

A Systematic Literature Review on Socioeconomic Vulnerabilities Among Society during COVID-19

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How to cite this article: Asriezam Uda & Fauziah Ani (2024). A Systematic Literature Review on Socioeconomic Vulnerabilities Among Society during COVID-19. *Library Progress International*, 44(3), 24006-24015

ABSTRACT

This systematic review article presents the most vulnerable aspects in the socioeconomic component during the COVID-19 pandemic by reviewing 20 articles. In this article, five themes on socioeconomic vulnerabilities that exist globally within a two-year period of research were compiled. The themes are: population structure, access to resources, economic status, financial state, and physical infrastructure. Meanwhile, fifteen sub-themes were identified: population growth, population density, dependency, aging, Literacy, education level, population in the work force, income, poor household, insurance, unemployment, finance resources, public facility, medical services, and water supply. The finding from this systematic literature review article discovers a variety of socioeconomics components that influence the vulnerabilities among the society during COVID-19. By acknowledging the components that are often mentioned regarding the socioeconomics vulnerabilities, it will help researchers to understand the aspects of socioeconomics that are commonly investigated.

Keywords: COVID-19, Socioeconomics vulnerabilities, Society

INTRODUCTION

This article identifies the dimension of the socioeconomic vulnerability components that affect the society. This review gathered 5 types of vulnerabilities, forming the themes with 15 sub-themes altogether.

Socioeconomic is a combination of the social and economic aspects that become the subject of study. Meanwhile, socioeconomic vulnerability is a combination of susceptibility of both aspects. Due to the COVID-19 pandemic that has affected the global community for more than two years now, a lot of companies have to close down their business. Lockdowns that have been implemented across the globe is one of the factors that leads towards economic downturn and it takes a long journey for business operators to recover from various impacts of COVID-19.

Vulnerability, according to Henninger (1998), can be defined as the vulnerability of an individual, household or community to face an unexpected external shock. Meanwhile, Naudé et al. (2008) define vulnerability as a continuum of a home's ability to deal with risks, pressures and threats. Risks, pressures, and threats affect the environment and these consequently cause a house to be poor. However, vulnerability, according to Serrat (2008), is not only influenced by external factors, but also influenced by internal factors associated with the inability to improve quality and well-being in life. Vulnerabilities can also be studied from the aspects of individuals, groups, and communities by observing the way they respond using their existing capacities in repairing the effects of change or disaster they experience (Shaharudin Idrus et al., 2004).

Ramon et al. (2007) and Milcher (2009) found that the size of house, age, ethnicity of the household's head, level of dependency, gender of the household's head, number of households, and number of dependents cause a high vulnerability in a family. Jamal (2009) and Sarris et al. (2010) proved a high vulnerability from socio-economic aspects commonly occurs among low-educated, low-income, poor households, heads of household not working, working in the agricultural sector, and self-employment.

Vulnerability, according to Prowse (2003), is a challenging position to cope that causes a slew of anxieties about unknown dangers and hazards. Each risk has a unique impact that is determined by its kind, magnitude, frequency, timing, and severity. Political risk, economic risk, health risk, and environmental risk are the four types of risks. Vulnerability is divided into three categories: shock, trends, and seasonality (seasonality). Shocks are abrupt, unanticipated, catastrophic, and destructive upheavals in life and environment. Natural catastrophes, disease outbreaks, wars, and other events are the examples of shocks.

The concept of vulnerabilities focusing on socioeconomic is vast and complex. Therefore, this paper aims to understand the dimensions that are affected the most by the socioeconomic vulnerability components by identifying the most frequent components of socioeconomic discussed in research articles published between 2020 and 2021.

1. METHODOLOGY AND LIMITATION

1.1 Formulation of Research Question

There are two sources used to formulate the research question for the present study: First, by referring to previous research works such as Mladenov and Brennan (2021), Alberto et al. (2021), and McClarty et al. (2021). These articles are related to socioeconomic components that can be related to vulnerabilities.

Next, using the PICO mnemonic in which “P” stands for Population or Problem, “I” stands for Interest, and “Co” is Context (Lockwood et al., 2015). The PICO mnemonic concept is included in this paper to construct the research question. Specifically, it involves the society (Population), socioeconomic vulnerability (Interest), and vulnerability among society (Context). As a result, the research question developed is: What are the most researched components in the socioeconomic aspects among the society during the COVID-19 pandemic?

1.2 Searching Strategies

This segment explains the extraction strategy from the research articles to recognize the variables connected to the socioeconomic vulnerabilities. The researchers utilized the PRISMA strategy which contained the assets utilized to gather and channel the articles, qualification, and avoidance criteria selected, the method of systematic review which includes identification, screening and qualification as well as the preparation of information deliberation and analysis of contents.

1.2.1 PRISMA

The review followed the PRISMA Statement guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). PRISMA is employed because it facilitates a systematic review procedure by defining a specific research question. Second, it can categorise articles based on the reviewer's research topics using inclusion and exclusion criteria, and third, it can investigate a vast database in a short amount of time. PRISMA allows for a thorough investigation of the aspects that influence socioeconomic vulnerabilities.

1.2.2 Resources

The journal databases Scopus and Google Scholar provided the resources for this review. This systematic review article was primarily based on Scopus. It was founded in 2004 and now has over 10,000 publishers all around the world. It encompasses a wide range of academic disciplines, including social science, medical science, physical science, and agriculture. The reviewers utilised Google Scholar as a search engine for articles relating to the study question in the second database. Google Scholar is a database that was released in 2004 and contains a wide range of literature from a variety of fields. The articles for this study were gathered using a handpicking process, which included the same inclusion and exclusion criteria as the articles gathered on Scopus.

1.2.3 Eligibility and Exclusion Criteria

Firstly, this review solely looked at article journals. There were no reviews of articles, book series, books, book chapters, or conference proceedings included. Secondly, in order to improve understanding of the entire texts, the search only used English publications. It is possible that when reviewing a non-English publication, there will be a misunderstanding of the language and trouble translating. Third, as the present study focuses on socioeconomic vulnerabilities during the pandemic COVID-19, this review only considered the most recent two years of publications (between 2020 and 2021). This timeframe was chosen to provide the most recent trend related to vulnerabilities in socioeconomic. Following that, articles indexed in the social sciences and sciences streams were incorporated to provide a broader view of contents. Finally, this article review is not limited to a certain region or country in order to observe the pattern of factors associated to socioeconomic vulnerabilities around the globe.

TABLE 1: The inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Document Type	Articles and journal	Review articles, book series, book, chapter in a book, conference proceeding
Language	English	Non-English
Publication Time line	2020 - 2021	<2019

1.2.4 Systematic Review Process

Identification is the first step. The keyword for the search process is identified at this stage. The comparable and relevant keywords for socioeconomic vulnerabilities were derived from the literature review, prior research, and thesaurus, as shown in Table 2 below. Three redundant articles were discovered at this level and were discarded.

The second stage is the screening procedure, which resulted in the removal of 127 articles from a total of 226 owing to the genres of literature, language, and publication timeline choices. The whole papers were assessed at the third level of eligibility. Following a thorough review, 79 publications were eliminated because they lacked variables related to socioeconomic vulnerabilities, lacked empirical evidence, and did not focus on socioeconomic vulnerabilities. Finally, a total of 20 papers were included in the qualitative analysis and review findings.

TABLE 2: The search string used in the identification process

DATABASE	SEARCH STRING
SCOPUS	TITLE-ABS-KEY ("socioeconomic vulnerabilities" AND model) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English"))
Google Scholar	("Socioeconomic vulnerabilities" AND susceptibility)

1.2.5 Data Abstraction and Analysis

There is a total of 20 papers that were thoroughly researched and analysed. The analysis was limited to papers that addressed the review's research topic. The result was reached by reading the abstract followed by reading the entire article for in-depth reading in order to determine the article's themes and sub-themes of socioeconomic vulnerabilities connected to the components. Following that, content analysis was performed in the qualitative analysis approach to determine the themes connected to the elements associated to socioeconomic vulnerabilities.

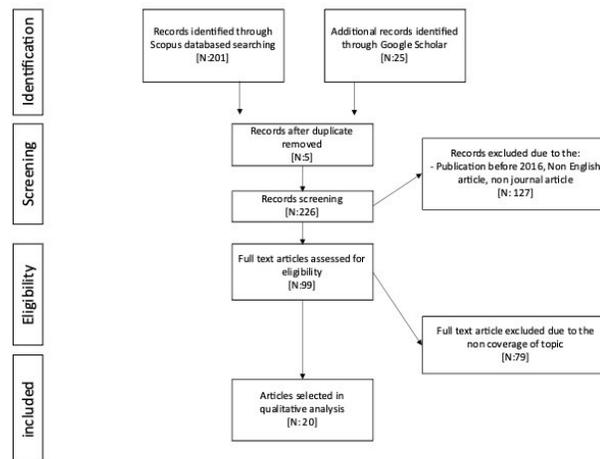


Figure 1: PRISMA Model

2 RESULTS

This review recognized five themes and 15 sub-themes that are linked with the socioeconomic vulnerabilities from research articles that are published between 2020 and 2021. The five main themes are population structure, access to resources, economic status, financial state and physical infrastructure.

As for the population structure theme, there are four sub-themes identified: population growth, population density, dependency, and aging. Meanwhile, there are three sub-themes for the second theme, that is access to resources. The sub-themes are: literacy, education level, and population in the work force. The third theme which is economic status consists of four sub-themes: income, poor household, insurance, and unemployment. The fourth theme that is financial state has one sub-theme, which is financial resources. The final theme which is physical infrastructure has three sub-themes which are public facility, medical services, and water supply.

A compilation of research was done based on the research articles published between 2020 and 2021. In total, there are six publications in 2020 and 14 publications in 2021. These research articles that are linked to socioeconomic vulnerabilities were carried out using three different research methodologies: 14 research articles were quantitative, four research articles were qualitative, and two research articles used mixed-methods approach.

Many countries have conducted research related to socioeconomic vulnerabilities due to COVID-19. Specifically, the United States had five publications, followed by Brazil by three publications, and two publications from the United Kingdom and China, respectively. Meanwhile, India, Ethiopia, Romania, Italy, Canada, Switzerland, Bangladesh, and Uganda had one publication, respectively.

Table 3 elucidates the components that are related to the socioeconomic vulnerability results based on 20 research articles published between year 2020 to 2021. The top three themes representing the most researched components linked to socioeconomic vulnerability are economic status (43%), financial state (30%), and population structure (28%). The remaining components are physical infrastructure (25%) and access to resources (16%).

Under the economic status component, the top three sub-components that are most researched in socioeconomic vulnerability are income (70%), poor household (55%), and unemployment (35%) and the lowest sub-component is insurance (5%). Under the financial state component, the sub-component of finance resources obtained 30%. Meanwhile, in the population structure component, the top three sub-components are population density (40%), aging (40%) and dependency (25%) while the lowest sub-component is population growth in which the value is 5%.

The lowest components that are related to socioeconomic vulnerability are physical infrastructure and access to resources. In physical infrastructure, the highest sub-component is medical services (55%) while the lowest sub-components are water supply (10%) and public facility (10%). As for the access to resources component, the top sub-components are education level (25%) and population in the work force (20%) while the lowest sub-components is literacy (5%).

TABLE 3: Results on the components that are associated to socioeconomic vulnerability

	Author	Year	Country	Population structure					Access resources to			Economic Status			Financial State	Physical Infrastructure		
				Population growth	Population density	Dependency	Aging	Literacy	Education level	Population in the workforce	Income	Poor household	Insurance	Unemployment	Finance resources	Public facility	Medical services	Water supply
1	Berescu et al.	2021	Romania															
2	Urdiales et al.	2021	Italy															
3	Carroll et al.	2021	USA															
4	Dioza et al.	2021	Brazil															
5	Shakil et al.	2021	USA															
6	Mladovsky et al.	2021	UK															
7	McClarty et al.	2021	Canada															
8	Ursina et al.	2021	Switzerland															
9	Sayem et al.	2021	Bangladesh															
10	Liu et al.	2021	China															
11	Martines et al.	2021	Brazil															
12	Andualem et al.	2021	Ethiopia															
13	Wu et al.	2021	USA															
14	Zhu et al.	2021	China															
15	Choi et al.	2020	USA															
16	Boroonovj et al	2020	UK															
17	Snyder et al	2020	USA															
18	Bamwasyana et al.	2020	Uganda															
19	Camara et al.	2020	Brazil															
20	Pathak et al.	2020	India															

3 DISCUSSION

The present study systematically reviews related articles published in the past two years on the components of socioeconomic vulnerability around the globe. The socioeconomic vulnerability concept is defined as a material or moral susceptibility of a specific social group or society to potential risks or losses induced by catastrophic events (Hand et al., 2018). According to Li et al. (2020) and Jia et al. (2020), global emergencies, such as the COVID-19 pandemic, have an impact on spatial dynamics as well as causing biological, political, economic, and social insecurities. Thus, it is crucial to have understandings on the affected components and the most researched areas of socioeconomic vulnerability. A comprehensive search of the literature was thus conducted in which 20 articles from the Scopus and Google Scholar databases were utilised for the final assessment. Five types of socioeconomic vulnerability related to are socioeconomic vulnerability were discovered and subdivided into 15 sub-components.

Based on this systematic review conducted, the most popular component is economic status. Income is the main indicator for researchers to measure the level of vulnerability. Along with a serious health catastrophe, the COVID-19 outbreak has caused dramatic economic shocks in all over the globe. Earnings have been significantly reduced as a result of the COVID-19 pandemic. Due to prolong lockdown, people who are involved in businesses had to temporarily stop because of government's restrictions. If a business does not have a strong resilience in terms of its financial standing, they have to close down their business for good. Consequently, the working class would lose their jobs thus leads to income vulnerability (Midões and Seré, 2021).

Secondly, the next popular component is financial state. Under this component, finance resources is found to be the sub-component that is significantly vulnerable due to COVID-19. Households who are highly financially-susceptible are those that have a low income and are unemployed. Income inadequacy and jobless working status are substantially connected with the amount of financial vulnerability hence affect the current financial state of the households. Low-income households are more likely to find it difficult and inconvenient to deal with an emergency and pay for their household's living expenditures especially when they only have a single source of income to depend on (Al-Mamun and Mazumder, 2015; Rodrigo, 2016; Yusof et al., 2015).

Next, the component of population structure is found as the third most researched area among all the types of vulnerability. Its sub-component such as population density can be the main cause of COVID-19 spread which is influenced by population density. It would be appropriate to develop standard operating procedures that take population density into account as a risk factor for COVID-19 dissemination and weigh it spatially before implementing nontherapeutic treatments in the attempt to control the epidemic (Ganasegaran et al., 2021).

Fourth, physical infrastructure is ranked as the second last component related to socioeconomic vulnerability. The sub-component under physical infrastructure is medical services. World Health Organization's survey reveals that more than a year into the COVID-19 pandemic, significant disruptions persist, with approximately 90 percent of countries still reporting one or more disruptions to essential health services, indicating no significant global change since the first survey in the summer of 2020. However, within countries, the severity and scope of disruptions have typically decreased. Countries stated that, on average, roughly 50% of key health services had been disrupted by 2020. However, they reported progress in the first three months of 2021, with just over one-third of services is currently affected (World Health Organization, 2021).

Lastly, access to resources is ranked as the last component in this review. The sub-component under access to resources is educational level in which it may have a direct impact on risk awareness, skills, and knowledge, as well as indirectly reducing poverty, improving health, and promoting access to information and resources. As a result, when confronted with natural disasters or climatic threats, educated persons, households, and communities are thought to be more capable and adaptive in their reactions to, preparedness and recoverability for these challenges. Nevertheless, the outcomes of eleven unique empirical research conducted in a variety of geographical, social, cultural, and hazard contexts provide consistent and substantial evidence on the favourable influence of formal education on disaster risk reduction (Muttarak and Lutz, 2014).

4 CONCLUSION

Based on the review made on research conducted within the past two years, this systematic review revealed the

elements that are commonly connected to socioeconomic vulnerabilities around the globe. The components are economic status, the second one is financial state and population structure. Under the component of economic status, the results found the sub-components of income, poor household, and unemployment as the most investigated elements that are related to socioeconomic vulnerabilities. As for the financial state component, finance resources is found to be the most investigated sub-component that is linked to socioeconomic vulnerability. While the population structure component discovered the sub-components of population density and aging as the most investigated elements among the scholars linked to socioeconomic vulnerability.

This review also recognized physical infrastructure component linked to socioeconomic vulnerability as the most researched component among the scholars. Besides, medical services is the most researched area in which healthcare capacity was observed to decrease during pandemics due to factors such as limited mobility, social distancing measures, and worries of getting infected within healthcare facilities, as practitioners postpone or forego routine healthcare, particularly elective and preventative care visits (Delamou et al., 2017). This review focused on the medical service providers due to the reduction of supply in medical services that are crucial to the community. The inequalities in term of medical service sub-component have been even more noticeable during the COVID-19 pandemic, with victims from ethnic minority backgrounds, socioeconomically disadvantaged backgrounds, urban and rural underprivileged areas and vulnerable sectors of society suffering the effects of its consequences (Mishra et al., 2021). Therefore, physical infrastructure component is an important component linked to socioeconomic vulnerability as it has received a similar attention among scholars.

This systematic review elucidated the components that need a proper attention to enhance the socioeconomic level thus minimize the vulnerabilities among community. Good governance, intelligent policy makers and research institutions should be accountable to create a stable environment during COVID-19. In contrast, this review only focused on the most researched components and sub-components that are associated to socioeconomic vulnerabilities. Any related concepts were ruled out such as environmental vulnerability to bring attention to the terms of socioeconomic vulnerabilities. For future research on socioeconomic vulnerabilities, identical concept can be used to get a vast clarification through corpus of socioeconomic vulnerabilities.

Author's Contribution

This systematic review article was contributed by Fauziah Ani in terms of theme framework structure, data analysis, and writing evaluation. This article was also contributed by Asriezam Uda in terms of literature searching, analysis of the data, and writing.

Acknowledgement

The authors also want to thank Universiti Tun Hussein Onn Malaysia through its University Internal Grant, Universiti Tun Hussein Onn Malaysia (REGG FASA 1/ 2021. PHD SEM 1.)

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