0.87), West Java (0.87), Lampung (0.90), West Sulawesi (0.92), Central Kalimantan (0.94) and Riau (0.98) [20].

In 2019, the proportion of health workers was dominated by nurses. The provinces with the highest number of specialist doctors were DKI Jakarta, namely 6,174 people and East Java, with 5,156 people. Meanwhile, the provinces with the least number of specialist doctors were West Sulawesi (93 people) and Maluku (96 people). It shows that there is a gap disparity between regions. It becomes an issue in Indonesia regarding the health care facilities, especially for those provinces outside Java Island.

Lessons learned

The COVID-19 pandemic becomes a "*wake up call*" regarding the efforts to strengthen the resilience as the agreement in Sendai framework for action 2015-2030. It is because building resilience is a pretty long time process that needs commitment and sustainable efforts. There are several points to prepare a better future based on the experiences and knowledge facing both the previous and current pandemic situations.

Three notes that address in this paper regarding the lesson learned from the pandemic. Firstly, it is important to pay attention to the ageing population in the future. Countries with a higher older population tend to increase the risk of case fatality rates and the problems related to how older people are treated. Some countries prefer to focus on healthy and most likely to recover rapidly than older patients. When a health crisis occurred, older people tend to more vulnerable than other groups due to several reasons. Living longer does not means living healthier. Increasing age in line with the decreasing of physical condition. It is also increasing the propensity to have chronic diseases that can make the condition becomes worse especially in the pandemic situation. Besides physical condition, region play an important role regarding the access to health care facilities.

Looking at the gap disparity of health workers, especially specialist doctors in some regions, it is important to ensure doctors' availability. Also, the health system regarding the bed and medical equipment in the hospital should be fulfilled. World Health Organization (WHO) revealed that region is associated with access to health facilities [21]. Likewise, Ladusingh and Ngangbam (2016) explained that region could help understand the differences in access to health care [22]. Older people

with disability tend to have difficulties to access the health facilities especially for those who are living in rural areas. In some rural areas, health care facilities are not quite enough to reach due to the geography location. Besides that, increasing the ageing population comes to a set of challenges in everything, including the health system to provide better health insurance. In fact, there are older people do not have social protection including the health insurance.

Secondly, learning from the COVID-19 pandemic, the age structures become a prominent factor to understand the situation. One of the facts that reveal is the role of comorbidities on older people. The ageing population in many countries, including in Indonesia, is facing a situation where the deaths caused by chronic diseases are increasing, which can interact with the pandemic (COVID-19). Due to this phenomenon, it is necessary to intensify health promotion in Indonesia to promote a healthy life from the young ages and create new habits to stay healthy by doing some activities. Therefore, the number of people with chronic diseases can be reduced. Likewise, using a mask, washing hands regularly not only because of the pandemic, but these activities become healthy behaviour in daily life. A clean and healthy lifestyle which one of the programs from the Ministry of Health should be promoted massively in the communities.

The last issue that is highly important to address is about the availability of demographic data, especially for understanding the pandemic. COVID-19 can be understood through population trends and patterns. This can happen when the data and analysis are available. Moreover, the problem of mortality data due to the COVID-19 can be resolved when a country has a good data registration. The accurate data can support the government to make a precise policy particularly in pandemic and disaster situation.

Conclusion

COVID-19 pandemic addresses plenty of knowledge and experiences that will be lessons learned for preparedness in the future. The current pandemic should be seen beyond health problems. Demographic aspects play an important role to understand the current pandemic. It will help to support the policymakers to handle the situation. Several demographic aspects, for instance, age structures, show the prominent role during this current pandemic. Older people tend to have higher risks than other age groups, especially when they are exposed to the virus. Health condition of older people, social protection and where they are living become some of reasons. The comorbidities that older people have made the condition getting worse. Therefore, it is urgent to consider the ageing population that will occur in the future.

Based on data, the proportion of older people in Indonesia will increase over times. Strengthening resilience should be done by seeing vulnerable groups such as older people. How the health system and the environment prepare to face the pandemic and other disasters is highly needed.

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