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COVID- 19 AND SOCIO-ECONOMIC ACCUMULATION IN MAKASAR

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ABSTRACT:

The Covid-19 pandemic as a problem in the world today is an evaluation of the balance of the life order between humans and nature. Prevention efforts are needed in the process of human-to-human transmission, so that the spread through communities, households, the surrounding environment, and health facilities can be controlled. New habits that have not been able to change people's lifestyles to refrain from group activities or gatherings, there are still infections that spread to each other so that independent isolation is only applied at home, it is prohibited to carry out any activities outside. Socio-economic conditions and individual and natural factors provide relevance in dealing with the Covid-19 pandemic. The research method used is qualitative research by reviewing the results of research from review articles related to the research objectives, namely 2019 and 2020. The results of the study show that the conditions and socio-economic factors, both individual and natural, provide relevance to efforts to deal with the Covid-19 pandemic. Not only the government but the community, as part of an effort to maintain the health of themselves and others, there is awareness to follow the recommended rules set by the competent party to control the pandemic.

Keywords: *socio-economic, crisis, global*

Introduction

The Covid-19 pandemic or coronavirus has hit the world. This pandemic has changed habits attitudes and behavior of society at almost all levels. Not only behavior, but other aspects of the social order also change (Shakil et al., 2020). Data from WHO states that 4,088,848 people have been infected and out of these 283,153 people have died from this virus (World Health Organization, 2020). The pandemic that occurred was a global crisis and has become a challenge for every country in the world (United Nations Development Programme, 2020). Of

the 166 countries (excluding China) that experienced it, of course, active action must be taken immediately to be able to control the source of the infection and try to prevent it from spreading (Wu et al., 2020).

A study states that prevention in the process of transmission of the virus among people is needed, its spread, through communities, households, the surrounding environment, and health facilities must be controlled (Sarkodie & Owusu, 2020). Several policies and regulations were implemented into health protocols and this was done so that the condition would recover quickly. Efforts are made to include socializing the movement to maintain a safe distance between humans or social distancing. This is used as a concept in reducing the threat by breaking the chain of transmission of Coronavirus (Buana, 2020). In addition to maintaining a safe distance, rules are enforced which are usually in the form of creating an environment of cooperation, and harmony among citizens to understand and reinforce the policies that prohibit gatherings at places of worship, gathering with friends or relatives, and other gathering activities in Indonesia, a largest Muslim country of the world. People tend to do gather for varieties of reasons, however, such gatherings are prohibited in the name of security and safety of public health.

The conditions that occur from one country to another are different both in terms of condition of infection, its handling, and policies to curb the spread. Apart from China, Italy is among the countries experiencing a high number of exposure and death toll due to the coronavirus (Maugeri et al., 2020). Since the beginning of the emergence of the Covid-19 virus in Italy, plans and implementation of measures to contain the spread have been in progress. Regional quarantine to ensure social distancing and population movement, educational facilities, markets, public facilities, and businesses are closed. This change in social habits certainly poses risks both physically and psychologically to residents (Sim et al., 2020). The results of the study stated that quarantine in Italy had significant physical activity following health protocols during the pandemic, at all age levels, especially men, had a negative impact or decreased decline despite psychological stress due to economic pressure. Clinical research relevance shows that physical activity is an important strategy in prevention (Armstrong et al., 2015)(Loney et al., 2011).

The reason why Makassar is the object of research is that it is part of eastern Indonesia and one of the largest cities in Indonesia, resulting in racial and ethnic pluralism due to a mixture of local and immigrant cultures and sub cultures. This makes the city of Makassar rich in culture and customs which makes Makassar a friendly city for tourists and investors to come there. Also, Makassar is a maritime city that has beautiful coastlines and beautiful landscapes plus abundant potential resources to be exploited properly for the benefit of the nation.

The city of Makassar is also known as one of the education destinations from the eastern part of Indonesia because of the availability of universities and schools that are capable of making the development of Makassar even better.

With some of these research results, this study aims to find out how the public understands the Covid-19 pandemic, what is the socio-economic impact of the community due to the pandemic and the efforts to prevent pandemic strategies in Makassar, Indonesia.

Literature Review

Epidemiology as the study of the distribution, and determinants of health-related countries or events in a given population, and the application of this too and the management

of other health problems (Stellman, 2010) and according to Swerdlow, transmission is an important factor of the epidemic (Swerdlow & Finelli, 2020). Since the end of 2019, the Covid-19 pandemic has spread rapidly throughout the world (Marziali et al., 2020). With the SARS-Cov pandemic report from Wuhan on January 30, 2020, and a global health emergency was declared by the head of the WHO committee (Licciardi et al., 2020) and China officially declared an epidemic pandemic on January 20, 2020, because of widespread transmission. Major activities were carried out to handle such potential cases such as 1) identifying the infected person and treating him in a special hospital; 2) search for and quarantine everyone it comes in contact with; 3) sterilize environmental pathogens; 4) promoting the use of masks; 5) release data to the public on the number of infected, suspected, under-treated, and deaths every day (Chen & Yu, 2020).

March 11, 2020, the World Health Organization WHO declared the Coronavirus disease, Covid-19, a global pandemic (Peirlinck et al., 2020), and from the research results stated that transmission from human to human; through coughing or sneezing droplets or direct contact. Fever and cough are the main symptoms (H. Ge et al., 2020). With the increase in information from the use of smartphones in social networks, the publication of online databases, also provides the right analysis method for the accuracy of Covid-19 information. (Sun et al., 2020).

The low-risk population is younger, healthier people. Epidemiological data to assist with a Covid-19 prevention plan or strategy targeted at people at risk (Tian et al., 2020)(Kementerian Kesehatan RI, 2020) (Kementerian Kesehatan Republik Indonesia, 2020) among those recommended to the community; maintain social distancing, avoid social gatherings and cancel nonessential personal activities and according to person-to-person transmission studies (Hu et al., 2020).

Acute respiratory syndrome coronavirus, so far no drug or vaccine has been established for treatment, several alternative therapies are emerging and are in clinical trials (Zhou et al., 2020), whereas the route of transmission of COVID 19 is direct contact, the findings indicate that the oral cavity has a high potential risk of being a transmitter with the aerosol transmission. (Z. Yu Ge et al., 2020). The poor population is vulnerable to experiencing a very large and long-term burden of Covid-19 (Ataguba et al., 2011) and according to Ataguba, apart from the mortality and morbidity significance of the Covid-19 pandemic, economically it needs steps and policies, supported by the will and commitment of the government and the people (Ataguba, 2020).

The COVID 19 pandemic has an impact on the informal settlements of the global south which are very unprepared to face the current pandemic situation because of basic needs such as water, domestic sewage, garbage collection, safe and adequate housing, there is a shortage of supply and even non-existent and need to be addressed. In densely populated and slum settlements it is difficult to implement physical distancing and quarantine, of course, because of the insufficient space in the house (Corburn et al., 2020), whereas in a study it was stated that coping with a pandemic involved different levels of the control hierarchy as well as different phases of the pandemic. The steps are taken by the hospital with management strategies for staff and medical personnel, optimal care support supplies for patients, control techniques in identification and preparation for isolation. This is done as an implementation of prevention and reduction of transmission in the hospital, according to clinical guidelines in management (Wong et al., 2020).

Research Methods

This research is qualitative research by reviewing the results of published research from review articles related COVID pandemic covering 2019 and 2020 year. Also, surveys and interviews are conducted with residents in Makassar City. With the limitation of activity during the Covid-19 pandemic, in this study, an in-depth analysis of the results of scientific research was carried out so that it would provide credible information and was expected to become a source of further research literacy.

Results and Discussion

Makassar's condition before the pandemic was relatively stable. Cumulative economic growth up to the third quarter of 2019 in Makassar, according to data compiled by BPS in 2019, experienced a growth of 7.08%. And for the employment of 1220 people per the year 2019. There are 2129 registered job seekers with 1889 registered job vacancies, so the deficit needs with the availability of 240. In the socio-cultural context, Makassar is the busiest port city in the eastern part of Indonesia and one of the largest cities in Indonesia, resulting in racial and ethnic diversity due to a mixture of local cultures and cultures with migrants. This makes the city of Makassar rich in culture and customs which makes Makassar a friendly city for tourists and investors to come there. Also, Makassar is a maritime city that has a beautiful coastline and beautiful landscape plus abundant potential resources to be exploited properly for the benefit of the nation.

The city of Makassar is also known as one of the education destinations from the eastern part of Indonesia because of the availability of universities and schools that are capable of making the development of Makassar even better. The condition of Makassar due to the Covid 19 pandemic has a significant impact on social life, finances, and other sectoral units. Covid-19 itself began to enter Indonesia on March 2, 2020, which resulted in 2 patients testing positive. The first two positive cases in the city of Makassar were announced on Thursday 19 March. And one of the coronavirus patients died before laboratory results showed he was positive. Until now, as of October 21, 2020, the total confirmed cases in Makassar were 5056 people who tested positive for Covid 19, 4300 recovered, and 123 people died. Seeing the increasing number of Covid-19 cases every day, there are several actions taken by the Government to stop the spread of Covid-19. In South Sulawesi, the initial action taken was small-scale restrictions in areas with the highest spread of Covid-19 cases in South Sulawesi, namely the cities of Makassar, Gowa, and Maros. Also, the formation of a task force and the implementation of PSBB in Makassar City twice which ended on May 17, 2020. Also, the South Sulawesi Government is currently considering reopening the mall in Makassar City. However, this requires careful consideration because it can lead to jealousy of other traders. Regarding the news, of course, we hope that everything will get back to normal soon.

Makassar's economic growth in the third quarter of 2020 is predicted to contract by 1.5%, an increase compared to minus 3% in the second quarter of 2020. Seven sub-sectors need to be resolved immediately by the Makassar city government, namely transportation, warehousing, processing industry, food accommodation provision, construction. and financial services. The Makassar City Government must continue to maintain people's purchasing power through price control, especially for staple goods by ensuring that their stock and distribution are available and guaranteed. Also, the government needs to ensure the availability of means and pre-production facilities for farmers and includes fuel supply for fishermen so that the economy can rotate slowly until it is stable. And for the development of the business world, it remains by providing stimulus and incentives for ease of licensing and security guarantees during the

Covid 19 pandemic. (Budiyanti, 2020)

The current socio-cultural conditions as a result of the Covid 19 pandemic based on the statistics of the Makassar Manpower Office have resulted in many dismissal policies (layoffs) and dismissal by companies affected by the COVID-19 pandemic. In this way, of course, it will produce new poor people where they previously were The new middle class that started to rise suddenly came with Covid and was affected. Of course, it is feared that it is prone to crime rates due to the urgency of the pandemic.

Besides, in the effort to implement health protocols in maintaining distance and large-scale social restrictions (PSBB), it is, of course, feared that it will change the pattern of interaction in the plural city of Makassar into an apathetic society and change the culture of the community significantly. Of course, the role of the government, in this case, needs to assist and actively socialize the new normal era or new order to adapt to Covid 19 following the instructions of the President of the Republic of Indonesia. If you look at the conditions of other regions in South Sulawesi province. The city of Makassar has certainly become the epicenter so that it becomes a benchmark for other regions to act to deal with the COVID-19 pandemic. The success in the city of Makassar can certainly be a boost for other regions in South Sulawesi province to work together to fight the pandemic.

Covid-19 causes material losses. Not only companies and high-income businesses, but all layers are affected (Kim & Bostwick, 2020). From the research results, global educational activities are disrupted. The difference in the geographic conditions of each region causes online access to not run smoothly. The majority of countries experienced an economic decline resulting in layoffs or termination of employment, termination of employment contracts, this of course resulted in individual economic instability. Social distancing also creates psychological problems. Of course, raises problems in the future (Sandhu & de Wolf, 2020). The salient aspect of this impact of this pandemic are summarized as under:

1) Public Understanding of the Covid-19 pandemic

The general public can access information about the latest conditions both in the local area, outside the region, and even abroad. Pandemics are very short and easy to transmit. Not only with direct interaction between people (Naser et al., 2020)(Wang et al., 2020). The public's fear of catching the virus, because the transmission is very fast and a vaccine has not been found to prevent and also drugs to treat it, has led to obedience to carrying out activities only at home as regulated in the regulations of each country. Due to new habits that have not been able to change people's lifestyles so that they can refrain from group or gathering activities, there are still infections that infect one another so that independent isolation efforts are applied only at home, it is prohibited to carry out any activities outside. This has received appreciation by the government and those with responsibility in the field of public security and safety. A research from Bangladesh states that the Covid-19 pandemic creates fear (Islam et al., 2020) and the residents are stressed or experiencing mental disorders due to the Covid-19 pandemic. Furthermore, people may feel psychologically unstable, emotionally distressed, even more, extreme as the act of suicide due to situations of discomfort to oneself and situations in the family. Of course, this psychological distress has an economic impact as well, as regulations restrain the space for activity while low economic conditions, difficulties in getting food supplies, and emptying space for public facilities. The mental health of people is prone to problems (Mamun et al., 2020).

2) The socio-economic impact of the pandemic on the community

The results of research in South Africa, the fast-growing country with the fastest increase in Africa (Joshua et al., 2020) suggest that the involvement of developed countries in providing assistance and cooperation has opened access to progress in South Africa. The growth and open transfer of technology ensure a beneficial interaction for South Africa. With the existence of economic capacity, it is integrated with efforts to develop its economy.

In August 2020, Makassar City experienced a deflation of 0.09 percent with the Consumer Price Index (CPI) of 104.85. Of the 5 inflation cities in South Sulawesi, all the city experienced deflation. The city with the highest deflation namely Pare-Pare 0.24 percent with a CPI of 104.34 and which experienced the lowest deflation, namely Bulukumba 0.04 percent with a CPI of 106.01. Deflation occurs due to a decline in prices in several expenditure groups, namely the food, beverage, and tobacco by 0.82 percent, and the transportation group by 0.47 percent. Meanwhile, other groups experienced inflation. Expenditure group that experienced increase prices ie group personal care and other services by 1.86 percent; the education group of 0.37 percent; clothing and footwear group by 0.23 percent; equipment, tools, and routine maintenance groups households by 0.13 percent; information group, communication, and financial services 0.08 percent; group health by 0.07 percent; recreational groups, sports, and culture 0.06 percent; supply group food and beverages by 0.04 percent and groups housing, water, electricity and household fuels of 0.01 percent. Makassar City inflation rate for the calendar year August 2020 1.46 percent and the year-on-year inflation rate (August 2020 against August 2019) by 1.40 percent (BPS Kota Makasar, 2020).

The increase in domestic violence can also increase due to family economic problems (Hasan et al., 2017). The cause of violence perpetrated by men is due to loss of livelihood due to termination of employment, or because there is no opportunity to find work. A depressed mood so that it spills over on the wife or family members at home.

From research conducted in Bangladesh, it is stated that the fear that arises from the Covid-19 pandemic disturbs the mentality of vulnerable people. In addition to the economy and poverty, there is a lot of information on the number of deaths due to the pandemic and the very easy way of transmission, mentally at risk of stress and depression (Shammi et al., 2020). People with poor socioeconomic conditions and in densely populated settlements tend to be vulnerable to receiving information which causes a decrease in self-confidence in the face of the Covid-19 pandemic (Mamelund, 2006).

Thus, the problem of the Covid-19 pandemic not only devastates the economy of the majority of world citizens but tests mental resilience. If he can overcome fear and hunger, work with enthusiasm, and carry out activities with new normal habits, his immunity will increase. However, on the contrary, they are prone to illness and experience infection with low mental illness.

3) Pandemic prevention strategies

The Covid-19 pandemic has experienced a slowdown in transmission due to regulations set by each country. The consistency of the state in maintaining access in and out of both citizens and non-citizens, of course, has an impact on all aspects of the environment. Regional quarantine and social distancing are adopted as soon as possible in each region. With the acceleration of alternatives to implementing new habitual health protocols, the economic situation has decreased and other aspects have an impact, it is hoped that it can generally minimize the spread of the pandemic (Djurović, 2020).

Research in Serbia with the prohibition of entry and exit of the country's territory declared a state emergency. Educational institutions, activities in public places are closed and a curfew is imposed. The shops that are allowed to open are foodstuff providers and with time restrictions. Public transportation, all no-cargo transportation is stopped. After the positive effect of implementing state emergency measures, and the number of cases decreasing, the state of emergency was abolished on May 5, 2020.

In the UK, research results suggest that the death rate due to the pandemic in slum and poor areas, as well as non-whites, is twice as high (Calderón-Larrañaga et al., 2020). The social gap in awareness of prevention efforts. Besides, the age factor is also a concern in the form of services and priority efforts for policy formulation. Some cases of death, accompanied by diseases that have been contracted or people with comorbidities such as lungs (Liu et al., 2017). It was stated in the study that a study was needed to prove that vitamin D could contribute to the death rate due to Covid-19 (Ali, 2020).

Conclusion and Implications

From the description above, it can be concluded that socioeconomic conditions and factors from both individuals and nature provide relevance to efforts to deal with the Covid-19 pandemic. Not only the government but the community as part of efforts to maintain the health of themselves and others, the need for awareness to follow the recommendations of the rules set by competent parties to control the pandemic. Apart from personal awareness and the existence of a healthy environment, there are needs for an adjustment to a situation that is still a problem in the world. Being mentally healthy can protect yourself from decreasing the quality of personal health. The Covid 19 pandemic is a challenge that the Makassar City Government and the Indonesian government need to face seriously to overcome the crisis both economically and socially. Repressive and well-targeted actions are a must to overcome the impacts and synergy of society and apparatus is needed in dealing with the coronavirus disaster. Conduct socialization and emphasis on pandemic response programs so that they can be right on target. Providing education and understanding for every element of society to comply with health protocols and the new order as proclaimed by the Indonesian government.

References

- Ali, N. (2020). Role of vitamin D in preventing of COVID-19 infection, progression and severity. In *Journal of Infection and Public Health*. <https://doi.org/10.1016/j.jiph.2020.06.021>
- Armstrong, M. E. G., Green, J., Reeves, G. K., Beral, V., & Cairns, B. J. (2015). Frequent physical activity may not reduce vascular disease risk as much as moderate activity: Large prospective study of women in the United Kingdom. *Circulation*. <https://doi.org/10.1161/CIRCULATIONAHA.114.010296>
- Ataguba, J. E. (2020). COVID-19 Pandemic, a War to be Won: Understanding its Economic Implications for Africa. *Applied Health Economics and Health Policy*, 0123456789, 20–23. <https://doi.org/10.1007/s40258-020-00580-x>
- Ataguba, J. E., Akazili, J., & McIntyre, D. (2011). Socioeconomic-related health inequality in South Africa: Evidence from General Household Surveys. *International Journal for Equity in Health*. <https://doi.org/10.1186/1475-9276-10-48>

- Buana, D. R. (2020). Analisis Perilaku Masyarakat Indonesia dalam Menghadapi Pandemi Virus Corona (Covid-19) dan Kiat Menjaga Kesejahteraan Jiwa. *SALAM: Jurnal Sosial dan Budaya Syar-i*. <https://doi.org/10.15408/sjsbs.v7i3.15082>
- Budiyanti, E. (2020). Dampak Virus Corona Terhadap Sektor Perdagangan Dan Pariwisata Indonesia. *Kajian Bidang Ekonomi Dan Kebijakan Publik*.
- Calderón-Larrañaga, A., Dekhtyar, S., Vetrano, D. L., Bellander, T., & Fratiglioni, L. (2020). COVID-19: risk accumulation among biologically and socially vulnerable older populations. *Ageing Research Reviews*. <https://doi.org/10.1016/j.arr.2020.101149>
- Chen, X., & Yu, B. (2020). First two months of the 2019 Coronavirus Disease (COVID-19) epidemic in China: real-time surveillance and evaluation with a second derivative model. *Global Health Research and Policy*, 5(1). <https://doi.org/10.1186/s41256-020-00137-4>
- Corburn, J., Vlahov, D., Mberu, B., Riley, L., Caiaffa, W. T., Rashid, S. F., Ko, A., Patel, S., Jukur, S., Martínez-Herrera, E., Jayasinghe, S., Agarwal, S., Nguendo-Yongsi, B., Weru, J., Ouma, S., Edmundo, K., Oni, T., & Ayad, H. (2020). Slum Health: Arresting COVID-19 and Improving Well-Being in Urban Informal Settlements. *Journal of Urban Health*. <https://doi.org/Yale School of Medicine>
- Djurović, I. (2020). Epidemiological control measures and predicted number of infections for SARS-CoV-2 pandemic: case study Serbia march–april 2020. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e04238>
- Ge, H., Wang, X., Yuan, X., Xiao, G., Wang, C., Deng, T., Yuan, Q., & Xiao, X. (2020). The epidemiology and clinical information about COVID-19. *European journal of clinical microbiology & infectious diseases : official publication of the European Society of Clinical Microbiology*. <https://doi.org/10.1007/s10096-020-03874-z>
- Ge, Z. yu, Yang, L. ming, Xia, J. jia, Fu, X. hui, & Zhang, Y. zhen. (2020). Possible aerosol transmission of COVID-19 and special precautions in dentistry. *Journal of Zhejiang University: Science B*, 1581, 1–8. <https://doi.org/10.1631/jzus.B2010010>
- Hasan, M. I., Hossain, S. J., Braat, S., Dibley, M. J., Fisher, J., Grantham-Mcgregor, S., Tofail, F., Simpson, J. A., Arifeen, S. El, Hamadani, J., Biggs, B. A., & Pasricha, S. R. (2017). Benefits and risks of Iron interventions in children (BRISC): Protocol for a three-arm parallel-group randomised controlled field trial in Bangladesh. *BMJ Open*. <https://doi.org/10.1136/bmjopen-2017-018325>
- Hu, Z., Song, C., Xu, C., Jin, G., Chen, Y., Xu, X., Ma, H., Chen, W., Lin, Y., Zheng, Y., Wang, J., Hu, Z., Yi, Y., & Shen, H. (2020). Clinical characteristics of 24 asymptomatic infections with COVID-19 screened among close contacts in Nanjing, China. *Science China Life Sciences*, 63(5), 706–711. <https://doi.org/10.1007/s11427-020-1661-4>
- Islam, S. M. D. U., Bodrud-Doza, M., Khan, R. M., Haque, M. A., & Mamun, M. A. (2020). Exploring COVID-19 stress and its factors in Bangladesh: A perception-based study. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e04399>
- Joshua, U., Adedoyin, F. F., & Sarkodie, S. A. (2020). Examining the external-factors-led growth hypothesis for the South African economy. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e04009>
- Kementerian Kesehatan Republik Indonesia. (2020). Pedoman Kesiapsiagaan Menghadapi Coronavirus Disease (COVID-19). *Direktorat Jenderal Pencegahan dan Pengendalian Penyakit*.
- Kementerian Kesehatan RI. (2020). Pedoman Pencegahan dan Pengendalian Coronavirus Disease (COVID-19). *Gemas*.
- Kim, S. J., & Bostwick, W. (2020). Social Vulnerability and Racial Inequality in COVID-19 Deaths in Chicago. *Health Education and Behavior*. <https://doi.org/10.1177/1090198120929677>

- Licciardi, F., Giani, T., Baldini, L., Favalli, E. G., Caporali, R., & Cimaz, R. (2020). COVID-19 and what pediatric rheumatologists should know: a review from a highly affected country. *Pediatric Rheumatology*, *18*(1), 35. <https://doi.org/10.1186/s12969-020-00422-z>
- Liu, X., Luo, X., Liu, Y., Sun, X., Han, C., Zhang, L., Wang, B., Ren, Y., Zhao, Y., Zhang, D., Hu, D., & Zhang, M. (2017). Resting heart rate and risk of metabolic syndrome in adults: a dose–response meta-analysis of observational studies. In *Acta Diabetologica*. <https://doi.org/10.1007/s00592-016-0942-1>
- Loney, T., Standage, M., Thompson, D., Sebire, S. J., & Cumming, S. (2011). Self-report vs. objectively assessed physical activity: Which is right for public health? *Journal of Physical Activity and Health*. <https://doi.org/10.1123/jpah.8.1.62>
- Mamelund, S. E. (2006). A socially neutral disease? Individual social class, household wealth and mortality from Spanish influenza in two socially contrasting parishes in Kristiania 1918-19. *Social Science and Medicine*. <https://doi.org/10.1016/j.socscimed.2005.06.051>
- Mamun, M. A., Chandrima, R. M., & Griffiths, M. D. (2020). Mother and Son Suicide Pact Due to COVID-19-Related Online Learning Issues in Bangladesh: An Unusual Case Report. In *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-020-00362-5>
- Marziali, M. E., Armstrong, H. L., Closson, K., McLinden, T., Wang, L., Barath, J., Harris, M., Roth, E. A., Moore, D. M., Lachowsky, N. J., Hogg, R. S., Sang, J. M., & Card, K. G. (2020). Loneliness and self-rated physical health among gay, bisexual and other men who have sex with men in Vancouver, Canada. *Journal of Epidemiology and Community Health*. <https://doi.org/10.1136/jech-2019-213566>
- Maugeri, G., Castrogiovanni, P., Battaglia, G., Pippi, R., D'Agata, V., Palma, A., Di Rosa, M., & Musumeci, G. (2020). The impact of physical activity on psychological health during Covid-19 pandemic in Italy. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e04315>
- Naser, A. Y., Dahmash, E. Z., Al-Rousan, R., Alwafi, H., Alrawashdeh, H. M., Ghoul, I., Abidine, A., Bokhary, M. A., AL-Hadithi, H. T., Ali, D., Abuthawabeh, R., Abdelwahab, G. M., Alhartani, Y. J., Al Muhaisen, H., Dagash, A., & Alyami, H. S. (2020). Mental health status of the general population, healthcare professionals, and university students during 2019 coronavirus disease outbreak in Jordan: A cross-sectional study. *Brain and Behavior*. <https://doi.org/10.1002/brb3.1730>
- Peirlinck, M., Sahli Costabal, F., Linka, K., & Kuhl, E. (2020). Outbreak dynamics of COVID-19 in China and the United States. *medRxiv*, *0123456789*, 2020.04.06.20055863. <https://doi.org/10.1101/2020.04.06.20055863>
- Sandhu, P., & de Wolf, M. (2020). The impact of COVID-19 on the undergraduate medical curriculum. In *Medical Education Online*. <https://doi.org/10.1080/10872981.2020.1764740>
- Sarkodie, S. A., & Owusu, P. A. (2020). Investigating the cases of novel coronavirus disease (COVID-19) in China using dynamic statistical techniques. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e03747>
- Shakil, M. H., Munim, Z. H., TASNIA, M., & Sarowar, S. (2020). COVID-19 and the environment: A critical review and research agenda. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2020.141022>
- Shammi, M., Bodrud-Doza, M., Towfiqul Islam, A. R. M., & Rahman, M. M. (2020). COVID-19 pandemic, socioeconomic crisis and human stress in resource-limited settings: A case from Bangladesh. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e04063>
- Sim, K., Chua, H. C., Vieta, E., & Fernandez, G. (2020). The anatomy of panic buying related to the current COVID-19 pandemic. In *Psychiatry Research*. <https://doi.org/10.1016/j.psychres.2020.113015>

- Stellman, S. D. (2010). Epidemiology, L. Gordis, Fourth ed, 2009, Saunders. *Preventive Medicine*. <https://doi.org/10.1016/j.ypped.2010.02.010>
- Sun, K., Chen, J., & Viboud, C. (2020). Early epidemiological analysis of the coronavirus disease 2019 outbreak based on crowdsourced data: a population-level observational study. *The Lancet Digital Health*. [https://doi.org/10.1016/S2589-7500\(20\)30026-1](https://doi.org/10.1016/S2589-7500(20)30026-1)
- Swerdlow, D. L., & Finelli, L. (2020). Preparation for Possible Sustained Transmission of 2019 Novel Coronavirus: Lessons from Previous Epidemics. In *JAMA - Journal of the American Medical Association*. <https://doi.org/10.1001/jama.2020.1960>
- Tian, S., Hu, N., Lou, J., Chen, K., Kang, X., Xiang, Z., Chen, H., Wang, D., Liu, N., Liu, D., Chen, G., Zhang, Y., Li, D., Li, J., Lian, H., Niu, S., Zhang, L., & Zhang, J. (2020). Characteristics of COVID-19 infection in Beijing. *Journal of Infection*. <https://doi.org/10.1016/j.jinf.2020.02.018>
- United Nations Development Programme. (2020). COVID-19 pandemic Humanity needs leadership and solidarity to defeat the coronavirus. In *United Nations Development Programme*.
- Wang, Y., Di, Y., Ye, J., & Wei, W. (2020). Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China. *Psychology, Health and Medicine*. <https://doi.org/10.1080/13548506.2020.1746817>
- Wong, J., Goh, Q. Y., Tan, Z., Lie, S. A., Tay, Y. C., Ng, S. Y., & Soh, C. R. (2020). Preparing for a COVID-19 pandemic: a review of operating room outbreak response measures in a large tertiary hospital in Singapore. *Canadian Journal of Anesthesia*. <https://doi.org/10.1007/s12630-020-01620-9>
- World Health Organization. (2020). *WHO Coronavirus Disease (COVID-19) Dashboard*. World Health Organization.
- Wu, Y., Jing, W., Liu, J., Ma, Q., Yuan, J., Wang, Y., Du, M., & Liu, M. (2020). Effects of temperature and humidity on the daily new cases and new deaths of COVID-19 in 166 countries. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2020.139051>
- Zhou, G., Chen, S., & Chen, Z. (2020). Back to the spring of Wuhan: facts and hope of COVID-19 outbreak. *Frontiers of Medicine*, 1–4. <https://doi.org/10.1007/s11684-020-0758-9>