

An Analysis of Health Workers' Quality of Life in Indonesia During COVID-19 Pandemic

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ABSTRACT

Pandemic of Coronavirus Disease 2019 (COVID-19) has an impact on the life quality of health workers as the frontline in handling COVID-19 patients. This study aims to determine health workers' quality of life during the COVID-19 pandemic. This study was conducted in a observation with cross sectional technique. The population in this study was health workers in Indonesia. This study used non-probability sampling methods by 30 days of distributing e-questionnaires. The inclusion criteria of this study were men and women who work as health workers, aged 18-65 years old and were willing to become the respondents. The exclusion criteria were to not complete the questionnaire. The instrument used for this study was WHOQOL-BREF. The health workers' quality of life was analyzed descriptively by calculating the average transformed score of each domain. The sample for this study was 184 respondents consisting of 114 women and 70 men. 82 respondents aged 18-25, 90 respondents aged 26-45, and 12 respondents aged 46-65. The analysis of health workers' quality of life resulted: the physical health domain got an average score of 63.18 ± 10.62 , the psychological health domain got an average score of 60.33 ± 15.44 , the social relation domain got an average score of 51.57 ± 17.61 , and the environmental domain got an average score of 57.28 ± 12.48 . In conclusion, health workers have a good physical health, a good psychological health, a moderate social relation, and a moderate environment during the COVID-19 pandemic.

Keywords: COVID-19, health workers, quality of life, WHOQOL-BREF

1. INTRODUCTION

Coronavirus Disease (COVID-19) is a respiratory disease caused by 'Severe Respiratory Syndrome Coronavirus 2' (SARS-CoV-2) [1]. This virus can be transmitted from human to human aggressively through droplets released when coughing or sneezing [2]. In humans, SARS-CoV-2 infects the respiratory tract, especially the cells lining the alveoli [3]. The first reported case of COVID-19 occurred in Wuhan, Hubei Province, China. According to reports, there were five treated patients with SARS, then the disease spread to various other countries [1]. Other risk factors determined by the Centers for Disease Control and Prevention are close contact, including living in the same house with a COVID-19 patient, and travel history to and from affected areas. Being in the same environment but not in close contact (within a 2 meter radius) is considered a low risk [4]. Medical personnel or health workers are one of the populations at high risk of contracting as the front line in patient management [5]. Clinical manifestations in COVID-19 patients have a broad spectrum, ranging from asymptomatic, mild symptoms, pneumonia, severe pneumonia, ARDS, sepsis, to septic shock [5].

Quality of life is an individual's perception of their position in life related to the cultural context and value systems in which they live, which are related to goals, expectations, standards and concerns [6]. The World Health Organization Quality of Life (WHOQOL) made a

WHOQOL-BREF instrument where there are 4 dimensions of quality of life, namely physical health, psychological health, social relations, and the environment which are used as a tool to measure the quality of life which contains 26 question items [7]. The COVID-19 pandemic is considered to trigger depression and anxiety (*feeling blue*). This can be found in people who have lost their freedom, are separated from loved ones, and lost their jobs. This pandemic causes boredom, frustration, bad moods and potential depression. *Feeling blue* arises from fear of transmission and unclear sources of information spread on social media [8]. Based on this background, this research was conducted to determine the quality of life of health workers during the COVID-19 pandemic.

2. METHOD

This research was conducted using an observational method with a cross-sectional approach, in which the analysis with variable measurements was only carried out once at a time with no follow-up. This research was conducted from June to August 2020 with the distribution of e-questionnaires throughout Indonesia.

The population in this study were health workers in Indonesia. This research sample was taken from the results of sampling for 1 month with non-probability sampling methods. The inclusion criteria were health workers, male and

female, aged 18-65 years and willing to become respondents. The exclusion criteria were respondents who did not complete the questionnaire completely.

The instrument used in this research was an e-questionnaire distributed via social media. The questionnaire used to assess the quality of life refers to The World Health Organization Quality of Life (WHOQOL-BREF).

Analysis of research data began with testing the validity and reliability of the questionnaire. The validity test is conducted to measure the validity of a test [9]. Meanwhile, the reliability test is used to determine the consistency of measuring instruments, where the measuring instrument has the ability to be relatively consistent if the measurement is repeated [10]. The validity and reliability test in this study uses the WHOQOL-BREF validity and reliability test in the Indonesian version which has a similar population.

The quality of life analysis was carried out by measuring the score of each question item in the form of a *Likert* scale. The number of questions in the WHOQOL questionnaire was 26 items, which consisted of 4 health domains: physical health, psychological health, social relationship health, and environmental health. For each respondent, the raw score for each dimension was calculated. The score obtained from each dimension would be transformed on a scale of 0-100 using the standard formula set by WHO below:

$$TRANSFORMED\ SCORE = (SKOR-4) * (100/16)$$

To interpret the mean transformed score, the results interpretation table in Table 1 can be used [11].

Table 1. Interpretation of WHOQOL-BREF transformed score

Transformed Score	Interpretation
0 - 20	The quality of life is very poor
0 - 20	Poor quality of life
21 - 40	Quality of life is moderate
41 - 60	Quality of life is good
61 - 80	Quality of life is very good

3. FINDING AND DISCUSSION

3.1. Validity and Reliability Test

The WHOQOL-BREF questionnaire is a standardized questionnaire from WHO which the order of the questions cannot be changed, so to test the validity and reliability of this research, the researchers used results of validity and reliability test of a previous research WHOQOL-BREF questionnaire which had similar populations. Research by Purba, et al. (2018) [12] stated that all question items in the WHOQOL-BREF questionnaire have $r_{count} > 0.361$, so that all questions are valid. The reliability test of the WHOQOL-BREF questionnaire has α_{count} of 0.930 ($>0,600$), which means the WHOQOL-BREF questionnaire is reliable or can be

trusted with very strong or very reliable results' interpretations.

3.2. Respondent Characteristics

In this study, the distribution of questionnaire was carried out through social media platforms throughout Indonesia for 1 month (30 days) by redistributing the questionnaire twice a week. The number of respondents obtained was 184 people who had met the inclusion and exclusion criteria of this study.

The distribution of the respondents' domicile by province is shown in table 2.

Table 2. Respondent Domicile Distribution

No	Province	Quantity	
		N	%
1	Central Java	12	6,52
2	Special Region of Yogyakarta	9	4,89
3	South Borneo	9	4,89
4	Aceh	7	3,80
5	East Java	7	3,80
6	Bengkulu	6	3,26
7	Banten	6	3,26
8	Special Capital District of Jakarta	6	3,26
9	Bali	6	3,26
10	Gorontalo	6	3,26
11	Jambi	5	2,72
12	South Sumatra	5	2,72
13	Lampung	5	2,72
14	Bangka Belitung Islands	4	2,17
15	West Java	5	2,72
16	West Nusa Tenggara	5	2,72
17	East Nusa Tenggara	5	2,72
18	North Kalimantan	5	2,72
19	Central Kalimantan	5	2,72
20	East Kalimantan	5	2,72
21	West Sulawesi	5	2,72
22	Central Sulawesi	5	2,72
23	Southeast Sulawesi	5	2,72
24	North Maluku	5	2,72
25	Maluku	5	2,72
26	West Papua	5	2,72
27	North Sumatra	4	2,17
28	West Sumatra	4	2,17
29	Riau	4	2,17
30	Riau Islands	4	2,17
31	West Kalimantan	4	2,17
32	North Sulawesi	4	2,17
33	Papua	4	2,17
34	South Sulawesi	3	1,63
Total		184	100,00

Based on the data in table 2, the majority of respondents were domiciled in Central Java with a percentage of 6.5%, followed by Special Region of Yogyakarta and South Kalimantan with the same percentage of 4.9%, while the smallest percentage of respondents was domiciled in South

Sulawesi. The domicile of respondents was evenly distributed because all provinces were represented. As the next step, the grouping of respondent characteristics is based on gender, age range, domicile, and duration of social distancing while undergoing social distancing as an action to prevent the spread of COVID-19.

3.2.1. Respondents' Gender

The distribution of the respondents' gender is shown in table 3.

Table 3. Gender Distribution

Gender	Quantity	
	N	%
Male	70	38,04
Female	114	61,96
Total	184	100,00

Based on the table 3, the majority of respondents are female with a percentage of 62.0%. This difference in distribution could be influenced by the tendency for women to have higher social media consumption than men [13]. Moons, *et al.* (2004) in Nofitri (2009) [14] pointed out that gender is one of the factors that affect the quality of life. Herawati and Sasana (2013) [15] stated that gender can affect the level of work productivity.

3.2.2. Respondents' Age

The distribution of the respondents' age is shown in table 4.

Table 4. Distribution of Respondents' Age

Age	Quantity	
	N	%
18-25 years old	82	44,57
26-45 years old	90	48,91
46-65 years old	12	6,52
Total	184	100,00

Based on the data in table 4, the majority of respondents in this study were in the age range of 26-45 with a percentage of 48.91%. Aulia Nur (2014) [13] explained that people aged 20-29 years old and 30-39 years old use electronic mass media as their main information consumption, while people over 40 years old use television as the main information consumption.

The working age allowed by Indonesia's government is at least 18 years old, and the retirement age is regulated in company regulations, cooperation agreements, or laws and regulations. These two things are stated in labour laws, Undang-Undang No. 13 Tahun 2003 tentang Ketenagakerjaan. Moons, *et al.* (2004) and Dalkey (2002) in Nofitri (2009) [14] state that age is a factor that can affect quality of life. Herawati and Sasana (2013) [15] state that a productive age results in higher productivity.

3.3. Quality of Life Analysis

COVID-19 pandemic has an impact on social and behavioural, including the quality of life [16]. The quality of life in this research was analyzed using descriptive analysis. It was as the research conducted to determine the existence of independent variables, either only in one or more variables without making comparisons and looking for relationships between these variables and other variables [17].

The total number of questions in the WHOQOL-BREF quality of life questionnaire was 26 items. Two of the questions are questions about the quality of health in general, but these two questions do not need to be scored because they cannot actually represent the general quality of life of the respondents [18]. Quality of life is described in four dimensions, namely dimensions of physical health, psychological health, social health, and environmental health.

The analysis of health workers' quality of life by gender is shown in table 5.

Table 5. Analysis of Health Workers' Quality of Life by Gender

Variables	Gender	Mean	SD
Physical Health Domain	Male	63,014	10,492
	Female	63,281	10,749
Psychological Health Domain	Male	62,400	11,141
	Female	59,061	17,498
Social Relation Health Domain	Male	51,729	15,065
	Female	51,474	19,062
Environmental Health Domain	Male	59,086	11,024
	Female	56,167	13,214

Based on the data in table 5, the quality of physical health of female respondents was more or less the same as that of male respondents, both of which had good score interpretation results. This is consistent with research conducted by Supriyatna, *et al.* (2018) [19] stating there is no significant difference between the physical activities of women and men.

The psychological health quality of male respondents had a higher average than female respondents, the interpretation results of male respondents were good while for female respondents, it was moderate. This is in accordance with the results of research conducted by Diego, *et al.* (2018) [20] stating women tend to have lower psychological health quality.

The average score of social relation health domain among male respondents was more or less the same as among female respondents, both of which had moderate interpretation results. This is in accordance with the theory put forward by Antonucci and Akiyama (1987) [21] stating the social relations between women and men are similar in small spheres such as family, children, relatives, and close friends.

The quality of environmental health in male respondents was higher than in female respondents, both of whom had moderate interpretation results. This is in accordance with

Suhardin's (2016) [22] statement that men have a higher knowledge of basic ecological concepts than women.

Following the gender part, the results of the analysis of the quality of life of health workers based on their age are shown in table 6.

Table 6. Analysis of Quality of Life for Health Workers by Age

Variables	Age	Mean	SD
Physical Health Domain	18-25	63,256	9,917
	26-45	63,411	11,031
	46-65	60,917	12,760
Psychological Health Domain	18-25	58,500	14,363
	26-45	61,133	15,979
	46-65	66,833	17,502
Social Relation Health Domain	18-25	46,354	25,976
	26-45	55,000	17,659
	46-65	61,500	18,643
Environmental Health Domain	18-25	53,024	10,158
	26-45	60,156	11,876
	46-65	64,750	20,623

In table 6, the quality of physical health of the three age groups has a good score of interpretation, but elderly respondents have the smallest average score of all. Papalia *et al.* (2001) and Ariyanti (2009) in Anis, *et al.*, (2012) [23] stated that in elderly age, a person will experience declining changes in physical, cognitive, and psychological aspects.

In terms of the quality of psychological health, the older the respondent, the greater the average score on quality of psychological health. Anis, *et al.*, (2012) [23] explained that in elderly age, the main development that occurs is understanding and accepting the physical and psychological changes and then adapting to the situation. According to Anis, *et al.*, (2012) [23], someone who experiences high emotional intelligence can control himself, control emotions, motivate himself, and direct himself to be more productive.

In social relation health domain, the older the respondents, the greater the average score of social relationship quality. Syamsuddin (2008) [24] states that spiritual and social activities are of the highest value for the elderly to find meaning and sense of self-worth. Social relationships that can be formed are gathering with family or friends, and feeling empathy for the same fate as the surroundings.

Table 6 shows that the older the respondent is, the greater the average score obtained, which means the quality of environmental health is getting better. Goode (1994) in Anis, *et al.* (2012) [23] argue that the quality of one's life reflects the cultural wealth and surroundings. The elderly need to have a safe, serene, and pleasant living environment so that the quality of their environmental health is good.

The results of the analysis of the quality of life of health workers in Indonesia during COVID-19 pandemic are shown in table 7.

Table 7. Respondents' Average Quality of Life

Category	Average	Intepretation
Physical Health Domain	63,18 ± 10,62	Good
Psychological Health Domain	60,33 ± 15,44	Good
Social Relation Health Domain	51,57 ± 17,61	Moderate
Environmental Health Domain	57,28 ± 12,48	Moderate

Based on the data in table 7, the interpretation results of the average quality score for physical health and psychological health domains are good while both domains of social relation health and environmental health got a moderate average interpretation.

3.3.1. Physical Health Domain

Koshuta (2015) [25] and Agustianti (2006) [26] explained the definition of physical health as a condition in which the body is fit, healthy, not attacked by any disease, and organs can function optimally to carry out daily activities independently. Total physical health domain questions in the questionnaire were 7 items, containing questions regarding pain and discomfort (item 3), medical treatment needs (item 4), daily energy needs (item 10), mobility ability (item 15), need for sleep and rest (item 16), ability to perform daily activities (item 17), and ability to work (item 18).

In table 7, analysis results of quality of life, physical health domain got an average transformed score of 63.18 ± 10.62. This means that the physical health quality of health workers in Indonesia during COVID-19 pandemic is categorized as good. Factors that can support the quality of physical health are physical activity (strength, flexibility and endurance), diet and nutrition (nutrient intake, fluid intake and a healthy digestive system), not consuming alcohol and drugs, self-medicated habits (illness minor, injury, and emergency care efforts), and adequate rest and sleep (Koshuta, 2015) [25].

3.3.2. Phychological Health Domain

Pieper and Uden (2006) [27] defined a healthy psychology as a condition in which a person does not blame himself, is realistic and accepts his shortcomings, is able to face problems, is satisfied with social conditions, and feels that his life is happy. The total number of questions on the psychological health domain in the questionnaire was 6 items consisting of questions related to positive feelings (item 5), spirituality (item 6), thinking ability (item 7), appearance (item 11), self-esteem (item 19), and negative feelings (item 26).

In table 7, analysis results of quality of life, psychological health domain have an average transformed score of 60.33 ± 15.44. This means that the psychological health quality of health workers in Indonesia during COVID-19 pandemic is categorized as good.

Analysis by Sutikno (2015) [28] described the factors that affect the quality of mental or psychological health are gender, family function, physical health, and the environment. Family functions that run well will provide support and affection so as to improve the quality of psychological health. The relationship that occurs in the quality of physical health with the quality of psychological health is that someone who experiences certain diseases can feel depression, so that the quality of psychological health decreases.

3.3.3. Social Relation Health Domain

Social relations according to Wardiyatmoko (2009) in Fihayati (2014) [29] is an activity that connects individuals, individuals to groups, or between groups, which directly or indirectly creates a sense of mutual understanding and mutually beneficial cooperation. The total number of questions on the health domain of social relations in the questionnaire consisted of 3 questions consisting of social/personal relations questions (item 20), social support (item 21), and sexual satisfaction (item 22).

In table 7, analysis results of quality of life, social relation health domain have an average transformed score of 51.57 ± 17.61 . This means that the health quality of the social relations of health workers in Indonesia during COVID-19 pandemic is categorized as moderate.

Sekarwiri (2008) in Jacob and Sandjaya (2018) [30] stated that social relationships include personal relationships, social support, and sexual activity. Personal relationship can be in the form of relationship with oneself or with others, social support means assistance from the surrounding environment to individuals, and sexual activity describes sexual activities carried out by individuals.

3.3.4. Environmental Health Domain

Himpunan Ahli Kesehatan Lingkungan Indonesia (HAKLI) in Mundiatum and Daryanto (2015) [31] defines environmental health as a condition in which the environment is able to support a dynamic ecological balance between humans and their environment, in order to achieve a healthy and happy quality of human life. The total number of questions on the environmental health domain in the questionnaire was 8 items consisting of questions regarding safety (item 8), environment (item 9), finance (item 12), availability of information (item 13), opportunities to have fun (item 14), living quarters (item 23), and health facility services (item 24).

In table 7, analysis results of quality of life, the environmental health domain got an average transformed score of 57.28 ± 12.48 . This means that the environmental health quality of health workers in Indonesia during COVID-19 pandemic is categorized as moderate.

Sekarwiri (2008) in Jacob and Sandjaya (2018) [30] pointed out that dimensions of environmental health are

financial resources, freedom, a sense of security both psychologically and physically, health services, social care, updating of information, recreation, satisfaction of the physical environment, and transportation.

It is important to note the limitations of our study. Even though it involves all provinces in Indonesia, the number of respondents is still limited. It is better if the number of respondents is more so that the data is more varied.

4. CONCLUSION

During the COVID-19 pandemic, health workers have good physical health quality, good psychological health, moderate social relationship quality, and moderate environmental health.

AUTHORS' CONTRIBUTIONS

Concept and design; analysis and interpretation of data; critical revision of the paper for important intellectual content: Hadning.

Acquisition of data; statistical analysis; drafting of the manuscript: Qurrotu' Ainii.

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