Investigating Demographic Outcomes in the COVID-19 Pandemic: Perspectives from Asia

Premchand Dommaraju[1], Stephanie C. Heng[2], and Brenda S.A. Yeoh[2]

[1] Nanyang Technological University, Singapore

[2] National University of Singapore

Author Note

Premchand Dommaraju https://orcid.org/0000-0002-6889-2039

Brenda S.A. Yeoh https://orcid.org/ 0000-0002-0240-3175

Correspondence concerning this article should be addressed to Premchand Dommaraju, Sociology, School of Social Sciences, Nanyang Technological University, 48 Nanyang Avenue, Singapore 639818. Email: premchand@ntu.edu.sg

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Undoubtedly, the COVID-19 pandemic has had and will continue to have a profound influence on human society for many years to come. By now, it has resulted in an unmistakable impact on core demographic processes—mortality, fertility, migration, family and marriage, and health—all around the world. Its impact on the core components of demographic change undergirds many other changes that have transformed society, be it in the arena of healthcare, geopolitics, macro-economies, or the environment.

As Dommaraju (2020) observes, demographic analysis is useful in understanding the social aspects of population dynamics. This includes significant themes such as inequality, inequity, as well as differentials in demographic outcomes. Employing a social demo- graphic lens towards analysing the pandemic can and has resulted in unique insights relating its effect on population dynamics. Preliminary studies have already produced interesting findings—Soneji et al. (2021) and Vanella et al. (2021) evaluate population- level mortality burden and excess mortality in light of the pandemic; Giorgi and Boertien (2021) and Bernardi et al. (2021) investigate the impact of pandemic confinement measures on socio-demographic inequality; and Furfaro et al. (2021) and Luppi et al. (2021) dive into the mobility strategies of individuals in light of containment measures. Desai (2021) highlights the challenges of demographic data collection during the pan- demic, and Dommaraju (2020) notes that the pandemic has severely limited the collection of quantitative data, and calls for the increased need to focus attention on digital data and other innovative data collection methods and analyses.

While research on demographic processes in the time of COVID-19 is gaining momentum, work on the Asian context is still by far more limited compared to the west. Emerging work published in this journal including questions around the impact of the pandemic on repatriation of migrant workers (Liao, 2020), mental health (Liu & Yin, 2023) and the migration regime (Yeoh, 2022) have only begun to make a contribution to understanding a wide spectrum of demographic issues in the long tail of the pandemic. In this light, this special section1 brings together population scholars working in and on Asia to discuss the following key questions:

- How has the COVID-19 pandemic affected one or more of the core components of demo- graphic change (mortality, fertility, migration, family and marriage, health) in Asia?
- In what ways do these observed and predicted population changes uncover or exacerbate pre-existing social inequalities, and/or affect family social structures and ageing?
- How do we devise a more rigorous and robust means of demographic data collection and analysis, given the present limitations with employing large-scale surveys and censuses in a pandemic?

COVID-19 and Mortality

The impact of COVID-19 on mortality and life expectancy in Asian countries is a topic addressed by three papers in this special issue. Estimating COVID-19 mortality rates in Asia is complicated by the lack of reliable data, as many countries in the region lack robust vital registration systems. Two pieces of information are necessary to estimate mortality rates: the number of deaths and the cause of death. These data are typically obtained from death registration records. The coverage and quality of death registration vary across countries. In many South and Southeast Asian nations, many deaths go unreported or unregistered, even during non-pandemic times (Karlinsky, 2021). The COVID-19 restrictions, such as lockdowns and movement control orders, have further diminished the completeness and quality of death registration data. Additionally, the stigma associated with COVID-19 has deterred people from registering deaths, leading to underreporting (Jones, 2023). In some cases, COVID-19 deaths have even been attributed to other causes, further eroding the reliability of the data (Jones, 2023). As a result, researchers have had to use alternative sources of demographic data to estimate COVID-19 mortality. For example, in this issue, KC and Moradhvaj (2023) employ crowd-sourced data to estimate mortality rates in India. Other alternative data sources include information from obituaries, press releases, cremations, and organisations such as teachers and railway workers in the case of India (Guilmoto, 2022).

Researchers have adopted the concept of excess mortality in estimating the number of deaths caused by COVID-19. Excess mortality refers to the number of deaths above what would have been expected in the absence of the pandemic. It is calculated as the difference between the total number of deaths and the number of deaths that would have occurred without the pandemic (Jones, 2023). A diverse array of methods has been utilised to estimate excess mortality,

including traditional demographic methods, regression modelling, Bayesian approaches, and innovative approaches such as machine learning and ensemble demographic methods. Several comparative studies have estimated excess mortality for countries worldwide. Of particular note are two studies by WHO-UN COVID TAG (WHO, 2022) and Wang et al. (2022) which are discussed in the papers in this issue. The two studies provide comparative estimates of excess mortality for several Asian countries. Feng and Gu (2023) build on these estimates to calculate changes in life expectancy by age and gender.

For several Asian countries, excess mortality estimates differ considerably from the officially reported COVID-19 deaths. The official death rates in many countries, particularly in South and Southeast Asia, have significantly underestimated the number of deaths due to COVID-19. According to Msemburi et al. (2023), for the WHO region of South-East Asian (SEAR), which encompasses India and Indonesia, COVID-19 excess deaths were nearly eight times higher than the official estimates. There still remains a significant degree of uncertainty in the estimates of excess mortality. In countries such as Japan, South Korea, and Singapore, with more reliable vital registration systems, there is a greater degree of certainty regarding the number of deaths, and the estimates from different sources and official estimates are relatively similar (Msemburi et al., 2023). However, there is a greater degree of uncertainty in other countries with less reliable registration systems.

The impact of COVID-19 on mortality was different across different age groups. Feng and Gu (2023) present results from a detailed examination of the impact of COVID-19 on various age groups in 51 Asian countries by investigating changes in life expectancy. They report that approximately 70 per cent of the decrease in life expectancy at birth was due to higher mortality among older individuals. In their study of excess mortality in India, KC and Moradhvaj (2023) note that older people were disproportionately affected by COVID-19. In addition to age differentials, Feng and Gu (2023) and KC and Moradhvaj (2023) observe gender disparities, with higher COVID-19 mortality among men. This dis- parity is attributed to poorer health conditions, higher prevalence of chronic diseases, and lifestyle factors (Jones, 2023). These gender differences vary considerably across countries in the region. Beyond the dimensions of age and gender, there are bound to be differences within countries by region, rural/urban residence, migration status, and socioeconomic position. However, such differences remain to be investigated. In addition, there is a need to strengthen demographic data collection to monitor and investigate disparities in mortality.

COVID-19 and Migration, Marriages, and Births

Pandemics exert a significant impact on the migratory decisions and movements of people; the COVID-19 pandemic proved to be no exception. There is a general under- standing that during pandemics, individuals naturally gravitate towards locations where infection rates are lower. This trend continues during the COVID-19 pandemic, with sentiments towards international and internal migration fluctuating as the pandemic progressed in the United States (Lei & Liu, 2022), Spain (González-Leonardo et al., 2022) and Germany (Stawarz et al., 2022). At the same time, migration during pandemic times is also defined by immobility due to restrictive immigration policies, as highlighted by O'Brien and Eger (2021) and Yeoh (2022). Furthermore, the extent to which one is capable of migrating during the pandemic is significantly influenced by socio-demo- graphic characteristics, such as age, gender, income, and education (Giordano, 2021; Haslag & Weagley, 2021; Yueping et al., 2021). The pandemic has further impacted fertility and marriages during this period. Recent studies have theorised scenarios on the future impact of the pandemic on marriage rates and births (Berrington et al., 2022; Mughal & Javed, 2022; Voicu & Bădoi, 2021). Other research reports that the pandemic has already effected changes in marriage and fertility in countries such as Japan and South Korea due to fluctuating fertility intentions and uncertainties (Ghaznavi et al., 2022; Kim & Kim, 2021).

Two of the articles in this Special Issue turn our attention towards Hong Kong as an interesting case to examine the impact of the pandemic on migration, marriages, and births. Its recent social and political movements, as well as the migratory pathways avail- able to individuals in Hong Kong (under the new visa scheme with the United Kingdom), provides a particularly distinctive setting to capture key insights relating to these themes.

Based on novel data collected from random-sampled surveys and interviews, Kan et al. (2023) utilise logistic regression models to examine the migration intention and timing of individuals in Hong Kong. Their study reveals the strong positive association between the rise in COVID-19 cases and people's migration intention in Hong Kong. They also highlight the significant influence of socio-demographic factors on individual's migratory decisions and timing. The positive association between the rise in COVID-19 cases and migration intention is stronger for individuals with children under 18 years old, as well as younger and more educated individuals. Conversely, older individual's migration

intention is surprisingly less affected by the growth in the local pandemic situation, despite them at higher risk of being affected by COVID-19. With regard to migration timing, more educated people, parents with children aged below 18 years old, and British National (Overseas) (BN(O)) passport holders were less likely to experience delayed planning of migration.

Hong Kong provides fertile grounds to examine the impact of the pandemic on marriage and births, as seen by Chen and Gietel-Basten's (2023) insightful study. Drawing upon two microdata sets, Chen and Gietel-Basten (2023) utilise OLS regression models to conduct time-series analyses towards understanding the impact of the pandemic and the 2019 social movements on demographic behaviours. Their study shows a decline in total fertility rate in Hong Kong during the COVID-19 period; but what distinguishes Hong Kong from other countries with low fertility is that this decline began months prior to the onset of the pandemic. They also found a steep drop in the number of marriages and marriage rates from 2019 to 2020, compared to previous years. Interestingly, changes in demographic behaviours since mid-2019 also differ between Hong Kong and Mainland-born individuals.

Conclusion

This Special Issue highlights the impact of COVID-19 upon demographic behaviours and outcomes, such as mortality rates, life expectancies, migration, births and marriages, across Asia by critically leveraging upon a range of traditional and innovative data collection methods and analysis. In doing so, it responds to contextual and scholarly gaps in existing academic literature on demographic processes during the COVID-19 pandemic. Significantly, it also contributes fresh insights to a growing area of interest that undoubtedly holds important policy implications for Asia and beyond.

Note

The papers in this special section were first presented at a workshop on "Asian Population Studies and the COVID-19 Crisis: Investigating Demographic Outcomes in a Pandemic", 23 August 2022, co-organised by the Asia Research Institute, National University of Singapore, and the Asian Population Association. We would like to dedicate this special section to the memory of Professor Gavin W. Jones who passed away a few days later on 27 August 2022.

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