A Systematic Literature Review on the Impacts of the COVID-19 Pandemic on Labour Issues in Asian Countries

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Abstract: The COVID-19 pandemic, also known as the Coronavirus pandemic, that started hitting the world in December 2019, has affected the ways people live and work and the standard operating procedures by which the activities of industries and organisations are conducted worldwide. Many organisations have begun to adopt new ways of working by using teleworking or a work-from-home policy to effectively adapt to the new normal. This study aims to analyse the existing literature on the impacts of the COVID-19 pandemic on labour issues in Asian countries. Using the PRISMA Statement (Preferred Reporting Items for Systematic reviews and Meta-Analyses) review method, the present study identifies twenty related studies with a systematic review of the Scopus and Web of Science databases. The review of these articles focuses on three main themes: health, work from home and livelihood, which are further divided into nine sub-themes. This study offers several significant contributions to knowledge and practical implementations. It provides researchers with information and ideas from a review and analysis of previous research to get a general view of the impact of the COVID-19 pandemic on labour issues in Asian countries. Accordingly, the contributions from this research may indirectly provide ideas to government, institutions, or agencies to develop effective labour policies in managing the new norms.

Keywords: Labour impacts, COVID-19, Asian countries regions

Introduction

Coronavirus Disease 2019 (COVID-19) is a disease that began in Wuhan, China, and spread fast throughout the country and the whole world. It is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). COVID-19 is so infectious, that by November 2021 it has spread to more than 270 million individuals and killed more than 5 million people globally. Furthermore, the COVID-19 pandemic has also created a massive economic dilemma and driven large-scale businesses to close, leading to a loss of jobs. Simultaneously, the number of people obtaining irregular salaries, low wages, or working without formal contracts continues to rise. Healthcare providers risk losing their lives and perhaps becoming a transmission source in their community while performing their professional tasks. Physical risks are further compounded by concurrent mental health issues (Zhu et al., 2020).

Furthermore, according to the World Health Organisation (WHO) Coronavirus Disease (2020), more than 115,000 health care workers died globally due to the coronavirus. This shows that frontline workers, such as doctors and nurses, who provide COVID-19 patients with life-saving treatments significantly risk experiencing mass trauma. According to Arnetz (2020), frontline workers experience severe physical and psychological strain because of physical exhaustion from increasing workload, the risk of transmission,

particularly with an insufficient supply of personal protective equipment (PPE) and ethical-moral dilemmas when seeking to treat their patients. It is recognised that psychological stress is a serious issue (Alwani et al., 2020; Luo et al., 2020).

This outbreak has also caused unparalleled disruption in social connections and working environments in many walks of life. Kraemer (2020) reported that unprecedented measures such as lockdowns, movement restrictions, physical distancing rules and school and workplace closures were implemented to prevent the spread of the pandemic. Besides that, according to the World Health Organisation: Regional Office for Europe (2011), economic downturns have a massive effect on the emotional and psychological well-being of people whose finances are severely affected. Mental health issues are also linked to population health factors, such as deprivation, inequality, poverty, and other social and economic indicators. According to Frasquilho (2016), the prevalence of mental health problems, which include common mental illnesses, substance-related disorders and suicidal ideation and behaviours, is higher during economic distress than during regular periods. During pandemics of COVID-19, a particular group of people, such as those who are unemployed, in debt or suffering financial difficulties, may be directly affected by the economic burden, which may inevitably cause severe psychological implications. However, during the Covid-19 pandemic, work conditions significantly changed. Allowing their labour to work from home, also known as remote working, teleworking and telecommuting, is something that organisations may now accommodate. Working from home is a radical change, especially during this pandemic, and labourers should take their time to adapt to the new situation. It also significantly impacts the company's human resource function (Bao et al., 2022).

This outbreak reminds every individual to have a solid life plan considering mental health, patterns of work environment and adaptability to income shocks. This unique study explores the impacts of the COVID-19 pandemic on labour issues in Asian countries through three key themes: health issues, work from home and livelihood. Malaysia, Indonesia, Thailand, Vietnam, Pakistan, Bangladesh, India, Japan and China are the Asian countries involved in this study. According to Siddiqui (2020), India slipped into one of the world's most severe lockdown restricting 1.3 billion people to their homes, which is more than those imposed in China, where even at the height of the pandemic there were 0.76 billion. As of June 12, 2020, a total number of 297,535 confirmed cases infected with COVID-19, which is 0.02 percent of India's population were found in India; however, 99.98 percent of the population faced financial hardship about their well-being and life (World Health Organisation, 2020). According to the International Labour Organisation (2020), the COVID-19 pandemic will result in a 25 million rise in unemployment, which is more than the 22 million unemployment rates seen during the financial crisis of 2008. Furthermore, newly jobless individuals lowered overall consumption of goods and services, and this caused output in the region to contract by an estimated 6.7 percent in 2020, reflecting the effects of the severe COVID-19 pandemic and nationwide lockdowns, particularly in Bangladesh and India (Max Roser, 2021; Ratna, 2020; Ruch & Ye, 2021). As a result, Asian countries are the worst hit, as Asia has the world's largest population.

Literature Review

Research Gap – The Existing Studies Related to The Impacts of the COVID-19 Pandemic on Labour Issues in Asian Countries

As stated by Dewey and Drahota (2016), a systematic literature review (SLR) is a process that categorises, selects and critically reviews previous studies to answer developed. The SLR is also recognised as an organised and transparent procedure, where the searching effort is conducted throughout many databases and similar processes are often reproduced by other scholars. The SLR also provides information about the review process, such as keywords utilised and article selection.

According to a previous study, many scholars have studied from multiple perspectives how labourers coped with the impact of the COVID-19 pandemic. Apart from that, led by the recent pandemic outbreak, many studies have focused on the various reactions and responses from labour to the impact of COVID-19, yet there is still a lack of scholars who have systematically reviewed the previous studies. As stated by

Robinson and Lowe (2015), it is important to review past studies systematically as traditional literature review has several issues such as incomprehensiveness, high susceptibility of reviewer bias and insufficient account of differences within the quality of studies.

This SLR attempts to analyse the existing literature review from previous studies on the impacts of the COVID-19 pandemic on labour issues in Asian countries. This study attempts to fill the gap in understanding the COVID-19 pandemic impacts and identify and characterise how the COVID-19 pandemic differently affects labour issues in Asian countries, such as health issues, work from home and livelihood. Nevertheless, some studies focussed only on one effect, such as income loss or financial distress in terms of liquid assets (Roll et al., 2020). Some previous studies focused on countries that are not Asian countries (Lemieux et al., 2020; Roll et al., 2020; Radulescu et al., 2021), such as Canada, the United States and Romania. This study is important because far too little attention has been paid to a holistic baseline on the status of the impact of the COVID-19 pandemic on labour issues in the region of Asia. To construct a relevant SLR, the current article is guided by the main research question – What effect has the COVID-19 pandemic had on labour issues in Asian countries? The focus of the study was the impact of the COVID-19 pandemic on labour issues in Asian countries. This study focuses on Asian labour because the Asian region with the world's largest population is expected to have more experience with the impacts of the COVID-19 pandemic on health issues, work from home and livelihood. A study carried out by Chui et al. (2021), for instance, placed their interest on groups settled in Malaysia, Zeng et al. (2021) on China, and Ruengorn et al. (2021) on Thailand, while Hayat et al. (2021) on Pakistan. Knowing where the peer-review literature has focused so far will help us understand the emphasis and future necessary attention.

This study offers some important theoretical and practical contributions to the body of knowledge. By referring to the study, interested parties such as the public in general and academics may understand the mounting need to integrate knowledge regarding the COVID-19 pandemic impacts on labour and changes in working environments, new norms and practices. This study also narrows the existing information gap on health and economic crises among labourers in policymaking development. In addition, this study also allows parties with authorities such as policymakers, employers, labour unions, health authorities and healthcare providers to understand the current procedures and practices, assisting them in developing strategic adaptation plans in accordance with the demands, interests and abilities of labourers in Asian countries. Finally, the findings of this study provide insights about specific and focused areas and research contents and ideas for future research.

Methodology

Articles related to the impact of the COVID-19 pandemic on labour issues in Asian countries were retrieved in three main themes, namely health issues, work from home and livelihood. PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method, along with the eligibility and exclusion criteria, was used by the reviewers by resourcing from the Scopus and Web of Science databases to conduct the SLR. Identification, screening, and eligibility, and data abstraction and analysis, are all phases in the review process.

PRISMA

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement serves as a guideline for the review. According to Sierra-Correa and Cantera Kintz (2015), PRISMA, frequently used in the field of human resource management, provides three unique advantages, including identifying clear research questions that permit systematic review. Second, it also helps to determine inclusion and exclusion criteria. Lastly, it attempts to examine a large database of scientific literature in a defined time. In evaluating the effect of an outbreak, the PRISMA statement enables a complete search of term-related information. This approach might be used to track the impact of the COVID-19 pandemic on labour issues in Asian

countries in terms of health issues, work from home and livelihood to help them adjust to the new work environment.

Resources

The review used Scopus and Web of Science (WoS), two major journal databases. Scopus has more than 22,800 journals from 5000 publishers all across the world, making it one of the largest abstract and citation databases of peer-reviewed literature. Scopus covers a wide range of areas, including social sciences, environmental sciences, agriculture and biology. Additionally, Web of Science (WoS) is the review's second database. It also fundamentally provides a universal search language, navigation environment and data structure that allow researchers to search widely across data centres, navigate to relevant previous research and analyse impact using the citation links inherent in the index. Clarivate Analytics has compiled nearly a decade's worth of backfile and citation data.

Eligibility and exclusion criteria

Several criteria for inclusion and exclusion were established. To begin with, only journal articles with empirical data were chosen; thus, books, book series, book reviews, conference proceedings and review articles were rejected. Importantly, to prevent any inconsistency or difficulty in translation, the search attempts excluded non-English sources and focused solely on English-language information. Moreover, in terms of timeframe, as we all know, the COVID-19 pandemic is a relatively recent subject that began to be discussed at the end of 2019. As a result, the majority of recent research was conducted between 2020 and 2021, a long enough time range to see the progress of relevant research and publications. Articles published in social science-based indexes were chosen because the evaluation process concentrated on the effects of the COVID-19 pandemic on labour, whereas articles published in a hard science index (Science Citation Indexed Expanded) were not included. Finally, only articles on Asian regions were chosen in keeping with the overall objectives of focusing on labour.

Systematic literature review process

The SLR procedure was divided into four sections. The first phase defined the terms utilised in the search. The terms comparable to and connected to the COVID-19 pandemic, effects and labour were used based on past research and thesaurus. Two redundant items were eliminated at this stage, followed by the next step which was a meticulous screening process. In this process, 18 of 57 items that were found eligible for evaluation were deleted. The complete articles were accessed in the eligibility stage. After a careful review, 19 publications were eliminated because they did not emphasise labour implications, were not empirical studies and did not emphasise Asian countries. The last round of the evaluation yielded 20 articles for qualitative analysis.

Data abstraction and analysis

The remaining parts of the review articles were evaluated and analysed. Efforts were focused on research that answered the issues being addressed. The information was gathered by reading the abstracts first, followed by scanning the entire article in detail to find relevant topics and sub-themes. Themes linked to the effects of the COVID-19 pandemic on labour issues in Asian countries were identified through qualitative research using the content analysis method. And finally, the authors structured sub-themes around the objective topics.

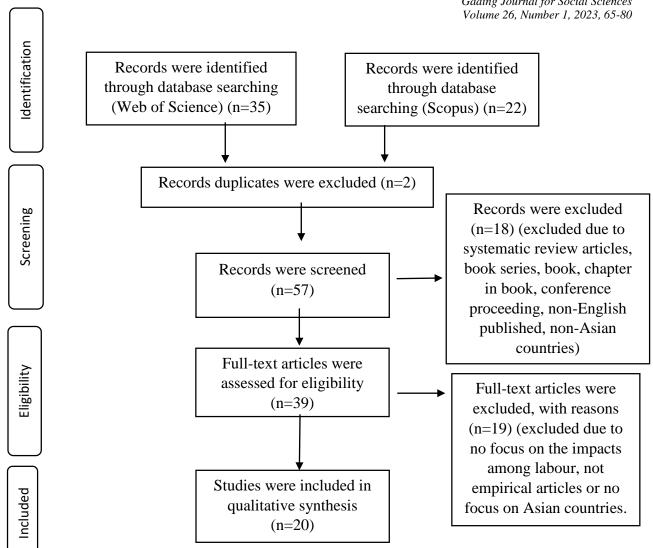


Fig. 1 The flow diagram of the study

 Table 1 The findings

Authors/ Countries	Main study design	Health issues			Work from home			Livelihood		
		MH	EW	SD	TM	EP	DT	JL	II	FD
Chui et al. (2021) – Malaysia	QN	1	/							
Faroq and Sultana (2021) - India	MM				/	1				
Goyal et al. (2021) – India	QN									/
Hayat et al. (2021) – Pakistan	QN	/								
Hoang et al. (2021) - Vietnam	QN		/							
Irawanto et al. (2021) - Indonesia	QN				/					
Kitagawa et al. (2021) -Japan	QN	/	/			/				
Mohd Salleh Sahimi et al. (2021) –	QN	/								
Malaysia										
Pham et al. (2021) – Vietnam	MM		/		/					
Rahaman et al. (2021) – India	QN	/						/	/	/
Ruengorn et al. (2021) - Thailand	QN							/	/	/
Song et al. (2020) - China	QN	/								
Subhas et al. (2021) – Malaysia	QN	/								
Subramaniam et al. (2021) - India	QL				/		1			
Sultana et al. (2021) – Bangladesh	QN								/	/
Sunil et al. (2021) – India	QN	/	/	/						
Vyas and Butakhieo (2021) - China	QL				/					
Wang et al. (2020) – China	QN	/		/						
Wolor et al. (2021) – Indonesia	MM		/		/	/				
Zeng et al. (2021) – China	QN	1		1						
Health Issues		Work from hom	e		Livelihood					
MH = Mental health		TM = Time management between work-			JL = Job loss					
EW = Emotional well-being		life balance			II = Income instability/loss					
SD = Sleep disturbance/quality		EP = Employee productivity DT = Digital transformation			FD = Financial distress					

QN = Quantitative; QL = Qualitative; MM = Mix Method

Findings and Discussion

The review resulted in three main themes and nine sub-themes related to the impacts of the COVID-19 pandemic. Table 1 outlines the three main themes: (1) health issues with three sub-themes: mental health, emotional well-being, and sleep disturbance/quality; (2) work from home with three sub-themes: time management between work - life balance, employee productivity, and financial distress. The results provided a comprehensive analysis of the current impacts of the COVID-19 pandemic on labour issues in Asian countries.

A total of five studies focused on Indian labour issues (Farooq & Sultana, 2021; Goyal et al., 2021; Rahaman et al., 2021; Subramaniam et al., 2021; Sunil et al., 2021); four studies concentrated on labour issues in China (Song et al., 2020; Vyas & Butakhieo, 2021; Wang et al., 2020; Zheng et al., 2021); three studies focused on Malaysian labour issues (Chui et al., 2021; Mohd Salleh Sahimi et al., 2021; Subhas et al., 2021); two studies concentrated on Indonesian labour issues (Irawanto et al., 2021; Colour et al., 2021); and two more studies focused on Vietnamese labour issues (Hoang et al., 2021; Pham et al., 2021). Besides these, one study focused on Bangladeshi labour issues (Sultana et al., 2021); one study conducted by Kitagawa et al. (2021) concentrated on Japanese labour issues; Hayat et al. (2021) focused on labour issues in Pakistan, and Ruengorn et al. (2021) focused on issues among labourers in Thailand.

In addition, two studies applied a qualitative approach, while three more studies employed a mixed-methods research design that combines qualitative and quantitative approaches. The remaining studies (15) used quantitative analytical methods. Regarding years of publication, two articles were published in 2020, while 18 remaining studies were published in 2021.

Impacts of the Covid-19 pandemic on labour issues in Asian countries

This section concentrates on the main impacts of the COVID-19 pandemic on labour issues in Asian countries, such as health issues, work from home and livelihood.

Health issues

A total of 16 of 20 studies reported health issues as one of the impacts of the COVID-19 pandemic on labour issues in Asian countries. A total of three sub-themes emerged under this theme, namely mental health, emotional well-being and sleep disturbance or quality. Eleven studies focused on mental health, six studies looked into emotional well-being, and two studies focused on sleep disturbance or quality.

The first sub-theme is mental health. A study on Malaysian labour found that among 1,057 nurses who responded to the online survey, one in every eight nurses reported feeling depressed, and nurses with chronic health issues reported significantly higher levels of depression than nurses with no serious problems (Chui et al., 2021). According to the same study, exhaustion (60.1%), tense muscles, sore neck and back pain (47.7%), eating too much or too little (42.1%) and difficulty falling asleep (41.6%) were the most frequent stress symptoms reported by nurses (Chui et al., 2021). Numerous studies showed that, among all labourers, healthcare workers were at risk of developing mental disorders owing to their extensive workload, inadequate personal protection equipment (PPEs), fear of catching the infection and lack of social contacts (Hayat et al., 2021). In addition to that, a study in Pakistan also showed that health care workers reported a median depression and anxiety score of 5.00 (7.00–3.00) and 8.00 (11.00–5.00), respectively (Hayat et al., 2021). Besides that, Hayat et al. (2021) also found that a significant majority of healthcare workers (82.2%) use online psychological tools to cope with psychological distress, while nurses, female healthcare workers, frontline healthcare workers, and healthcare workers aged 30-49 years were more likely to suffer from anxiety and depression. In response to this, Sunil et al. (2021) found that clinical and nonclinical healthcare workers in India experienced severe anxiety and depression (6.7% of respondents), whereas 8.0% and 32.3% of those surveyed had mild to severe anxiety depression, respectively. This study showed that clinical and nonclinical healthcare workers in India do not significantly differ in their levels of anxiety and depression. During the lockdown, a large proportion of stranded labourers (57%) always felt anxious about COVID-19 infection; a good proportion of them (31%) felt anxious sometimes, while a small minority (12%) did not feel anxious at all (Rahaman et al., 2021).

In terms of mental health, a study carried out in Hubei Province in China also found that almost a quarter of the respondents among the medical workers and non-medical workers experienced anxiety (22.6%), and a good proportion exhibited depressive symptoms (35%) during the early outbreak of COVID-19 (Wang et al., 2020). Moreover, research done in Ningbo, China, found that just over a quarter of 207 participants surveyed showed mental symptoms (27.05%), mainly manifested as obsessive-compulsive disorder (Zheng et al., 2021). Research carried out by Song et al. (2020) discovered that anxiety, depression, insomnia and somatisation were reported by 12.7%, 13.5%, 20.7% and 6.6% of Chinese labourers, respectively. The study also highlighted that worrying about unemployment was the most significant risk factor for mental health, whereas psychological characteristics, such as resilience and optimism, were the most significant protective factors (Song et al., 2020). In addition, Subhas et al. (2021) claimed that frontline healthcare workers in Selangor, Malaysia, significantly showed a relationship between COVID-19 stress and predicted anxiety and depression. In Malaysia, a survey of healthcare workers found that self-perception of risk and attitude towards infectious diseases are related to health anxiety.

A unique survey conducted in Japan at four manufacturing firms found that labourers who worked from home had better mental health than those who could not work from home (Kitagawa et al., 2021).

The second sub-theme of health issues is emotional well-being. Several studies have concluded that labourers' emotional well-being was affected throughout the COVID-19 pandemic. Due to stress conditions among clinical and nonclinical healthcare workers in India, the minority of the respondents had high perceived stress (6.4%), while almost half of the respondents had moderate (47.6%) and low stress (46.0%), respectively, and no significant difference in stress was found between healthcare workers, both clinical and nonclinical (Sunil et al., 2021). A study conducted among healthcare workers and the general community in Vietnam showed that 310 participants (16.1%) had poor emotional well-being (Hoang et al., 2021). Chui et al. (2021) discovered that over three-quarters of the 859 Malaysian nurses who were actively involved in caring for their patients with suspected or confirmed COVID-19 cases reported stress (77.2%), with a significant majority revealing a moderate stress level (88.7%), while a significant minority revealed a high-stress level (7.2%). This study showed that nurses in the outpatient department reported significantly higher levels of stress than nurses in the inpatient care department (Chui et al., 2021). The study also highlighted that the most frequent stress symptoms were fatigue (60% of the respondents), tense muscles, sore neck and back pain (47.7%), eating too little or too much (42.1%) and trouble falling asleep (41.6%).

Finally, the third sub-theme of health issues caused by the COVID-19 pandemic is sleep disturbances among labourers in some Asian countries. A study conducted by Sunil et al. (2021) discovered that India's clinical and nonclinical healthcare workers had moderate insomnia (7.3%), severe insomnia (3.8%) and sub-threshold insomnia (20.8%). On the other hand, Wang et al. (2021) claimed that almost two-thirds of the respondents (61.6%) from clinical and nonclinical staff in Hubei, China, reported having sleep problems during an early Covid-19 pandemic. The same study found that, the prevalence of sleep disturbances was higher among frontline healthcare workers than among non-frontline and non-medical workers (Wang et al., 2021). Furthermore, using logistic regression analysis, it was discovered that medical occupation, family burden, sadness, anxiety, and depression were significant predictors of poor sleep quality (Wang et al., 2021). In Ningbo, China, 207 participants recruited among medical workers were found to have poor sleep quality (34.30%); and most them manifested sleep disturbance (92.75%) (Zheng et al., 2021). Zheng et al. (2021) also highlighted that male nurses with more than 15 working years on more night shifts and supporting Wuhan were all linked to poor sleep quality in multivariate logistic analysis.

Working from home

Working from home is often featured in studies on the impacts of the COVID-19 pandemic on labour issues. A total of seven articles reported work from home policy as an impact of the pandemic on labourers in

Asian countries. Three sub-themes were identified under this theme, namely time management to achieve work-life balance, employee productivity and digital transformation. Five studies focused on time management for work-life balance, three studies looked into employee productivity, and one study focussed on digital transformation.

Due to the highly increased number of COVID-19 daily cases, several organisations began implementing a new way of working, such as teleworking or a work from home policy, to successfully adapt to these adjustments. The first sub-theme highlighted on working from home is time management for work-life balance, which may affect labour performance, either positively or negatively. A study conducted in Indonesia with 472 workers who were required to work from home found that working from home had a significant and negative impact on work-life balance (Irawanto et al., 2021). Furthermore, research conducted among healthcare workers during the nationwide partial lockdown in Vietnam showed that the life and work of healthcare workers were marginally affected by the pandemic COVID-19 (Pham et al., 2021). However, a research study in India showed that technology, automation, and collaboration (TAC) were the major positive aspects that enabled labourers to work from home or anywhere, leading to the third positive factor of work-life balance (Subramaniam et al., 2021). Besides that, a study conducted in Indonesia also revealed sufficient evidence that working from home improved work-life balance (Wolor et al., 2021). According to a study conducted by Vyas and Butakhieo (2021), over 80% of workers in Hong Kong, China preferred at least partial work from home measures in place because most workers agreed that by working from home, they got more time for rest, less work-related stress, and better work-life balance.

Another sub-theme under the theme of work from home is employee productivity among Asian labourers. Working from home has been shown in several studies to increase job productivity. Nevertheless, several other studies have also shown that working from home reduces labour productivity (Wolor et al., 2021). A study conducted in India by Farooq and Sultana (2021) showed that working from home reduced employee productivity during the COVID-19 pandemic. This indicates that workers who work from home struggled to adjust to their new workplace reality, and they were more likely to report ineffective communication, which may have an impact on employee productivity. Unique surveys conducted in Japan at four manufacturing firms showed that labourers who worked from home experienced productivity declines more than those who did not, and the major reasons for productivity losses were poor work from home setups and communication difficulties (Kitagawa et al., 2021). However, a study carried out by Wolor et al. (2021) discovered that work-life balance and job-related stress had an effect on productivity, while working from home had no effect.

Subsequently, in terms of the next sub-theme, which is digital transformation, a study in India emphasised digital transformation, showing that COVID-19 was a driver of digital transformation, and 94% of the respondents agreed that COVID-19 was a driver of digital transformation (Subramaniam et al., 2021).

Livelihood

A total of four studies reported livelihood as an impact of the COVID-19 pandemic on labour issues in Asian countries. Under this theme, three sub-themes were identified, namely job loss, income instability or income loss and financial distress. Two studies focused on job loss, three studies looked into income instability or income loss, and four studies focused on financial distress.

The first sub-theme highlighted on livelihood is job loss. The early impact of the COVID-19 pandemic provides crucial insights on the economic burden indicators of job loss, income loss, and financial problems (Ruengorn et al., 2021). A cross-sectional survey was conducted in Thailand with 2,303 individuals aged 18 and above who had employment or full-time jobs before the national lockdown between April and May 2020. Their findings showed that 11.4% of the participants ended up losing their jobs (Ruengorn et al., 2021). A study carried out by Rahaman et al. (2021) in India also showed that 80% of stranded migrant labourers during the lockdown lost their jobs.

Another impact of the COVID-19 pandemic revolving around the second sub-theme of livelihood is income instability or income loss among Asian labourers. According to Ruengorn et al. (2021), 16.2% and 32.8% of 2,303 participants involved in their study in Thailand reported monthly income losses of less than

50% and 50% or above, respectively. A study that examined the risk of COVID-19 transmission among stranded migrant labourers in India reported that 86% of the labourers did not receive any wages from their employers during the lockdown, and only 14% received wages, with 13% receiving partial payment, and only 1% receiving full payment. (Rahaman et al., 2021). According to research performed in Bangladesh, one-fourth of the respondents did not get a salary due to the terrible pandemic scenario (Sultana et al., 2021).

As a final point, the third sub-theme of livelihood is financial distress. In some Asian countries, labourers were affected by the COVID-19 pandemic and found themselves in financial distress. A study conducted in India by Goyal et al. (2021) discovered that workers claimed to be significantly affected by the pandemic in various dimensions of financial distress due to their reduced income and increased expenses. The study also found that workers expressed financial concerns during the pandemic, which might affect their economic well-being. Responding to financial distress, labourers decreased their expenses and looked for additional income sources. Rahaman et al. (2021) also found that during the COVID-19 lockdown in India, a significant number of stranded migrant labourers severely (59%) experienced financial crisis, followed by sometimes (22%). However, a minority of the respondents reported that they never (18%) experienced a financial crisis during the COVID-19 lockdown in India. Meanwhile, recent studies by Sultana et al. (2021) and Ruengorn et al. (2021) revealed that participants who self-reported financial problems and were not provided with any salary during the critical pandemic situation were more likely to develop depressive symptoms, anxiety symptoms and perceived stress.

This study attempted to systematically review and analyse the existing literature regarding the impacts of the COVID-19 pandemic on labour issues in Asian countries. The COVID-19 pandemic has created an unprecedented disruption in both cross- and longitudinal social interactions and working conditions (Lai et al., 2020). A rigorous review of two databases has resulted in 20 articles on labour issues in Asian countries. The results indicate that Asian labourers were highly affected by the effects of the COVID-19 pandemic. Within the scope of this review, three themes and nine sub-themes have emerged. Health issues, work from home and livelihood are three main impacts of the COVID-19 pandemic on labour issues in Asian countries.

Asian labourers have been affected by both physical and mental health issues because of the COVID-19 pandemic. The COVID-19 pandemic is a major public health issue that has spread over the world, causing psychological distress and symptoms of mental illnesses (Ahmed et al., 2020; Bao et al., 2020; Huang & Zhao, 2020; Lai et al., 2020; Rajkumar, 2020). Drawing on the study by Chui et al. (2021), for example, during the COVID-19 pandemic, more than three-quarters of Malaysian nurses were stressed. The most likely stresses among nurses during the early wave of the COVID-19 pandemic were a lack of sufficient guidelines and ineffective communication, especially with rapidly changing information and emerging facts regarding the pandemic (Ives et al., 2009; Liu et al., 2009). According to Fernandez et al. (2020), nurses relied on their organisations to continuously offer and present accurate and easy-tounderstand information about the pandemic. So, if the information was easily accessible, it would help labourers reduce their stress. Mental health issues among healthcare workers require special attention because stress can and does impair their attention, cognitive functioning, and decision-making, particularly in the clinical area (Panagioti et al., 2018); meanwhile, overwhelming stress can lead to burnout, which may jeopardise patients' safety (Garcia et al., 2019). Previous studies have mentioned that nurses who delivered direct care to patients infected with infectious diseases such as SARS, Ebola, 9 MERS-CoV, and H1N1 experienced anxiety, loneliness, fatigue, sleep disturbances, and other mental and physical health issues (Khalid et al., 2016). Their anxiety and fears are commonly linked to seeing their peers or co-workers become infected and facing death, not only because of COVID-19 but also because of other illnesses or cardiac collapse induced by overwork and exhaustion. These studies proved that labourers, especially those working on the frontlines, such as healthcare workers, who were more exposed to treating infections, were greatly affected by the COVID-19 crisis.

Furthermore, a previous study reported that the effect of psychological discomfort differed depending on gender. Numerous studies have found that females were 1.6 times more likely than men to experience mental distress due to hormonal fluctuations between men and women (Albert, 2015; Bartels et al., 2013).

Pappa et al. (2020) noted that female healthcare workers reported more mood symptoms than male healthcare workers, similar to the trend of a higher prevalence of depression and anxiety in women. Besides, sleep disturbance or quality among workers is also one of the main impacts of the COVID-19 pandemic on labour issues. When comparing non-frontline and non-healthcare professionals, it was found that frontline healthcare workers were more likely to suffer from severe sleep disturbances. In addition, a recent study found that 39.2% of Chinese medical staff suffered from sleep disturbances (Qiu et al., 2020). Poor sleep quality might be caused by overwork and intense psychological strain in the medical field. According to Dahlgren et al. (2005), stress and negative emotions can affect sleep, and disturbed sleep can exacerbate the occurrences and development of mental health problems (Lin et al., 2018; Xiao et al., 2020). The findings of these studies showed that immediate actions are required to avoid potential mental health problems among labourers, especially healthcare workers. This indicates that the COVID-19 pandemic had devastatingly influenced labour worldwide, particularly healthcare workers. According to one research, the COVID-19 pandemic has had a significant and often devastating physical and psychological impact on labourers, particularly healthcare workers, from its onset (Cui et al., 2021). As a result, employers must address their employees' health issues, including mental health, emotional well-being and sleep disturbances or sleep quality, to ensure that both parties can benefit during this difficult time.

Another impact of the COVID-19 pandemic on labour issues involves working from home policy, whereby labourers in Asian countries had to adapt to new ways of time management to achieve work-life balance, employee productivity and digital transformations. During pandemic Covid-19, many companies and organisations worldwide have practised the work from home policy, which provided their employees with flexibility. In other words, work from home is described as working outside a physical workplace. Meanwhile, work-life balance is described as maintaining stability in the employees' family or personal life and career or job (Jyothi & Jyothi, 2012). The concept of work-life balance is based on the belief that a worker's professional and personal lives should complement one another to achieve life's perfection. However, work-life balance can have a positive and negative impact on labour performance. This is because work-life imbalance can cause low productivity and decrease a worker's performance in an organisation (Konrad & Mangel, 2000). Lacking the necessary resources to fulfil both work and family roles may also cause an individual to be stressed. Results were drawn from a study done by Irawanto et al. (2021), confirming that working from home significantly and negatively affects work-life balance. This is because workers who have difficulty accessing appropriate information technology (IT) infrastructure are required to evaluate this new working style, particularly for tasks requiring full assistance from the Information Communication Technology (ICT) department.

In addition, working from home has also had significant and adverse effects on time management for work-life balance (Irawanto et al., 2021) as workers can not handle their focus between professional and personal life. After all, workers are still accustomed to working set hours. Furthermore, drawing lines between professional and personal life to achieve a work-life balance is difficult, especially during a pandemic with numerous restrictions. In addition, according to Baker et al. (2007), family factors also influence the attention of workers who work from home. For example, household characteristics, such as the size of the living area, the number of family members in the same accommodation and the number or age of children in the household, are considered family factors influencing work-life balance, especially when working from home (Baker et al., 2007). This simply proves that work-life balance is difficult to achieve when working from home, especially during a pandemic.

In terms of employee productivity, one study found that working from home decreased employee productivity during the COVID-19 pandemic (Farooq & Sultana, 2021). This indicates that individuals who work from home struggle to adjust to their new work environment and are more likely to complain about poor communication, which can reduce productivity. Furthermore, organisations face a challenge in ensuring workers' productivity when working from home during a pandemic because no mechanisms are in place to track productive and non-productive working hours. As a result, working from home causes productivity loss rather than efficiency because of a lack of face-to-face interaction with co-workers, time to coordinate, and remote help from technical teams. In a recent study, Morikawa (2021) identified four factors influencing the implementation and productivity of work from home: a poor telecommunication

environment at home compared to the workplace, lack of private room specifically designed for work, lack of quick communication that is only possible through face-to-face interactions with co-workers at the workplace and lack of pressure from the boss, colleagues and subordinates.

However, several previous studies claimed that working from home improves employee productivity (Baker et al., 2007; Lim & Teo, 2000), lowered employee absence levels, reduced employee turnover rates. developed more innovative employees, and increased job satisfaction (Frolick et al., 1993; Singh et al., 2017). These findings were surprisingly contrasted with other previous research. Past studies also highlighted that working from home provided employees with high flexibility in managing their time by allowing them to work while taking care of their families at home (Delecta, 2011; Dow-Clarke, 2002). Nwosu et al. (2020) stated that workers with a balanced work-life can effectively manage to their work and life. Adaptation to digital transformation during work from home sessions has had a tremendous impact on labour to ensure that they can adapt to the teleworking. According to Subramaniam et al. (2021), 94 % of the respondents in their study agreed that COVID-19 is a driver of digital transformation. Various advantages and disadvantages of digital transformation were found during the COVID-19 pandemic. One of the advantages is that digital transformation can enable labourers to work from anywhere by reducing geographical barriers and reliance on offices. In these cases, the geographical barrier may contribute to employment creation, particularly in developing countries. However, the disadvantages of digital transformation were also recorded, including a lack of work-life balance, social and employment challenges, as well as data, security, and technological concerns. As a result, allowing workers to work from home and in the office at the same time is expected to increase employee productivity while maintaining a work-life balance and keeping employee stress to a manageable level.

Apart from that, labourers' livelihoods have also been largely affected by the Covid-19 pandemic. Ruengorn et al. (2021) found that among the general population employed before the national lockdown in Thailand, 11.4% of the respondents became unemployed, while 16.2% and 32.8% reported monthly income losses of less than 50% and 50% or above, respectively. Additionally, 51.9% of the respondents reported financial problems related to the COVID-19 outbreak. During the pandemic crisis, household incomes were reduced, and expenses were increased. This brings about a financial concern that may impact financial well-being amidst the pandemic crisis. Economic burdens, especially financial problems, were also linked with adverse mental health outcomes, namely depression symptoms, anxiety symptoms and perceived stress. According to Sultana et al. (2021), labourers who were dissatisfied with their income also suffered from anxiety and depression symptoms. The report also indicated that labourers who lost a source of income were more likely to be anxious and depressed, particularly in countries where the COVID-19 pandemic has severely disturbed employment status. The usefulness of emergency money and various sources of income are the two most important financial lessons learnt from the current crisis. This study revealed that the financial burden created by a pandemic had affected livelihoods, particularly financial problems, and was linked to negative mental health outcomes, including depression, anxiety and stress.

Conclusion

This systematic literature review has highlighted the impacts of the COVID-19 pandemic on labour issues in Asian countries. In the context of Asian countries, due to the implementation of movement control orders, inflicted changes, such as work procedures, movement constraints, loss of companies and individual jobs, closure of premises and retrenchment of employees, have affected the quality and quantity of labour productivity. In response to this, labour has shown a significant impact of the Covid-19 pandemic on labour issues in Asian countries. Based on the systematic literature review, previous authors have identified three impacts of Covid-19 on labour issues, namely health issues, work from home and livelihood. These impacts of the COVID-19 pandemic were further extended to 9 sub-themes.

This current research has made various important contributions to knowledge and practical applications about the pandemic that has disrupted the whole country for the previous three quarters. It provides academic information and suggestions based on an analysis and review of previous research by

acquiring and presenting a broad perspective of the impact of the COVID-19 pandemic concerning Asian labour. It is hoped that by contributing suggestions to government institutions or agencies, this research may indirectly help policymakers create successful labour policies despite new norms.

Suggestions for Future Research

This review suggests several recommendations for future studies. Further research regarding the impacts of the COVID-19 pandemic on the labours issue, especially in Asian countries, is strongly recommended. This will establish a better understanding of the Asian region, which has the world's largest population that is expected to experience the COVID-19 pandemic impacts to a greater extent. Further research is also suggested to apply a standard systematic review method to guide research synthesis of the COVID-19 pandemic impacts on labour issues.

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References

- Ahmed, M. Z., Ahmed, O., Aibao, Z., Hanbin, S., Siyu, L., & Ahmad, A. (2020). Epidemic of COVID-19 in China and associated psychological problems. *Asian Journal of Psychiatry*, 51, 102092.
- Albert, P. R. (2015). Why is depression more prevalent in women?. *Journal of psychiatry & neuroscience: JPN*, 40(4), 219.
- Alwani, S. S., Majeed, M. M., Hirwani, M. Z., Rauf, S., Saad, S. M., Shah, H., & Hamirani, F. (2020). Evaluation of Knowledge, Practices, Attitude and Anxiety of Pakistan's Nurses towards COVID-19 during the Current Outbreak in Pakistan. *MedR*, xiv.
- Arnetz, J. E., Goetz, C. M., Arnetz, B. B., & Arble, E. (2020). Nurse reports of stressful situations during the COVID-19 pandemic: Qualitative analysis of survey responses. *International Journal of Environmental Research and Public Health*, 17(21), 8126.
- Baker, E., Avery, G. C., & Crawford, J. D. (2007). Satisfaction and perceived productivity when professionals work from home. Research & Practice in Human Resource Management.
- Bao, L., Li, T., Xia, X., Zhu, K., Li, H., & Yang, X. (2022). How does working from home affect developer productivity?- A case study of Baidu during the COVID-19 pandemic. *Science China Information Sciences*, 65(4), 1-15.
- Bao, Y., Sun, Y., Meng, S., Shi, J., & Lu, L. (2020). 2019-nCoV epidemic: address mental health care to empower society. *The Lancet*, 395(10224), e37-e38.
- Bartels, M., Cacioppo, J. T., van Beijsterveldt, T. C., & Boomsma, D. I. (2013). Exploring the association between well-being and psychopathology in adolescents. *Behaviour Genetics*, *43*(3), 177-190.
- Chui, P. L., Chong, M. C., Abdullah, K. L., Ramoo, V., Tang, L. Y., Lee, W. L., ... & Teo, C.H. (2021, October). The COVID-19 Global Pandemic and Its Impact on the Mental Health of Nurses in Malaysia. In *Healthcare*, *9*(10), 1259. Multidisciplinary Digital Publishing Institute.
- Cui, X., He, Y., Gong, J., Luo, X., & Liu, J. (2021). Epidemiology of Sleep Disturbances and Their Effect on Psychological Distress During the COVID-19 Outbreak: A Large National Study in China. *Frontiers in Psychology*, 12, 1957.
- Dahlgren, A., Kecklund, G., & Åkerstedt, T. (2005). Different levels of work-related stress and the effects on sleep, fatigue, and cortisol. *Scandinavian Journal of Work, Environment & Health*, 277-285.
- Delecta, P. (2011). Work-life balance. International Journal of Current Research, 3(4), 186-189.

- Dewey, A., & Drahota, A. (2016). Introduction to systematic reviews: online learning module Cochrane Training. http://training.cochrane.org/interactivelearning/module-1-introduction-conduction-systematic-reviews.
- Dow-Clarke, R. A. (2002). Work-life balance in an industrial setting: Focus on advocacy. *Aaohn Journal*, 50(2), 67-74.
- Farooq, R., & Sultana, A. (2021). The potential impact of the COVID-19 pandemic on Work from home and employee productivity. Measuring Business Excellence.
- Fernandez, R., Lord, H., Halcomb, E., Moxham, L., Middleton, R., Alananzeh, I., & Ellwood, L. (2020). Implications for COVID-19: A systematic review of nurses' experiences of working in acute care hospital settings during a respiratory pandemic. *International Journal of Nursing Studies*, 111, 103637.
- Frasquilho, D., Matos, M. G., Salonna, F., Guerreiro, D., Storti, C. C., Gaspar, T., & Caldas-de-Almeida, J. M. (2015). Mental health outcomes in times of economic recession: a systematic literature review. *BMC public health*, *16*(1), 1-40.
- Frolick, M. N., Wilkes, R. B., & Urwiler, R. (1993). Telecommuting as a workplace alternative: an identification of significant factors in American firms' determination of work-at-home policies. *The Journal of Strategic Information Systems*, 2(3), 206-220.
- Garcia, C. D. L., Abreu, L. C. D., Ramos, J. L. S., Castro, C. F. D. D., Smiderle, F. R. N., Santos, J. A. D., & Bezerra, I. M. P. (2019). Influence of burnout on patient safety: systematic review and meta-analysis. *Medicina*, 55(9), 553.
- Goyal, K., Kumar, S., Rao, P., Colombage, S., & Sharma, A. (2021). Financial distress and COVID-19: evidence from working individuals in India. Qualitative Research in Financial Markets.
- Hayat, K., Arshed, M., Fiaz, I., Afreen, U., Khan, F. U., Khan, T. A., ... & Fang, Y. (2021). Impact of COVID-19 on the Mental Health of Healthcare Workers: A Cross-Sectional Study From Pakistan. *Frontiers in Public Health*, *9*, 410.
- Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry research*, 288, 112954
- India. (2020, June 12). World Health Organization. https://www.who.int/countries/ind
- Irawanto, D. W., Novianti, K. R., & Roz, K. (2021). Work from home: Measuring satisfaction between work-life balance and work stress during the COVID-19 pandemic in Indonesia. *Economies*, 9(3), 96.
- Ives, J., Greenfield, S., Parry, J. M., Draper, H., Gratus, C., Petts, J. I., ... & Wilson, S. (2009). Healthcare workers' attitudes to working during pandemic influenza: a qualitative study. *BMC public health*, 9(1), 1-13.
- Jyothi Sree, V., & Jyothi, P. (2012). Assessing work-life balance: From emotional intelligence and role efficacy of career women. Advances in Management.
- Khalid, I., Khalid, T. J., Qabajah, M. R., Barnard, A. G., & Qushmaq, I. A. (2016). Healthcare workers emotions, perceived stressors and coping strategies during a MERS-CoV outbreak. *Clinical medicine & research*, 14(1), 7-14.
- Kitagawa, R., Kuroda, S., Okudaira, H., & Owan, H. (2021). Working from home and productivity under the COVID-19 pandemic: Using survey data of four manufacturing firms. *PloS one*, *16*(12), e0261761.
- Konrad, A. M., & Mangel, R. (2000). The impact of work-life programs on firm productivity. *Strategic Management Journal*, 21(12), 1225-1237.
- Kraemer, M. U., Yang, C. H., Gutierrez, B., Wu, C. H., Klein, B., Pigott, D. M., ... & Scarpino, S. V. (2020). The effect of human mobility and control measures on the COVID-19 epidemic in China. *Science*, *368*(6490), 493-497.
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., ... & Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA network open*, *3*(3), e203976-e203976.

- Lemieux, T., Milligan, K., Schirle, T., & Skuterud, M. (2020). Initial impacts of the COVID-19 pandemic on the Canadian labour market. *Canadian Public Policy*, 46(S1), S55-S65.
- Lim, V. K., & Teo, T. S. (2000). To work or not to work at home-An empirical investigation of factors affecting attitudes towards teleworking. *Journal of Managerial Psychology*, 15(6), 560-586.
- Liu, H., & Liehr, P. (2009). Instructive messages from Chinese nurses' stories of caring for SARS patients. *Journal of Clinical Nursing*, 18(20), 2880-2887.
- Max Roser HR-O (2021). *Coronavirus pandemic (COVID-19)*. Retrieved January 10, 2021, from Country-by-country data on confirmed COVID-19 cases: https://ourworldindata.org/coronavirus
- Mohd Salleh Sahimi, H., Azman, N., Nik Jaafar, N. R., Mohd Daud, T. I., Baharudin, A., Ismail, A. K., ... & Mohammed Nawi, A. (2021). Health Anxiety and Its Correlations with Self-Perceived Risk and Attitude on COVID-19 among Malaysian Healthcare Workers during the Pandemic. *International Journal of Environmental Research and Public Health*, 18(9), 4879.
- Morikawa, M. (2021). How does working from home impact productivity. In Retrieved from World Economic Forum: https://www.weforum.org/agenda/2021/03/study-how-doesworking-from-home-helpproductivity/#:~: text= The% 20average% 20productivity% 20of (Vol. 20).
- Nwosu, H. E., Ugwu, J. N., Okezie, B. N., Udeze, C. C., Azubuike, N. U., & Adama, L. (2020). Employee mentoring, career success and organizational success. *Humanities and* A., Panagopoulou, E., Chew-Graham, C., ... & Esmail, A. (2018). Association between physician burnout and patient safety, professionalism, and patient satisfaction: a systematic review and meta-analysis. *JAMA internal medicine*, 178(10), 1317-1331.
- Pappa, S., Sakkas, N., & Sakka, E. (2022). A year in review: sleep dysfunction and psychological distress in healthcare workers during the COVID-19 pandemic. *Sleep medicine*, *91*, 237-245.
- Pham, Q. T., Le, X. T. T., Phan, T. C., Nguyen, Q. N., Ta, N. K. T., Nguyen, A. N., ... & Ho, R. C. (2021). Impacts of COVID-19 on the Life and Work of Healthcare Workers During the Nationwide Partial Lockdown in Vietnam. *Frontiers in Psychology*, 12.
- Podvoisky, G. L. (2021). The World of Work in the Context of the COVID-19 Pandemic: Analysis, Assessments and ILO Recommendations. *The World of New Economy*, *15*(1), 28–39.
- Qiu, D., Yu, Y., Li, R. Q., Li, Y. L., & Xiao, S. Y. (2020). Prevalence of sleep disturbances in Chinese healthcare professionals: a systematic review and meta-analysis. *Sleep Medicine*, 67, 258-266.
- Radulescu, C. V., Ladaru, G. R., Burlacu, S., Constantin, F., Ioanăş, C., & Petre, I. L. (2020). Impact of the COVID-19 pandemic on the Romanian labor market. *Sustainability*, *13*(1), 271.
- Rahaman, M., Roy, A., Chouhan, P., Das, K. C., & Rana, M. J. (2021). Risk of COVID-19 Transmission and Livelihood Challenges of Stranded Migrant Labourers during Lockdown in India. *The Indian Journal of Labour Economics*, 64(3), 787-802.
- Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry*, 52, 102066.
- Ratna, R. (2020). COVID-19 and South Asia: National Strategies and Subregional Cooperation for Accelerating Inclusive, Sustainable and Resilient Recovery. Retrieved September 25, 2020, from https://www.unescap.org/sites/default/files/ESCAP%20COVID-19%20Framework%20Paper.pdf
- Regional Office For Europe, W. H. O. (2011). Impact of economic crises on mental health. *Impact of Economic Crises on Mental Health*, 1–5.
- Robinson, P., & Lowe, J. (2015). Literature reviews vs systematic reviews. *Australian and New Zealand Journal of Public Health*, 39(2), 103-103.
- Roll, S., & Despard, M. (2020). *Income loss and financial distress during COVID-19: The protective role of liquid assets*. Available at SSRN 3733862.
- Ruch, F.U. & Ye, L.S. (2021). World Bank. Global Economic Prospects 2021. Washington, DC: World Bank. © World Bank. Retrieved January 14, 2021, from https://openknowledge.worldbank.org/handle/10986/34710
- Ruengorn, C., Awiphan, R., Wongpakaran, N., Wongpakaran, T., Nochaiwong, S., & Health Outcomes and Mental Health Care Evaluation Survey Research Group (HOME-Survey). (2021). Association of job

- loss, income loss, and financial burden with adverse mental health outcomes during coronavirus disease 2019 pandemic in Thailand: A nationwide cross-sectional study. Depression and Anxiety.
- Shen, L., van Schie, J., Ditchburn, G., Brook, L., & Bei, B. (2018). Positive and negative emotions: Differential associations with sleep duration and quality in adolescents. *Journal of Youth and Adolescence*, 47(12), 2584-2595.
- Siddiqui, A. F., Wiederkehr, M., Rozanova, L., & Flahault, A. (2020). The situation of India in the COVID-19 Pandemic: India's Initial Pandemic Experience. *International Journal of Environmental Research and Public Health*, 17(23), 8994.
- Sierra-Correa, P. C., & Kintz, J. R. C. (2015). Ecosystem-based adaptation for improving coastal planning for sea-level rise: A systematic review for mangrove coasts. *Marine Policy*, *51*, 385-393.
- Singh, R., Kumar, M. A., & Varghese, S. T. (2017). Impact of working remotely on productivity and professionalism. *Journal of Business and Management*, 19(5), 17-19.
- Song, L., Wang, Y., Li, Z., Yang, Y., & Li, H. (2020). Mental health and work attitudes among people resuming work during the COVID-19 pandemic: a cross-sectional study in China. *International Journal of Environmental Research and Public Health*, 17(14), 5059.
- Subhas, N., Pang, N. T. P., Chua, W. C., Kamu, A., Ho, C. M., David, I. S., ... & Tan, K. A. (2021). The Cross-Sectional Relations of COVID-19 Fear and Stress to Psychological Distress among Frontline Healthcare Workers in Selangor, Malaysia. *International Journal of Environmental Research and Public Health*, 18(19), 10182.
- Subramaniam, R., Singh, S. P., Padmanabhan, P., Gulyás, B., Palakkeel, P., & Sreedharan, R. (2021). Positive and Negative Impacts of COVID-19 in Digital Transformation. *Sustainability*, *13*(16), 9470.
- Sultana, M. S., Khan, A. H., Hossain, S., Islam, T., Hasan, M. T., Ahmed, H. U., & Khan, J. A. (2020). The association between financial hardship and mental health difficulties among adult wage earners during the COVID-19 pandemic in Bangladesh: Findings from a cross-sectional analysis.
- Sunil, R., Bhatt, M. T., Bhumika, T. V., Thomas, N., Puranik, A., Chaudhuri, S., & Shwethapriya, R. (2021). Weathering the Storm: Psychological Impact of COVID-19 Pandemic on Clinical and Nonclinical Healthcare Workers in India. *Indian Journal of Critical Care Medicine: Peer-reviewed, Official Publication of Indian Society of Critical Care Medicine*, 25(1),16.
- Vyas, L., & Butakhieo, N. (2021). The impact of working from home during COVID-19 on work and life domains: an exploratory study on Hong Kong. Policy Design and Practice, 4(1), 59-76.
- Wang, W., Song, W., Xia, Z., He, Y., Tang, L., Hou, J., & Lei, S. (2020). Sleep disturbance and psychological profiles of medical staff and non-medical staff during the early outbreak of COVID-19 in Hubei Province, China. *Frontiers in Psychiatry*, 11, 733.
- Wolor, C. W., Nurkhin, A., & Citriadin, Y. (2021). Is working from home good for work-life balance, stress, and productivity, or does it cause problems? *Humanities and Social Sciences Letters*, 9(3), 237-249.
- World Health Organization. (2021). *The impact of COVID-19 on health and care workers: a closer look at deaths*. Retrieved January 14, 2021, from World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/345300/WHO-HWF-WorkingPaper-2021.1-eng.pdf?sequence=1&isAllowed=y
- Xiao, H., Zhang, Y., Kong, D., Li, S., & Yang, N. (2020). The effects of social support on sleep quality of medical staff treating patients with coronavirus disease 2019 (COVID-19) in January and February 2020 in China. *Medical science monitor: International Medical Journal of Experimental and Clinical Research*, 26, e923549-1.
- Zheng, Y., Wang, L., Feng, L., Ye, L., Zhang, A., & Fan, R. (2021). Sleep quality and mental health of medical workers during the coronavirus disease 2019 pandemic. *Sleep and Biological Rhythms*, 19(2), 173-180.
- Zhu, Na, Dingyu Zhang, Wenling Wang, Xingwang Li, Bo Yang, Jingdong Song, Xiang Zhao et al. (2020). A novel coronavirus from patients with pneumonia in China, 2019. *New England Journal of Medicine*, 382(8):727-733.