Mental Health Analysis During Covid-19 Global Pandemic

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Abstract. COVID-19, which was first discovered in Wuhan, China, has spread dramatically across the globe. The World Health Organization (WHO) has declared it a global pandemic. In the absence of a vaccine, the WHO calls for avoidance measures with physical distancing to inhibit the rate of viral infection and break the transmission. This situation can result in a community experiencing chronic disasters. Chronic disaster here is a gradual decrease in the quality of life of the population affected by the disaster and its impact on community members' social structure and overall health. If ignored, the decline in quality of life can damage people's mental health, the effect of which could be more severe than the virus outbreak itself. Therefore, it is necessary to study the quality of life of the people in dealing with COVID-19. This study aims to capture the phenomenon of people's quality of life during physical distancing. Measuring the quality of life in this study refers to the WHO framework (2012). Data were collected using an electronic questionnaire with a simple random sampling technique on the population. This study managed to receive 370 responses. The collected data were analyzed using descriptive statistics and multiple regression. From six determinants of quality of life, the spiritual belief was found to have no significant effect on life quality. Meanwhile, physical, psychological, level of independence, social relationship, and environment were found to impact the quality of life substantially. This study recommends policymakers accurately manage the atmosphere of community and psychological conditions to control the population's quality of life during the COVID-19 pandemic.

Keywords: Disaster Management, Covid-19, Quality of Life, Psychological Health

1 Introduction

COVID-19, which was first discovered in Wuhan, China, has spread dramatically across the globe. The World Health Organization (WHO) has declared it a global pandemic. In the absence of a vaccine, WHO calls for physical distancing to inhibit the virus infection rate and break the transmission (WHO, 2020; Fergusin, 2020). Physical distancing is the limitation of

TIC 2020, October 21-22, Magelang, Indonesia

DOI 10.4108/eai.21-10-2020.2311915

social interaction, crowds in public areas, the closure of offices, schools, and other public institutions (Singh and Adhikari, 2020). Physical distancing is implemented because it is feared that physical contact in social interactions will become a momentum for the transmission of COVID-19 (WHO, 2020). WHO (2020) views social measures and public health anticipation as a possible strategy as long as a vaccine has not been found. The level of implementation of Physical Distancing varies in different countries. Several countries, such as China, Italy, Germany, Spain, the United States, Singapore, and Malaysia, have implemented a full lockdown.

Meanwhile, several other countries, such as Indonesia, Turkey, and Thailand, only provide advice and social interaction restrictions. In Indonesia, several regions have implemented Large-Scale Social Restrictions (LSSR-in Bahasa: PSBB), which indicates that regulations on social interactions are strictly enforced. This option certainly carries its risks because people must isolate themselves from the social, business, and educational activities that have become their daily life and become their source of livelihood. This condition can result in a community experiencing chronic disasters. Chronic Disaster is a gradual decline in the quality of life of the affected population and its impact on community members' social structure and overall health (Goldsteen and Schorr, 1982). Such disasters can have long-term effects on people's lives that disrupt social, economic, psychological, and social-environmental conditions, infrastructure, and pressure on emergency services and resources [1].

The COVID-19 Global Pandemic disaster is different from natural disasters such as earthquakes, floods, tornadoes, or tsunamis. This global pandemic does not cause physical damage to infrastructure. However, the application of Physical Distancing has no less risk of psychological, economic, and health service stress. Jaffrey (2020) believes that Indonesia is currently facing difficulties in the health system, the threat of a financial crisis, and social unrest due to this Global Pandemic's pressure. These things can occur due to delayed response to anticipation, limited capacity of public health services, cessation of business industry operations, little economic activity, limited means of transportation, and limited social activities. As a result, in general, the affected people will be affected by their quality of life and even their emotional and mental health [8].

In disaster mitigation, there are many studies, both basic and applied, that examines and offer recovery strategies for the affected communities, both in economic and social aspects. However, the disaster response strategy is generally still limited to the affected community's assistance after the incident. There are still few studies that highlight how to build community resilience to prevent the long-term negative impacts of these disasters (Runkle et al., 2012). Several studies show that communities destroyed by disasters can experience adverse effects even years after the disaster [1] Therefore, the mitigation aspect during the pandemic is an essential highlight in current research.

What's more, a global pandemic disaster is not like an earthquake or tsunami that comes suddenly and quickly. This global pandemic is developing gradually, and people can be anticipatory. It's just that ready actions that require physical distancing tend to lead to social disasters. This social disaster is the focus of this study.

In general, this study seeks to capture the phenomenon of people's quality of life during physical distancing. Measuring the quality of life in this study refers to the WHO framework (2012). Referring to WHO (2012), quality of life is reviewed using a regression model with six antecedent variables: Physical Health, Psychological, Level of Independence, Social Relationship, Environment, and Spirituality Beliefs. The quality of life profile will then be translated into valuable information in decision making for disaster mitigation during the global pandemic. So instead of producing a recovery strategy, this study.

Theoretical Framework

Pandemic and Quality of Life

The psychological reaction of the population plays an essential role during the spread of the pandemic virus, especially in emotional distress and social disruption during and after the outbreak [4]. China, as the country of origin for the COVID-19 virus outbreak, has proven this. One study conducted on 1,210 respondents spread across 194 cities and run from January to February 2020 found that 54% of respondents rated the psychological impact of the COVID-19 outbreak as moderate or severe; 29% reported moderate to severe symptoms of anxiety; and 17% reported moderate to severe depressive symptoms [18].Even in normal conditions, people with mental health disorders tend to have a low life expectancy and are accompanied by weaker physical needs than the general population [13]. It will impact people with pre-existing mental health, making them likely to have a much worse impact during the pandemic. It is exacerbated by the implementation of physical distancing, which is believed to be a solution to stop the spread of the virus.

With limited space for citizens to move, it raises widespread concern about their impact on well-being, increased anxiety, depression, stress, and other negative feelings; as well as concerns about the real effect of the pandemic, including financial hardship [7]. Measurement of mental health during an epidemic is becoming increasingly precarious because previous research has proven that impaired mental health will result in excessive stress, which can have implications for the desire to engage in self-harm behavior, to suicide [5]. Past pandemic events have proven this. The number of suicides in the United States during the 1918-1919 epidemic and Hong Kong when SARS broke out in 2003 showed a higher suicide rate than average [6]. Not to mention the media coverage, which incessantly informs about the dangers and the number of victims, also aggravates the situation [7].The media's role in spreading pressure on society during a pandemic is also not new when the COVID-19 outbreak, during the EBOLA outbreak, the role of the media in spreading psychological stress is also quite significant [14]. The purpose of information technology in making the spread of information faster with social media also has negative implications for people's mental health.

In recent years, attention to measuring health conditions beyond traditional indicators such as mortality and morbidity has continued to grow [2]. The level of danger of a disease is not only seen from its threat but also how it ultimately affects a person's quality of life [3]. The definition of the quality of life itself is different. When referring to WHO [19], quality of life is defined as a person's perception of his / her life situation, following the value and cultural context in which he lives, concerning the goals, expectations, and standards of the place. The concept of quality of life offered by WHO also covers broad domains, such as physical conditions, psychological conditions, levels of independence, social relations, environment, and spiritual/religious beliefs. The six fields are divided into several aspects. These aspects can be reviewed in table 1 below.

Table 1. Domain of Quality of Life (WHO, 2012)

No	Domain	Aspects/Indicators
1.	**Physical**	Pain and discomfort
		Energy and fatigue
		Sexual activity
		Sleep and rest
		Sensory functions
2.	**Psychological**	Positive feelings
		Thinking, learning, memory and concentration
		Self-esteem
		Bodily image and appearance
		Negative feelings
3.	**Level of Independence**	Mobility
		Daily activity
		Dependence on drugs and medical substances
		Dependence on nonmedicinal substances (alcohol, tobacco, drugs)
		Communication capacity
		Work capacity
4.	**Social Relationship**	Personal relationship
		Social support
		Activities as provider/supporter
5.	**Environment**	Freedom, physical safety and security
		Home environment
		Work satisfaction
		Financial resources
		Health and social care: accessibility and quality
		Opportunities for acquiring new information and skills
		Participation in and opportunities for recreation/ leisure activities
		Physical environment (pollution/noise/traffic/climate)
		Transport
6.	**Spiritual Beliefs**	

2 Methodology

The population of this research is the people of Medan City. The people of Medan City were chosen because Medan is one of the affected cities that carry out Physical Distancing. Physical distancing in Medan is still moderate. So that the findings that occur in Medan City are at a conservative level to translate the phenomenon in areas with tighter Physical Distancing, for

example, If the people of Medan City have disturbed their quality of life with the implementation of Physical Distancing, then the people in the City of Jakarta will be even more disturbed by the application of LSSR (Large-Scale Social Restrictions). Thus, the city of Medan can be a good benchmark in translating the community's quality of life during this physical distancing.

Data will be collected two months after the Physical Distancing instructions were first announced before it is withdrawn. It is intended to get the actual response after the respondent feels the impact of physical distancing. The unit of analysis is the household. Thus, the data describing the quality of life is at the household level. That level is considered to describe the quality of life more accurately because it covers various aspects of the family aspects.

Data Collecting

In general, the data is collected using a survey method with an electronic questionnaire. Electronic questionnaires are intended to reach many respondents during physical distancing due to the COVID-19 global pandemic. The questionnaire will capture the community's perceptions (household) regarding their quality of life during physical distancing. The respondent's perception level was obtained by using a 5-Likert scale. The instruments used in data collection were codified directly from the quality of life developed by WHO (2012)[19]. This dimension is viewed as very relevant because it relates to assessing people's quality of life affected by the disaster. The indicators and aspects are translated, and various adjustments are made to suit the characteristics of the people of Medan City and are comfortable reading on a cellphone or computer. The instrument is designed anonymously to ensure privacy (Cooper and Schindler, 2010; Sekaran and Bougie, 2010).

Besides, respondents are also asked to fill out the questionnaire voluntarily to maintain the respondents' independence in providing their responses. The questionnaires were distributed electronically using Google Forms. With simple random sampling techniques and snowball, this study managed to collect 370 responses. 176 respondents were male, while another 194 respondents were female. The respondents who have a range of 21-30 dominated the demography following who have age range 31-40; 41-50; and <21. According to educational background, respondents mostly have Senior High School and Bachelor Degree. 69,7% respondent was married while 28,6% was single, 1,1% was widow, and 0,5% was widower. Respondents report that they mostly have more than two family members. The demography of the sample was observable in table 2 below. The collected data then tabulated and analyzed quantitatively to produce valuable information in translating the phenomenon.

Table 2. Demography of Sample

		f (N = 370)	**%**
Gender	Male	176	47,6
	Perempuan	194	52,4
Age	< 21	42	11,4
	21 - 30	168	45,4
	31 - 40	82	22,2
	41 - 50	55	14,9
	51 - 60	19	5,1
	> 60	4	1,1
Education	Primary School	6	1,6
	Junior High School	11	3
	Senior High School	130	35,1

	Bachelor	181	48,9
	Magister/Doctoral	42	11,4
Maritas Status	Married	258	69,7
	Single	106	28,6
	Widow	4	1,1
	Widower	2	0,5
Number of Family Members	1 - 2	84	22,7
	3 - 4	180	48,6
	5 - 6	88	23,8
	> 6	18	4,9

Data Analysis

Researchers conducted a descriptive statistical analysis and multiple regression analysis to obtain valuable information from the collected data. Analysis of this data will provide useful information related to each antecedent variable's interrelation to the quality of life of the Medan city community in the conditions of the COVID-19 global pandemic. From the results of data analysis, it will be found valuable information in controlling the dimensions of each other's quality of life.

Result

The descriptive statistics indicate that the respondents' quality of life is high, with a mean equal to 4.23 from the highest value equal to 5. Meanwhile, the physical domain looks relatively low, with a mean equal to 2.98. Furthermore, Psychological ($\bar{x}_2$: 3,97), Social Relationship ($\bar{x}_4$: 3,61), and Environment ($\bar{x}_5$: 3,81) are at moderate levels. Then the Level of Independence ($\bar{x}_3$: 4,02) was also found at a high level. While the standard deviation in each domain shows sufficient but not high data variation, it observable in the standard deviation values, which are generally below <1.00.

Table 3. Descriptive Statistics

No.	Variable	N	Mean	Std. Deviation
1.	Quality of Life	370	4.2318	.72590
2.	Physical	370	2.9824	.46787
3.	Psychological	370	3.9701	.50791
4.	Level of Independence	370	4.0203	.56442
5.	Social Relationship	370	3.6097	.90918
6.	Environment	370	3.8124	.56809
7.	Spirituality Beliefs	370	4.6811	.56428

Data analysis results using multiple regression analysis show that Physical has a significant positive effect on Quality of Life with a regression coefficient of 0.18 and p-value <0.05. Thus, individuals with good health conditions will have a good quality of life as well. Psychological also shows a significant positive effect on Quality of Life with a regression coefficient of 0.29 and p-value <0.05. Furthermore, the Level of Independence offers a significant positive impact on the quality of life with a regression coefficient of 0.201 and p-value <0.05. Social relations were found to have a significant positive effect on Quality of Life with a regression coefficient of 0.137 and a p-value of 0.137. The regression coefficient is the smallest of the four other variables. The environment was also found to have a significant

positive effect on Quality of Life. The environment has the most significant regression coefficient of the other five variables, valued at 0.307 and a p-value <0.05. Meanwhile, spiritual belief did not show a substantial effect on the quality of life. The results of the regression analysis were observable in Table 3 below.

Table 4. Result of Multiple Regression

No.	Model	p	t-value	p-value	Std. Error
1.	Physical → Quality of Life	.180	5.195	.000	.054
2.	Psychological → Quality of Life	.290	5.498	.000	.075
3.	Level of Independence → Quality of Life	.201	4.329	.000	.060
4.	Social Relation → Quality of Life ship	.137	3.718	.000	.030
5.	Environment → Quality of Life	.307	6.215	.000	.063
6.	Spirituality Beliefs → Quality of Life	.045	1.258	.209	.046

Furthermore, the regression model tested in this study is included in the fit category. Its category is indicated by the R2 value of 0.65, which is in the high sort, and the F-value of 110.477 with a p-value <0.05. This figure shows that the independent variables tested can explain the proportion of the quality of life as the independent variable. With R2 of a model is 0.65, then approximately more than half of the variable's observed variation can be explained by the model's inputs. The results of the R2 and F-value tests can be reviewed in Table 4 below.

Table 5. Result of R^2 and F-value

Model	df	Mean Square	R	R^2	F	Sig.
Regression	6	20.940	.804	.646	110.477	.000[b]
Residual	363	.190				
Total	369					

3 Finding and Discussion

An exciting finding in this research data is that respondents perceive a high quality of life even in the COVID-19 global pandemic. It suggests that there is a substantial boost from the antecedent variables of quality of life. It means that the variables that determine the quality of life of the Medan city community remain under control despite the COVID-19 global pandemic pressure. Thus, to control the community's quality of life, it is necessary to make essential antecedents of the quality of life variable. This study's results indicate that of the six determinants of quality of life offered by WHO (2012)[19], only five variables show a significant positive effect on the quality of life, namely Physical, Psychology, Level of Independence, Social Relations, and Environment. Meanwhile, Spiritual Beliefs do not show a significant effect on the quality of life.

WHO (2012) defines the quality of life as individual perceptions regarding their position in living in the context of the cultural and value system in which they live and concerning their goals, expectations, standards, and life concerns. This definition reflects a subjective view of the

quality of life inherent in the cultural, social, and environmental context, which will result in different looks from one region to another [19]. So that the correct term to measure the quality of life is perceived quality of life. Therefore, the six domains offered by WHO (2012) also do not show actual or objective health conditions, but rather the perceived effects of disease and health interventions on the individual's quality of life. This perception is built from the belief that the individual feels based on the prevailing consensus in society. Therefore, the six domains' emphasis refers to multi-dimensional measurements related to an individual's perception of health status, psycho-social status, and other aspects of life.

In this context, the people of Medan still have a high quality of life during the COVID-19 global pandemic. This condition is thought to be mostly caused by the environment following community expectations. It means, it should be presumed, in states of social and economic pressure, the atmosphere at the home, office, and the public responds to threats following the expectations of the affected community so that the threat of disaster can be appropriately reduced. Furthermore, Psychological and level of independence were found to have a significant influence on the environment. The psychological condition of the people of Medan City is thought to respond to disasters rationally and provide anticipatory responses so that the presence of a disaster does not destroy the positive feeling of society. A relatively high psychological mean number also indicated it. The level of independence also plays an important role because an individual's flexibility in managing his life when under pressure will produce agility in him so that he can anticipate problems with various alternatives. Then, physical and social relations were found to have a significant effect on the quality of life. Physical fitness indeed determines the continuity of daily activities. Especially during the COVID-19 global pandemic, material aspects are the key to individual survival through this disaster.

Meanwhile, social relations provide a safety net from social and economic pressures that may occur in other functions. Interestingly, the regression coefficient of physical fitness on quality of life was no better than the environment, psychological, and level of independence. These findings indicate that there is a more significant threat to the resilience of society than their health. The big thing is the social and economic impact that is sacrificed in anticipation of transmission. Physical distancing suppresses economic activity so that its growth is disrupted and, at the same time, limits social interactions.

This study's findings are quite interesting and unique, considering that the response was taken during the COVID-19 global pandemic. These findings can add insight into community resilience in the face of disasters, especially in preventing the long-term negative impacts of these disasters (Runkle et al., 2012). Some studies show that communities that are devastated by disasters can experience negative impacts even years after the disaster (Annang et al., 2015). Other studies have even indicated that disasters can also have destructive psychological effects that can lead to excessive stressful behavior to suicide [5]. However, based on the data from this research, Medan City has adequate psychological and social capital so that it has the opportunity to anticipate these harmful and destructive impacts. Thus, the mitigation aspect relies on the environmental, psychological, and level of independence a policymakers concerns. Policymakers must develop tactical policies as a social safety net, especially in facilitating access to the community's productivity and profitability, even though there are restrictions on interaction.

4 Conclusion

This study aims to capture the phenomenon of people's quality of life during physical distancing. Measuring the quality of life in this study refers to the WHO framework (2012). An exciting finding in this research data is that respondents perceive a high quality of life even during the COVID-19 global pandemic. Of the six determinants of quality of life offered by WHO (2012), only five variables show a significant positive effect on the quality of life, namely Physical, Psychology, Level of Independence, Social Relations, and Environment.

The achievement of the objectives of this study resulted in several practical and theoretical contributions as follows. Theoretically, this study's results can add to the repertoire of knowledge related to controlling the socio-economic impacts during the global pandemic disaster. This study's experience is relatively rare, so it requires a more significant and more continuous quantity of reviews to enrich understanding and decision-making recommendations. Furthermore, this study's results can also be a bridge for other research in exploring social engineering designs to maintain the quality of life of the community and the economic resilience of the population in the face of a global pandemic. Further researchers can examine more specifically related to recovery or simulation of community resilience management to face the global pandemic. In practical terms, this study's results will contribute to strategic decision making related to disaster management from a social engineering perspective that can maintain the quality of life of the community.

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