

## Perception of Risk of Exposure to Covid-19 and Quality of Life for Nurses in the Emergency Room after Booster Vaccination

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### ABSTRACT

**Background:** nurses' perceptions of risk have an impact on the process of dealing with a pandemic as well as affecting their quality of life in terms of physical health, psychology, social relations, and the environment.

**Purpose:** this study analyzed the relationship between perceptions of the risk of exposure to Covid-19 and the quality of life of nurses in the Emergency Room after booster vaccination.

**Methods:** research using studies *cross-sectional* by sampling technique *total sampling* for all emergency room nurses at hospitals in Sukabumi City there were 49 people. The data collection instrument uses a risk perception questionnaire and a questionnaire *World Health Organization Quality of Life (WHOQOL-BREF)*.

**Results:** the result revealed that 51% had high-risk perception and 51% had poor physical health, 63.3% had bad psychological, 57.1% had a bad environment, and 77.6% with good social relations. After doing the test *Chi-Square* significance ( $\alpha = 0.05$ ), there is a relationship between perceptions of the risk of exposure to Covid-19 with 3 domains of quality of life including physical health (0.032), psychological (0.029), and the environment (0.029). But there is no relationship with the domain of social relations (0.196).

**Conclusion:** Health workers, especially nurses, always have a good coping mechanism during a pandemic. Apart from that, it is hoped that nurses can improve their quality of life, such as maintaining their physical and psychological health to improve the quality of service.

### Keywords:

Covid-19; risk perception; emergency nurse; quality of life

## BACKGROUND

Coronavirus Disease or Covid-19 is an infectious disease caused by a newly discovered coronavirus (WHO, 2020). *Coronavirus is a pathogen zoonosis* (a disease that is transmitted from animals to humans and from humans to humans) (Li et al., 2020). Based on data from the World Health Organization (WHO) in 2022 there were 474,659,674 cases of Covid-19 infection from 229 countries and 6,103,355 deaths. Covid-19 in Indonesia continues to increase, confirmed cases in 2022 are now 5,847,900 people (Ministry of Health of the Republic of Indonesia, 2022). The Covid-19 case has a physical impact that can cause several symptoms.

In patients infected with Covid-19, symptoms such as cough, fever, fatigue, headache, hemoptysis, diarrhea, dyspnoea, and lymphopenia occur (Rothan & Byrareddy, 2020). Whether these symptoms are present, Covid-19 carries a risk of transmission from human to human, especially through direct contact or through droplets spread by coughs or sneezes from infected people (Ministry of Health of the Republic of Indonesia, 2020). This transmission will occur between health workers and is often reported to occur in the emergency room due to the screening and triage processes.

The implementation of screening and triage of suspected Covid-19 patients carried out in the emergency room will put the risk of spreading the Covid-19 virus, especially to health workers. This is because there is a large accumulation of patients in the emergency room who have not been diagnosed with Covid-19. This is evidenced by the report on the temporary closure of the emergency room because it became *the locus* (place) occurrence of virus-19 (Chung et al., 2020). There were reports at Wates Kulon Progo Hospital that there were cases of four Covid-19 patients dying while queuing for emergency services because the previous full ward was closed temporarily after the buildup of Covid-19 patients. According to Ortíz-Barrios and Alfaro-Saíz, (2020), some of the causes of overcrowding in the emergency room are a lack of health workers (because many medical workers are exposed and must be isolated), this proves that many medical workers are exposed because Covid-19 patients have not yet been diagnosed. the ratio of patients piling up with the number of available health workers is unbalanced.

Nurses are health workers who are at very high risk of exposure to Covid-19 compared to other health workers. This is evidenced by data reports that in 2021, 8,262 nurses in Indonesia were infected with Covid-19 (PPNI, 2021). Research from Roulita et al., (2021) related to the condition of nurses during a pandemic is called a phenomenon of "tragedy and injustice" because of the high mortality rate of nurses during the pandemic which caused a reduction in nursing staff and also an increasingly heavy workload due to the increasing cases of Covid-19, so that the recorded deaths of health workers in the world from March 2020 to July 2021 reached 1,141 people (Ministry of Health, 2021). In Indonesia, it was recorded that 647 medical and health workers died due to exposure to Covid-19, consisting of 289 doctors, 27 dentists, 221 nurses, 84 midwives, 11 pharmacists, and 15 medical laboratory personnel (Situmorang, L. & Sudharmono, 2021 ).

Efforts to overcome the shortage of health workers in the emergency Room The Director General of Disease Prevention and Control issued a policy that health workers were the first group to receive booster vaccinations (Ministry of Health, 2022). Research by Wulandari et al., (2021)

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stated that several health workers were exposed to the Covid-19 virus with mild and no symptoms, so they had to isolate and were not allowed to work. This is due to the ineffectiveness of the vaccinations received by health workers and the doubts of health workers about the Covid-19 vaccination. Doubts arose because some fellow health workers were still exposed to the Covid-19 virus even though they had received vaccinations. This was proven by the PPNI which reported that there was still an increase in the number of Covid-19 cases among health workers, namely as many as 160 people during the period 1 January - 11 February 2022.

Some researchers explain that Covid-19 has had an impact on several aspects of the lives of nurses who provide direct care for Covid-19 patients, especially on the quality of life (QoL) (Caliari et al., 2021). This is evidenced by research conducted by Jahrami et al., (2021) which reported that as many as 75% of nurses were sleep deprived and 61% had poor sleep quality. Another negative impact on the quality of life of health workers was also reported in changes in performance and health status. This is evidenced by research investigating the quality of life of health workers working in Covid-19 care in Turkey, it is known that in the face of the Covid-19 crisis, working hours can increase, intensify contact with patients which can increase the risk of transmission and death so that the perception of quality of life is lower due to long working hours (Korkmaz et al., 2020). According to research by Lai et al., (2020), workload can have an impact on mental health, namely increasing stress, sleep disturbances, and symptoms of anxiety, among health workers. This is evidenced by research from Korkmaz et al., (2020) anxiety in health workers during a pandemic has increased, and according to Jahrami et al., (2021) as many as 85% of health workers have an increase in moderate to severe stress during a pandemic.

Stress and anxiety that occur in nurses are associated with several reasons regarding quality of life such as getting ostracized from the community. This is evidenced by the research of Koh et al., (2012) health workers who have direct contact with SARS patients revealed that they experienced social stigmatization of 49% and ostracism by their families. This is supported by a survey conducted by FIK UI and IPKJI in April 2020, out of 2,050 nurses, it was found that 140 nurses had been ostracized by others, there had been threats of expulsion (66 people), avoided by local people (160 people) and the community away from the nurse's family (71 people). because of her status as a nurse handling Covid-19. Health workers are frontline fighters in dealing with Covid-19. The condition of fear and anxiety due to Covid-19 can have an impact on the low quality of life of health workers due to work demands and increased risk of infection (Kandula & Wake, 2021).

Quality of life is an individual's understanding of individual life which involves dimensions of physical, psychological, social relations, and environmental health (WHO, 2012). In a study conducted in India, as many as (87.0%) of health workers who provided direct care to Covid-19 patients experienced a low quality of life (Suryavanshi et al., 2020). In another study, it was also said that the quality of life of nurses is worse than other health workers because nurses are more influential in helping Covid-19 patients (Korkmaz et al., 2020).

Negative effects on quality of life Apart from being influenced by stress and anxiety, other factors also contribute, such as physical and mental fatigue (workload, work environment, and exposure to risk factors) (Caliari et al., 2021). Several factors that affect the quality of life lead to a decrease in the quality of life which begins with the concerns of nurses in caring for Covid-19

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patients. Concerns or perceptions of risk are related to fears of being infected with Covid-19. This is evidenced by the research of Puci et al., (2020) that the perception of low-risk results in a high emotional burden of stress and anxiety for nurses treating Covid-19.

Perceived risk is a description of a person's hunch or feelings and views through an emotional and social risk (possible threatening event) assessment understood as part of risk perception such as fear and worry (Slovic et al., 2004 in Guo et al., 2022). Research by Deressa et al., (2021) reported that the majority of 280 respondents, 64.4%, were very worried about the potential risk of infection in the family and about 50% of the 277 respondents felt very worried about themselves because of the risk of being infected with the virus. According to research by Yin et al., (2020) health workers take the risk of occupational exposure, the uncertainty of disease in patients, and fatigue due to being busy working for long periods puts their bodies in an unhealthy state, this causes the perception of the risk of health workers to be greatly influenced by the outbreak of Covid -19.

Perceived risk is influenced by age, gender, marital status, level of education, and experience. According to Kurniawati's research, (2021) that the average age of nurses around 31-40 years has a significantly high-risk perception. Based on gender, according to research by Gorini et al., (2020), Men have suffered less from the effects of the pandemic than women. The results of another study by Al-Dossary et al., (2020) showed that the female gender was significantly higher than the male in terms of risk perception in efforts to prevent Covid-19. Based on marital status According to Kurniawati, (2021), it shows that the majority of married respondents show a higher risk perception. Based on the level of education according to research by Al-Dossary et al., (2020), nurses with a diploma education are significantly higher than nurses with a master's education. Based on work experience according to research by Al-Dossary et al., (2020) work experience of 21 to 30 years is statistically significantly higher than experience of less than 10 years.

Preliminary studies conducted by researchers recorded 49 nurses in the Emergency Room. Based on the results of interviews with 5 nurses at hospitals in Sukabumi City, Sukabumi City, the problem with nurses handling Covid-19 is that there is a stigma circulating among the community related to Covid-19 being afraid of contracting it, the number of nurses working in the emergency room is limited due to independent isolation, receiving different treatment from fellow health workers, there was a case where 14 emergency room nurses were exposed to Covid-19 so they had to self-isolate and the room nurse had to *handle* the work of an emergency room nurse, which resulted in the partial closure of the hospital and the temporary polyclinic. Nurses experience quality of life problems, namely physical health such as fatigue, insufficient sleep and rest, psychological disorders feel anxiety because they are worried about exposure to children whose children must then undergo isolation, become more sensitive, easily experience stress and limit social relations for fear of contracting and transmitting the Covid-19 virus to others. After the booster vaccination, some complained of arrhythmias (disorders of heart rhythm) and felt tired easily.

## **OBJECTIVE**

This study aims to analyze the relationship between perceptions of the risk of exposure to Covid-19 and the quality of life of nurses in the Emergency Room after booster vaccination.

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## METHODS

This study used an analytic survey method with a survey research design *cross-sectional* to determine the relationship between perceptions of risk of exposure to Covid-19 and 4 domains of quality of life for nurses in the Emergency Room after booster vaccination. The sample in this study was 49 nurses from the Emergency Room in one of the hospitals in Sukabumi City who had received booster vaccinations. The instruments used in this study were the respondent's demographic questionnaire, the risk perception questionnaire, and the quality of life questionnaire. The respondent's demographic questionnaire contains related questions: age, gender, marital status, education level, and work experience. Ardiansyah D & Anggraeni D T's risk perception questionnaire, 2021 which consists of 47 items. It contains five sub-scales, namely perception of risk and coping, use of PPE, the impact of the Covid-19 pandemic on personnel and work, precautions for Covid-19 in Indonesia, and finally, anxiety about the Covid-19 pandemic. The results of the validity and reliability tests conducted by Ardiansyah, D. and Anggraeni D.K, (2021), namely the validity test of 0.379 - 0.766 with a reliability of 0.943. The value of the r table is 0.3338.

This questionnaire contains aspects of quality of life which include the physical domain, psychological domain, social domain, and environmental domain. All questions are based on a five-point Likert scale 1-5. This instrument is in the form of a questionnaire consisting of 26 questions in the form *self-report* where the respondent is asked to respond according to his condition. Testing the validity of the measuring instrument was carried out by previous researchers, namely Wardhani, (2006) by calculating the correlation score of each item with the score of each dimension *WHOQOL-BREF*. The results obtained are that there is a significant relationship between the dimensional scores ( $r = 0.409-0.850$ ) so it can be stated that the measuring instrument *WHOQOL-BREF* valid in measuring quality of life. The reliability test stated that the items in each questionnaire were very reliable with a value of  $\alpha > \text{constant}$  (0.6) with a value *Alpha Chonbach* 0.8756 so it can be said that the measuring tool *WHOQOL-BREF* is reliable. Data analysis used statistical description and a chi-square test. This research has passed a research ethics review from the Health Research Ethics Commission at Jenderal Ahmad Yani University number 028/KEPK/FITKES-UNJANI/V/2022.

## RESULTS

Based on table 1 shows the data that 15 respondents were male (69.4%). The largest percentage of ER nurses was found at the age of 31-40 years with 29 respondents (59.2%). Based on the level of education, the majority had a diploma in Nursing education, with as many as 25 respondents (51.0%). Apart from that, for most of the work experience in the range >10 years working as many as 23 respondents (46.9%), and when viewed from the marital status most of the respondents were married as many as 41 respondents (83.7%).

**Table 1.** Frequency distribution of demographic data for nurse respondents in the Emergency Room at Sukabumi City Hospital

No	Respondent Demographic Characteristics	Category	F	Percentage (%)
1.	Age	20-30 years	11	22,4%

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No	Respondent Demographic Characteristics	Category	F	Percentage (%)
		31-40 years	29	59,2%
		41->50 years	9	18,4%
2.	Gender	Woman	15	30,6%
		Man	34	69,4%
3.	Level of education	D3 Nursing	25	51.0%
		Ners	24	49.0%
4.	Work experience	1-5 years	9	18,4%
		6-10 years	17	34,7%
		>10 years	23	46,9%
5.	Marital status	Marry	41	83,7%
		Not married yet	8	16,3%

Table 2 shows data on the perception of risk from 49 respondents to the Emergency Room at the Hospital in Sukabumi City, which illustrates that the majority of respondents have a high perception of risk, namely 25 respondents (51.0%).

**Table 2.** Distribution of the frequency of perceptions of the risk of exposure to Covid-19 by nurses at the Emergency Department of Hospitals in Sukabumi City

Perception of Risk	Frequency	Percent (%)
Low-Risk Perception	24	49,0%
Perception of High Risk	25	51,0%

The data in Table 3 shows the quality of life for domain 1 (physical health) of 49 respondents to the Emergency Room Nurses at the Hospital in Sukabumi City. It illustrates that the majority of respondents have poor physical health, as many as 25 respondents (51.0%). Quality of life for domain 2 (psychological) of the 49 respondents to the Emergency Room nurses at the Hospital in Sukabumi City (Table 3) illustrates that the majority of respondents have poor psychology, namely as many as 31 respondents (63.3%). In addition, the results of the study showed that the quality of life for domain 3 (social relations) of 49 respondents to nurses in the Emergency Room at the Hospital in Sukabumi City illustrated that the majority of respondents had good social relations as many as 38 respondents (77.6%) and most of them respondents have a bad environment as many as 28 respondents (57.1%) related to the quality of life for domain 4 (environment).

**Table 3.** Frequency distribution of the quality of life domain for nurses in the Emergency Department in Sukabumi City

Domain 1 (physical health)	Frequency	Percent (%)
Bad	25	51,0%
Good	24	49,0%

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Domain 1 (physical health)	Frequency	Percent (%)
Bad	31	63,3%
Good	18	36,7%
Domain 3 (social relations)	Frequency	Percent (%)
Bad	11	22,4%
Good	38	77,6%
Domain 4 (environment)	Frequency	Percent (%)
Bad	28	57,1%
Good	21	42,9%

**Table 4.** Relationship between Perceived Risk of Covid-19 Exposure and Quality of Life Domain at Sukabumi City Hospital

Perception of Risk	Quality of Life Domain 1 (Physical Health)				Total		P value
	Bad		Good		F	%	
Low-Risk Perception	F 8	% 33,3%	F 16	% 66,7%	F 24	% 100,0%	0,032*
Perception of High Risk	F 17	% 68,0%	F 8	% 32,0%	F 25	% 100,0%	
Perception of Risk	Domain 2 Quality of Life (Psychological)				Total		P value
	Bad		Good		f	%	
Low-Risk Perception	F 11	% 45,8%	F 13	% 54,2%	f 24	% 100,0%	0,029*
Perception of High Risk	F 20	% 80,0%	F 5	% 20,0%	f 25	% 100,0%	
Perception of Risk	Quality of Life Domain 3 (Social Relations)				Total		P value
	Bad		Good		f	%	
Low-Risk Perception	F 3	% 12,5%	F 21	% 87,5%	f 24	% 100,0%	0,196
Perception of High Risk	F 8	% 32,0%	F 17	% 68,0%	f 25	% 100,0%	
Perception of Risk	Quality of Life Domain 4 (Environment)				Total		P value
	Bad		Good		f	%	
Low-Risk Perception	F 18	% 75,0%	F 6	% 25,0%	f 24	% 100,0%	0,029*
Perception of High Risk	F 10	% 40,0%	F 15	% 60,0%	f 25	% 100,0%	

Based on the statistical test in Table 4, it was obtained p value = <0.05 for 3 independent variables, this indicates that there is a relationship between perceptions of the risk of exposure to Covid-19 and the quality of life of nurses in the Emergency Department in the physical health domain (p-value = 0.032). psychological (p-value = 0.029) and domain 4, namely the environment (p-value = 0.029).

**DISCUSSION**

According to WHO, (2012) in the physical health dimension there are 7 questions, namely questions number 3, 4, 10, 15, 16, 17, and 18. This dimension explains how the physical pain felt by the respondent affects their daily activities, describes the respondent's tendency to take medical therapy when experiencing health problems, describes the condition of the respondent's vitality to carry out daily activities, describes the respondent's ability to socialize, the satisfaction of the respondent's sleep, the ability to carry out daily activities, and the satisfaction

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of the ability to work felt by respondents. For domain 1 (physical health) of the 49 respondents to the Emergency Room nurse at the Sukabumi City Hospital, it was described that the majority of respondents had poor physical health as many as 25 respondents (51.0%). This is in line with research conducted by Kelvin, (2021) that the poor physical health of nurses is caused by changes in the rules that must be obeyed, fatigue, high workload, changes in work shifts, and low levels of satisfaction. Many emergency room nurses who have done booster vaccinations experience fatigue and complain of arrhythmias (heart rhythm disturbances). According to research by Sugianto et al., (2021), weak physical condition, fatigue, work stress, and high workload, nurses will be vulnerable to health problems because their physical condition is not good.

Data related to domain 2 (psychological) (Table 3) shows that of the 49 respondents to the Emergency Room nurses at the Sukabumi City Hospital, it was described that the majority of respondents had bad psychology, as many as 31 respondents (63.3%), where the emergency room nurses handled Covid-19 19 experienced a negative stigma by the community regarding Covid-19 because they were afraid of contracting it, the number of nurses working in the emergency room was limited due to this independent isolation causing nurses to experience sleep disturbances, anxiety, stress, and even depression. This is in line with research conducted by An et al., (2020) nurses who work in hospitals, especially the emergency room, have poor psychology, found a prevalence of depression, anxiety, insomnia, and other non-specific disorders among doctors and nurses, the number 50 was found .4%, 44.6%, 34.0%, and 71.5%. According to Kelvin, (2021), psychological aspects such as work stress, depression, and anxiety are caused by work that has a high risk of disease transmission.

Data related to domain 2 (psychological) (Table 3) shows that domain 3 (social relations) of 49 respondents to the Emergency Room nurse illustrates that the majority of respondents have good social relations, namely 38 respondents (22.4%). Based on the information obtained during the research during the Covid-19 pandemic, especially health workers who treat Covid-19 patients have a very close relationship with each other. *support* when there are co-workers who are sick to each other *handling* work, and taking care of each other, besides that too most of the respondents on average were married and had families, namely as many as 41 respondents (83.7%) so their sexual life was satisfying because their sexual desires could be channeled properly where social relations were obtained not only from friends, family but also from partners. Sexual life is one of the points contained in the domain of social relations (WHO, 2012). This is in line with research conducted by Hadning, (2020) that the health quality of social relations among health workers in Indonesia in 2020 is quite good, this is due to the support that comes not only from fellow health workers but also friends, relatives and other family who always support. However, support from friends in the same health professional profession is very influential in establishing good social relations.

Data related to domain 4 (environment) (Table 3) from 49 respondents from the Emergency Room nurses illustrated that the majority of respondents had poor environmental health, namely 28 respondents (57.1%). During the research process, information was obtained that some of them complained that they were dissatisfied with the salary they were getting, and the intensive benefits they should have received as a result of their hard work when treating Covid-19 patients had not been fully received. This is in line with research conducted by Oyoh et al., (2017) found

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40% of nurses were dissatisfied with the quality of their work life which involved dissatisfaction experienced by nurses in the form of salary, working hours, workload, sense of job security, safety in the environment. Work.

According to WHO, (2012) physical health is a condition where the body is fit, healthy, and not attacked by any disease, and the body's organs can function optimally to carry out daily activities independently. Occupational factors affect nurse fatigue during the Covid-19 pandemic, especially for nurses who deal with patients infected with Covid-19 will have a higher level of fatigue (Galanis et al., 2021).

Emergency room nurses at hospitals in Sukabumi City have a high workload and long working hours, emergency room nurses are required to work longer hours than before due to a large number of patients during the Covid-19 outbreak, shift assignments, and working in a fast-paced environment with a high risk of nurses experiencing burnout. Nurses working in challenging situations such as the Covid-19 pandemic often experience physical health problems such as fatigue and sleep disturbances (Lu et al., 2020). Emergency room nurses have a high workload and long working hours, emergency room nurses are required to work longer hours than before due to a large number of patients during the Covid-19 outbreak, shift assignments, and work in a fast-paced environment with a high risk of nurses experiencing burnout.

According to research by Buselli et al., (2020) during the Covid-19 pandemic, health workers working in the emergency room experienced fatigue (44.2%), with insomnia (34.0%). Another study from Galanis et al., (2021) included data from 49 countries and found that the overall prevalence of fatigue symptoms among nurses was 11.23%. This is also in line with the research of Bunga et al., (2021) the Covid-19 pandemic resulted in increased physical activity for health workers where there was a significant increase in working hours and workload including officers having to quickly respond to suspected Covid-19 patients, as many as 40 % of health workers infected with Covid-19 is because working hours of more than 8 hours will affect poor physical health. The total physical health domain questions in the questionnaire were 7 items, which contained questions about pain and discomfort (item 3), the need for medical care (item 4), daily energy needs (item 10), social skills (item 15), sleep needs and rest (item 16), the ability to perform daily activities (item 17), and the ability to work (item 18).

Heavy workload, shift work, resuscitation, and death are risk factors for psychological stress (An et al., 2020). The emergency ward is one *locus* of the occurrence of the Covid-19 virus, nurses in the emergency room have more close contact with infected patients because they are responsible for carrying out screening and triage. Chung et al., (2020). The nature of the work assigned to ER nurses causes high levels of stress and fear, which in turn results in higher rates of depression (An, Yang, et al., 2020).

The high rate of psychological pressure is proven by research conducted by Lai et al., (2020). This study reports that during the Covid-19 pandemic doctors and nurses experienced anxiety 44.6% depression 50.4%. This was also reported by An Yang et al., (2020) where as many as 95% of emergency room nurses suffered from depression during the Covid-19 outbreak which had an impact on decreasing quality of life. Another study also reported the same thing where Cui, (2019) found a prevalence of depression in Chinese ER nurses of 29.1%, this is related to

the workplace which is always changing and highly regulated, dealing with patients in critical conditions.

Based on the research results obtained *t*-test *who squares* obtained  $p$  value =  $0.196 > 0.05$  this indicates that there is no relationship between perceived risk and social relations. Based on the information obtained during the research during the Covid-19 pandemic, especially health workers who treat Covid-19 patients have a very close relationship with each other. *support* when there are co-workers who are sick to each other *handling* work, and taking care of each other, besides that too most of the respondents on average are married and have families so their sexual life is satisfying because their sexual desires can be channeled properly where social relations are obtained not only from friends, family but also from partners. Availability of support from the workplace as in this study at hospitals in Sukabumi City providing online psychological counseling support, services, on-site psychological guidance, as well as offering psychiatric care for vulnerable nurses who are directly involved in caring for Covid-19 patients.

Social relationships include personal relationships, social support, and sexual activity. personal relationships can be achieved by creating relationships with oneself or with others, social support means assistance from the surrounding environment to individuals, and sexual activity describes sexual activity carried out by individuals (Jacob and Sandjaya, 2018). According to Hadning and Ainii's research, (2021) the quality of life in the health domain of social relations of health workers in Indonesia during the Covid-19 pandemic was relatively good. Several studies are in line with this study where domain 3 (social relations) during a pandemic was considered good. This is in line with research conducted by Almeida-Brasil et al., (2017) where the quality of life conducted in Brazil with the social relations domain shows a better average compared to the other three domains. The two studies stated that social relations were in a good position even during the Covid-19 pandemic. According to Hadning & Ainii, (2021), social relations can be formed by communicating with family or friends, and a sense of empathy for the same fate as the surrounding environment.

A particular concern at the time of Covid-19 among health workers is that the outbreak may affect their income and increase living costs (Hadning & Ainii, 2021). This is evidenced by research conducted by Than et al., (2020). This study reports a 59% decrease in income and a 54.3% increase in living costs during the peak of the Covid-19 outbreak, that lower-income indicates a worse quality of life, especially in the environmental health domain. Environmental health is financial resources, freedom, a sense of security both psychologically and physically, health services, social care, updating information, recreation, satisfaction with the physical environment, and transportation (Hadning & Ainii, 2021). This is in line with research by Almeida-Brasil et al., (2017) that poor environmental health is caused by vulnerability to disease exposure and inequality in income distribution.

## CONCLUSION

Improve risk perception so that it is better by creating good coping mechanisms such as keeping thoughts positive, having great responsibility as professionals in caring for patients infected with Covid-19, using PPE by health policies and protocols in the workplace, maintaining health by increasing the body's immunity do not get infected and carry the virus to others. To improve the quality of life by carrying out healthy physical activities, adequate rest and sleep, family

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functions that are going well will provide support and affection to improve the quality of psychological health, establish good relationships with fellow health workers, social support in the form of help from friends, family, the surrounding environment (place of work) will be able to improve a good quality of life.

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