

Social support Improved the quality of life among Covid-19 Survivors in Sumbawa

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Abstract

Introduction: Covid-19 infected has an impact on quality of life among patients. **Objectives:** The study aimed to analyze factors related to quality of life among Covid-19 survivors in Sumbawa. Moreover, identifying the most variable related to quality of life was the secondary aims of this study. **Methods:** A quantitative study with a cross-sectional survey approach was applied to COVID-19 survivors in the Sumbawa Regency, West Nusa Tenggara. One hundred one respondents were selected by using proportional random sampling technique. Two statistically analysis used such as chi-square test and multiple logistic regression. **Results:** The results showed that gender, age, occupation, education level and social support associated with quality of life among covid-19 survivors. Social support was highest factor to improve the quality of life. **Recommendation:** The role of families, communities, and the government becomes an important point to ensure that COVID-19 survivors get social support, particularly when 1 to 6 months of recovery.

Keywords: Quality of life, COVID-19, Social Support



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INTRODUCTION

Coronavirus disease (COVID-19) is a pandemic disease that is currently affecting several aspects of daily life (1). In Indonesia, this disease was first identified in March 2020, and to date, the number of cases has reached 400 thousand cases and the recovery rate has reached 81.3% (2). In Sumbawa Regency, there are currently 256 confirmed cases and the recovery rate reaches 80% (3).

During treatment, COVID-19 patients will undergo a process of isolation that can lead to depression, anxiety, and cognitive decline and reduce resilience factors such as self-esteem and feelings of being valued (1,4-6). The many factors associated with isolation include fears related to health and contagion, misinformation about the pandemic, travel restrictions, government policies, boredom, frustration, insufficient supplies, and financial loss, all of which can have an impact on physical and psychological well-being and quality of life of patients (7-9).

Quality of life is an individual's perception of their position in life in the context of the culture and value systems in which they live and to their goals, expectations, standards, and concerns (10-13). It is a broad-ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs, and relationship to salient features of their environment (14-16). Several factors can affect people's quality of life, for example, global conditions, external conditions, interpersonal conditions, and personal conditions (13,17). Illness perception is an approach to explain behavior and ways of individuals in coping with their illness, and this approach is an important aspect in considering interventions to improve the quality of life of patients (11,12,18).

The present study conveyed that most patients requiring hospitalization for COVID-19 still have persistent symptoms, even 110 days after being discharged, especially in quality of life. Other studies have shown that patients' quality of life is influenced by social support, gender, age, occupation, education level, the length of stay and the severity of disease (10,13,17). There was no study explore about the correlation between social support, gender, age, occupation, education level, the

length of stay and the severity of disease with quality of life among Covid-19 survivors in Sumbawa.

OBJECTIVE

The study aimed to analyze factors related to quality of life among Covid-19 survivors in Sumbawa. Moreover, identifying the most variable related to quality of life was the secondary aims of this study.

METHODS

Design

This study is a quantitative study with a cross-sectional survey performed among COVID-19 survivors in the Sumbawa Regency, West Nusa Tenggara Province.

Sample size and sampling technique

One hundred one respondents were obtained using proportionate stratified random sampling. We selected respondents from 5 primary health care (PHC) facilities using the proportionate formula: $n_i = (N_i/N) \times n$. Where about 23 respondents from Primary Health Care Unit 1 Sumbawa, 22 respondents from PHC Unit 2 Sumbawa, PHC Unteriwis 19 respondents, PHC Labuhan Badas 21 respondents and PHC Moyo Utara 16 respondents. The inclusion criteria of the respondents of this study were COVID-19 survivors who were willing to become respondents and reside in the Sumbawa Regency area.

The instrument for data collection

Several instruments used to measure the variables including:

Demographic survey was used to measure sociodemographic characteristics of respondents. The sociodemographic data were gender, age, education, severity, comorbid and length of stay.

Multidimensional Scale of Perceived Social Support was measured the social support. It consisted of 12 question items with dimensions of support from three sources: family, friends, and significant others. This instrument used a 7-point Likert scale with 1 being equal to strongly disagree and 7 being equivalent to strongly agree (19). The most frequently used health-related quality of life measuring instrument is the Medical Outcomes

Study Short Form 36 or SF 36. The Short Form-36 (SF-36) consists of 8 dimensions of quality of life, which include: 1) Physical function, 2) Role limitations due to physical problems, 3) Bodily pain, 4) General health, 5) Vitality, 6) Social function, 7) Role limitations due to emotional problems, and 8) Mental health (20).

Data collection process

We divided the procedure of data collection into pre-intervention and intervention phases. In the pre-intervention phase, we processed the permission letters from Manambai Abdulkadir Hospital and the Research Ethics Committee for ethical approval. While in the intervention phase: (1) Information sheets and consent forms provided to be signed by participants; (2) participants were assessed for the data about the correlation between social support, gender, age, occupation, education level, the length of stay and the severity with quality of life collected. Data collection has been conducted in 4 weeks by research assistants' period on April–May 2021.

Data analysis

Data were analyzed using IBM® SPSS® Statistics 26.0 with a significance value of 0.05. Demographic data of respondents are presented in the form of a frequency distribution. This study used the chi-squared test to assess the relationship between the independent and dependent variables and used the logistic regression test to model the multivariate test. Logistic regression was carried out to find the variables that had the most influence on the quality of life of COVID-19 patients

Ethical consideration

Each participant who agreed signed the informed consent. Participant has the right to withdraw. The researcher got approved to conduct the study from the committee ethic of Manambai Abdulkadir Hospital (IRB Number: 001/EC/I/2021), further, the data about the correlation between social support, gender, age, occupation, education level, the length of stay and the severity with quality of life collected.

RESULTS

The results of the analysis that are presented in the table above show that the majority of respondents are female (55.4 %) and most of the respondents are in the age range of 30-60 years (70.3%). The majority of respondents in this study were unmarried (54.5%) and most of them worked as carpenters (47.5%) with the educational attainment of most respondents being an associate degree or bachelor's degree (47.5%). The severity of COVID-19 symptoms suffered by most respondents was severe symptoms (28.7%) with the most social support in the high category (49.5%). Most of the respondents in this study (66.3%) did not have comorbidities. Most of the respondents (60.4%) were treated for COVID-19 for 10-20 days and the quality of life of the respondents was mostly in the good category (74.3%).

Table 1. Sociodemographic Respondents

No	Characteristics	n	%
1.	Gender		
	- Male	45	44.6%
	- Female	56	55.4%
2.	Age		
	- < 30	15	4.9%
	- 30-60	71	70.3%
	- >60	15	14.9%
3.	Education		
	- No education	4	4%
	- Primary school	11	10.9%
	- Junior high school	15	14.9%
	- Senior high school	23	22.8%
	- Collage	48	47.5%
4.	Severity		
	- No symptoms	29	28.7%
	- Mild symptoms	16	15.8%
	- Moderate symptoms	27	26.7%
	- Severe symptoms	29	28.7%
5.	Social support		
	- Lack	6	5.9%
	- Moderate	45	44.6%
	- High	50	49.5%
6.	Comorbid		
	- No comorbid	67	66.3%
	- Any comorbid	34	33.7%
7.	Length of stay		
	- <10 days	36	35.6%
	- 10-20 days	61	60.4%
	- >20 days	4	4%
8.	Quality of life		
	- Lack	26	25.7%
	- Good	75	74.3%

Bivariate Analysis

The results of the analysis displayed that the demographic variables of respondents that had a significant relationship with the quality of life of COVID-19 survivors were gender, age, occupation, and education level. Other factors that had a significant relationship with the quality of life of COVID-19 survivors were comorbidities and social support. Length of hospital stay and disease severity of the survivors in this study had no relationship with the quality of life of COVID-19 survivors.

Table 2. Bivariate Analysis

Variables	Quality of life		Chi-square	p-value
	Lack	Good		
Gender			4.406	0.036
- Male	7	38		
- Female	19	37		
Age			6.279	0.043
- < 30	1	14		
- 30-60	18	53		
- >60	7	8		
Education			11.53	0.021
- No education	1	3		
- Primary school	6	5		
- Junior high school	7	8		
- Senior high school	5	18		
- Collage	7	41		
Severity			0.713	0.87
- No symptoms	7	22		
- Mild symptoms	3	13		
- Moderate symptoms	8	19		
- Severe symptoms	8	21		
Social support			7.72	0.021
- Lack	3	3		
- Moderate	16	29		
- High	7	43		
Comorbid			4.185	0.041
- No comorbid	13	54		
- Any comorbid	13	21		
Length of stay			2.073	0.355

- <10 days	8	28
- 10-20 days	18	43
- >20 days	0	4

Multivariate Analysis

Based on the results of the logistic regression test from the table above, the regression equation obtained is as follows:

Quality of Life = 2.410 - 1.813 Gender - 24.065 Occupation + 24.532 Education - 0.505 Comorbidity + 1.667 Social support - 1.563 Age
 From the Wald test, it was known that the social support variable had a dominant impact on the quality of life because it had the highest value (10.480). Other dominant variables were gender (7.783) and age (6.076).

DISCUSSION

This study aims to analyzed factors related to the quality of life of COVID-19 survivors. Moreover, identifying the most variable related to quality of life.

Based on the results of this study, it was known that in general, as many as 74.3% of respondents had a good quality of life, while 25.7% of respondents had a poor quality of life. Quality of life is a complex and multidimensional construct that includes physical and psychological characteristics and describes the ability of individuals to perform their functions and obtain self-satisfaction from what they have done (8,12,21,22). In this study, the components of quality of life assessed were physical and mental. The final calculation of quality of life is based on the average score of each component. The measurement of the physical component consists of the domains of physical function, physical role, bodily pain, and general health, while the mental component consists of emotional role, vitality, mental health, and social function (20).

Several study reveal a decrease in the quality of life of COVID-19 survivors in various countries (13,17,23). The quality of life of COVID-19 survivors in China has decreased due to stigma against COVID-19 patients and survivors, negative social judgments, anxiety, and fear of social interactions (10). This result is

also supported by a recent study which stated that the quality of life of COVID-19 survivors decreased 3 months after they were discharged from the hospital (11,23). In fact, the decline in quality of life is also perceived by survivors up to 6 months after recovery from COVID-19 (14,23).

In general, the decline in the quality of life of people with COVID-19 is influenced by physical factors, such as shortness of breath feeling, pain, anxiety, and depression (13,15,24). There were still sequelae found in COVID-19 survivors, which include anxiety, depression, PTSD, fatigue, cognitive deficits, shortness of breath, mobility impairment, insomnia, problems in fulfilling activities of daily living, insomnia, and memory disorders (1,25).

Based on the results of this study, it is known that several factors have a significant impact on the quality of life of COVID-19 survivors in Sumbawa Regency, namely, social support, gender, age, occupation, education level, the length of stay and the severity.

The results of this study indicated that social support for COVID-19 survivors was generally in the medium category (44.9%) and high category (49.5%). Statistical test results displayed that there was a significant relationship between social support and the quality of life of COVID-19 survivors (12,15,26).

Social support had a significant impact on the quality of life where survivors and patients who felt they had good social support had good mental health so they were less prone to anxiety or depression. Social support is closely related to mental health. Anxiety and depression are caused by COVID-19 that has an impact on social relationships and economic conditions.

Anxiety arises due to ambiguous news, negative rumors about COVID-19, and misinformation. Poor social outlook is caused by quarantine, which creates feelings of loneliness from being shunned by friends and neighbors, fear of death, and fear of changes in physical health after recovery from COVID-19 (14,27-29). After being discharged from the hospital, the survivors felt that they were ostracized and avoided by many people. Social stigma causes a decrease in self-confidence and

mental health and causes mood changes, anxiety, and sleep disorders (7).

The multivariate test in this study revealed that social support was the factor that had the strongest relationship in logistic regression modeling. Many studies, showed that a traumatic experience (e.g. witnessing another person suffer or even die) during medical treatment in a care unit creates mental problems (e.g. PTSD) in discharged patients. Other studies have also reported that the traumatic experiences of COVID-19 survivors were more due to their social interactions, especially with neighbors, rather than due to the medical treatment process (27,30,31). Social support from the closest people such as family members, friends, relatives, and co-workers is very necessary for mental well-being in the face of the COVID-19 pandemic (30,31).

Social support provided by the surrounding will affect self-efficacy to achieve goals and face obstacles in a process of achieving certain results. The forms of social support during the current COVID-19 pandemic are (1) Appraisal support to solve problems or analyze stressors, which can be provided by being a good listener; (2) Tangible support in the form of real assistance in solving problems, such as assistance in the form of food, masks, or medical equipment; (3) Self-esteem support, which is support for a positive self-image in the form of economic assistance and mental support; and (4) Belonging support in the form of acceptance in one part or one group, which is provided by not doing social isolation for COVID-19 patients (32).

In this study, the number of female respondents was more than the number of male respondents. The results of statistical analysis displayed that there was a significant relationship between gender and quality of life. The result of this study is following the results of several studies related to the quality of life of COVID-19 survivors. Female survivors tend to have a worse quality of life than male survivors. This is because women have disproportionate mental health compared to men. In addition, one of the components of quality of life is related to physical activity where men tend to have better physical activity than women (25,31,33). In general, based on research conducted in the United States, Germany, and

Singapore, the impact of COVID-19 on gender issues is related to the work world where women are more at risk of being dismissed from their jobs, having their working hours reduced, and experiencing changes in working methods and hours. This will have an impact on the quality of life in the physical and mental domains (15,17,19).

Based on the results of this study, the 30-60-year old age group dominated with a percentage reaching 70.3%. Statistical test results displayed that there was a significant relationship between age and quality of life of COVID-19 survivors. COVID-19 affects various age groups. There are changes in the quality of life in children and adolescents who caught COVID-19. In addition, studies in the United States also showed that the quality of life of the young population aged 18-24 years was declining compared to the national quality of life in the country. This is due to restrictions and lockdowns that limit the space for mobility and creativity of this age group.

The impact of COVID-19 on the elderly age group also shows that the elderly tend to have a significant risk of decreasing quality of life (14,17). Aging causes various kinds of physical, psychological, social, and cultural changes (20,21). Physically, these changes include changes in respiratory, hearing, visual, cardiovascular, body regulatory, musculoskeletal, gastrointestinal, genitourinary, endocrine, and integumentary systems and daily physical problems such as weakness, fatigue, and so on (34,35).

Several studies revealed that 3 to 6 months after treatment for COVID-19 survivors, there are still various symptoms, including shortness of breath, pain, anxiety, and depression (15,17). COVID-19 attacks the respiratory system and causes inflammation and edema in the alveoli and lung tissue, which causes patients and survivors to experience persistent shortness of breath. In addition, the older an individual is, the greater the risk of them experiencing these changes becomes. These changes will have an impact on physical function, physical role, pain, mental health, and social function (11,24).

The higher a person's level of educational attainment is, the more positive their behavior will be because the education

they obtained can make them have the basics of understanding and behavior within themselves. Patients who have higher education will have broader knowledge as well (13,17,23). Broader knowledge allows the patients to be able to control themselves in dealing with the problems at hand, have high self-confidence, be experienced, have an accurate estimate of how to deal with an incident, easily understand what is recommended by health workers, and manage their anxiety to help them in making decisions (17).

Quality of life with sociodemographic variables (gender, age, education, marital status) and clinical variables (self-reported mental health, depression, and anxiety) in end-stage chronic disease patients. However, the quality of life is subjective so it is not necessarily determined by the level of education. Patients do not care about the condition they are currently in. Their current focus is only on treatment so they can recover quickly. They do not think about the needs that support their quality of life. Both respondents with high and low educational attainment have their way of seeking information regarding their illness and treatment for it.

COVID-19 poses a high risk to people who have underlying medical conditions (comorbidities). The clinical manifestations of COVID-19 were found to be very diverse, as were the comorbidities that accompanied it. In China, at the time of hospital admission, 20-51% of patients were reported to have at least one of the comorbidities, among others, diabetes mellitus (10-20%), hypertension (10-15%), heart disease, and another vascular disease (Fig. 7-40%) (36,37). According to Sanyaolu et al., (2020), the presence of one of the comorbidities will increase the risk of developing Acute Respiratory Distress Syndrome (ARDS) by 3.4 times. Similar to influenza, SARS-CoV, and MERS-CoV, COVID-19 is more likely to cause respiratory failure and death in the group of patients with comorbidities (17,24).

The health conditions of chronic disease patients infected with COVID-19 will be affected and the quality of life of these chronic disease patients will be affected as well (8). Patients with chronic diseases are a vulnerable

population with low quality of life during the COVID-19 pandemic. Respondents with three or more chronic diseases had a lower quality of life than other respondents. Participants discovered that people who underwent quarantine, especially people with chronic diseases, had poor general health quality.

CONCLUSION

It is very important to maintain the quality of life of COVID-19 survivors so that survivors will be able to work optimally with their environment and interact according to their roles and functions in society. Social support in dealing with the current situation of the COVID-19 pandemic is very important, especially in the psychological dimension. Social support provides self-confidence, comfort, a sense of purpose, and safety. It can reduce various forms of stress, improve coping mechanisms, and improve quality of life. Thus, the role of families, communities, and the government is important to ensure that COVID-19 survivors receive social support, especially within 6 months of recovery from COVID-19. Studies that focus on social support variables to improve the quality of life need to be carried out in the future. Moreover, professionals must pay attention to social support for improving the quality of life of COVID-19 patients.

REFERENCES

1. Pranata S, Nur FA, Wulandari H, Zainuddin MJ, Hidayat M. New Normal at Islamic Boarding School During the Covid-19 Pandemic in Sumbawa Island. 2021;514(Icoship 2020):201-4.
2. Kementrian Kesehatan. Dashboard Kasus COVID-19 di Indonesia [Internet]. 2021. Available from: <https://www.kemkes.go.id/article/view/20012900002/Kesiapsiagaan-menghadapi-Infeksi-Novel-Coronavirus.html>
3. Dinkes Sumbawa. Pandemi covid-19. 2021;
4. World Health O. Infection prevention and control guidance for long-term care facilities in the context of COVID-19: interim guidance, 8 January 2021. 2021;(WHO/2019-nCoV/IPC_long_term_care/2021.1). Available from: <https://apps.who.int/iris/handle/10665/338481>
5. Salari N, Hosseinian-Far A, Jalali R, Vaisi-Raygani A, Rasoulpoor S, Mohammadi M, et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. *Global Health*. 2020;16(1):1-11.
6. Hagger MS, Keech JJ, Hamilton K. Managing stress during the coronavirus disease 2019 pandemic and beyond: Reappraisal and mindset approaches. *Stress Heal*. 2020;36(3):396-401.
7. By E, Mccann G, Colleran C. COVID-19 IN THE GLOBAL SOUTH - Impacts and Responses. 2021;
8. Methun MIH, Uddin MSG, Haq I, Noor MA, Habib MJ, Hossain MI, et al. Determinants of quality of life among COVID-19 patients in Southwestern region of Bangladesh. *Indian J Med Sci*. 2021;0(December):1-8.
9. Yuniti IGAD, Sasmita N, Komara LL, Purba JH, Pandawani NP. The impact of covid-19 on community life in the province of Bali, Indonesia. *Int J Psychosoc Rehabil*. 2020;24(10):1918-29.
10. Fadila M, Argarini D, Widiastuti S. Factors Related to Quality of Life among Elderly During COVID-19 Pandemic. *Int J Nurs Heal Serv*. 2022;5(1):45-55.
11. Algamdi MM. Assessment of post-covid-19 quality of life using the quality of life index. *Patient Prefer Adherence*. 2021;15(September):2587-96.
12. Leong Bin Abdullah MFI, Mansor NS, Mohamad MA, Teoh SH. Quality of life and associated factors among university students during the COVID-19 pandemic: A cross-sectional study. *BMJ Open*. 2021;11(10):1-12.
13. Mulyani I, Rahardjo W, Andriani I, Qomariyah N. Factors influencing employee's quality of life during COVID-19 pandemic. *Indig J Ilm Psikol*. 2020;5(2):164-74.
14. Poudel AN, Zhu S, Cooper N, Roderick P, Alwan N, Tarrant C, et al. Impact of Covid-19 on health-related quality of life of patients: A structured review. *PLoS*

- One [Internet]. 2021;16(10 October):1–20. Available from: <http://dx.doi.org/10.1371/journal.pone.0259164>
15. Chen KY, Li T, Gong FH, Zhang JS, Li XK. Predictors of Health-Related Quality of Life and Influencing Factors for COVID-19 Patients, a Follow-Up at One Month. *Front Psychiatry*. 2020;11(July):1–6.
 16. Wu C, Cheng J, Zou J, Duan L, Campbell JE. Health-related quality of life of hospitalized COVID-19 survivors: An initial exploration in Nanning city, China. *Soc Sci Med*. 2021;274:113748.
 17. Rass V, Ianosi BA, Zamarian L, Beer R, Sahanic S, Lindner A, et al. Factors associated with impaired quality of life three months after being diagnosed with COVID-19. *Qual Life Res* [Internet]. 2021;31(5):1401–14. Available from: <https://doi.org/10.1007/s11136-021-02998-9>
 18. Arab-Zozani M, Hashemi F, Safari H, Yousefi M, Ameri H. Health-Related Quality of Life and its Associated Factors in COVID-19 Patients. *Osong public Heal Res Perspect* [Internet]. 2020 Oct;11(5):296–302. Available from: <https://pubmed.ncbi.nlm.nih.gov/33117634>
 19. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support. *J Pers Assess*. 1988;52(1):30–41.
 20. Wang R, Wu C, Zhao Y, Yan X, Ma X, Wu M, et al. Health related quality of life measured by SF-36: A population-based study in Shanghai, China. *BMC Public Health*. 2008;8:1–8.
 21. Maric NP, Pejovic-Milovancevic M, Vukovic O, Colovic O, Miljevic C, Pejuskovic B, et al. Determinants of quality of life among individuals seeking mental health care after termination of state of emergency due to the coronavirus disease 2019 pandemic. *Medicine (Baltimore)* [Internet]. 2021;100(31). Available from: https://journals.lww.com/md-journal/Fulltext/2021/08060/Determinants_of_quality_of_life_among_individuals.74.aspx
 22. Arian M, Vaismoradi M, Badiee Z, Soleimani M. Understanding the impact of COVID-19 pandemic on health-related quality of life amongst Iranian patients with beta thalassemia major: a grounded theory. *Prim Health Care Res Dev* [Internet]. 2021/11/10. 2021;22:e67. Available from: <https://www.cambridge.org/core/article/understanding-the-impact-of-covid19-pandemic-on-healthrelated-quality-of-life-amongst-iranian-patients-with-beta-thalassemia-major-a-grounded-theory/76D47CB9399323DE3E7A3EACF1367EBB>
 23. Nandasena HMRKG, Pathirathna ML, Atapattu AMMP, Prasanga PTS. Quality of life of COVID 19 patients after discharge: Systematic review. *PLoS One* [Internet]. 2022;17(2 February):1–12. Available from: <http://dx.doi.org/10.1371/journal.pone.0263941>
 24. Almhdawi KA, Alrabbaie H, Arabiat A, Alhammouri AT, Hamadneh M, Obeidat D, et al. Physicians' Health-Related Quality of Life and Its Associated Factors During COVID-19 Pandemic in Jordan: A Cross-Sectional Study. *Eval Heal Prof*. 2022;45(1):76–85.
 25. Pranata S, Wu SFV, Purwadi H, Gede D, Putra S, Wulandari H. Exploring of Self-management Experience among Health Professional Survivors from Coronavirus Disease 2019 in West Nusa Tenggara , Indonesia. 2021;9:19–27.
 26. Xu J, Ou J, Luo S, Wang Z, Chang E, Novak C, et al. Perceived Social Support Protects Lonely People Against COVID-19 Anxiety: A Three-Wave Longitudinal Study in China. *Front Psychol*. 2020;11(November):1–12.
 27. Jribi S, Ben Ismail H, Doggui D, Debbabi H. COVID-19 virus outbreak lockdown: What impacts on household food wastage? *Environ Dev Sustain*. 2020;22(5).
 28. Liao C. Emergency stress management among nurses: A lesson from the COVID-19 outbreak in China - a cross-

- sectional study. 2021;(May 2020):433-42.
29. Gupta SK, Lakshmi PVM, Kaur M, Rastogi A. Role of self - care in COVID - 19 pandemic for people living with comorbidities of diabetes and hypertension. 2020;5495-501.
 30. Saleh M, Malami AM, Alhaji NM, Mohammed SU. COVID-19 a Gate Way to New World Order (An Analysis of WHO in the 21 st Century). 2020;(January).
 31. Woods JA, Hutchinson NT, Powers SK, Roberts WO, Gomez-cabrera MC, Radak Z, et al. The COVID-19 pandemic and physical activity. *Sport Med Heal Sci.* 2020;2(January):55-64.
 32. Santoso MDY. Review Article: Dukungan Sosial Dalam Situasi Pandemi Covid 19. *J Litbang Sukowati Media Penelit dan Pengemb.* 2020;5(1):11-26.
 33. Di Pietro G, Biagi F, Costa P, Karpiński Z, Mazza J. The Likely Impact of COVID-19 on Education: Reflections based on the Existing Literature and Recent International Datasets [Internet]. Vol. EUR 30275, Publications Office of the European Union, Luxembourg. 2020. 1-50 p. Available from: www.stock.adobe.com
 34. Atmaja HK, Pranata S, Augustin K, Luthfia E. Accessibility of e-EWSS versus Manual EWSS for Detecting the Emergency Condition among Patients with Coronavirus Disease 2019: A Survey Research on Register Nurse in Indonesia. *Open Access Maced J Med Sci.* 2022;10(G):286-9.
 35. Mulianda D, Rahmanti A, Margiyati M, Sari NW, Haksara E, Pranata S. Behavioral Activation, Mindfulness Exercises, and Loving-Kindness Meditation Exercises as Effective Therapies to Reduce Stress among Nursing Students' during COVID-19 Pandemic. *Open Access Maced J Med Sci.* 2022;10(G):228-32.
 36. Padila P, Panzilion P, Andri J, Nurhayati N, Harsismanto J. Pengalaman Ibu Usia Remaja Melahirkan Anak di Masa Pandemi COVID-19. *J Telenursing.* 2021;3(1):63-72.
 37. Guan W, Liang W, Zhao Y, Liang H, Chen Z, Li Y, et al. Comorbidity and Its Impact on 1590 Patients with COVID-19 in China: a Nationwide Analysis. *Eur Respir J.* 2020;55(5).
 38. Sanyaolu A, Okorie C, Marinkovic A, Patidar R, Younis K, Desai P, et al. Comorbidity and its Impact on Patients With COVID-19. *SN Compr Clin Med.* 2020;1-8.