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The Effect Guide Imagery (Five Fingers Hypnosis) Toward Decreasing Of Anxiety To The Quarantine Isolation Patient In Covid-19

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Keywords:

Anxiety, COVID-19, Five- Finger Hypnosis

Background: COVID-19 is a disease caused by the corona virus. COVID-19 has a negative impact on all fields, especially in the health sector, both biologically and psychologically. One of the psychological disorders as a result of the COVID-19 pandemic is anxiety. Participants in the COVID-19 quarantine are a group that has been confirmed positive for COVID-19 with OTG status, this group is at high risk of experiencing psychological disorders, namely anxiety because of concerns about the impact that will be caused by the corona virus. Purpose this study was to determine the effect of providing guide imagery (five finger hypnosis) on reducing anxiety in participants undergoing quarantine in the COVID-19 isolation unit in Bali Province. This study uses quantitative methods, the research design used is Quasy Experiment or quasi-experimental, with a non-equivalent approach (pretest and posttest) control group design. The populations of this study were 52 quarantine participants in the COVID-19 isolation unit. The sampling technique used total sampling method with a sample size of 52 respondents. The measuring instrument used was the HARS (Hamilton Anxiety Rating Scale) questionnaire. Data analysis used the Wilcoxon test. The study found that there was a difference in the mean level of anxiety before and after being given five-finger hypnosis therapy, the average level of anxiety before being given the intervention was 2.38 down to 1.79 after being given the intervention. The p-value = 0.000 ($\alpha = 0.05$). There is an effect on providing guide imagery (five-finger hypnosis) on reducing anxiety in participants who are undergoing quarantine in the COVID-19 isolation unit in Bali province.

Introduction

COVID-19 has both biological and psychological impacts that are felt by individuals; one of the psychological effects is anxiety. Feelings of worry or fear are a psychological response that occurs as a result of the COVID-19 pandemic.

COVID-19 is a new disease, a feeling of pressure and worry that arises in individuals if it is affected either directly or indirectly. Factors concern in the COVID-19 include the risk of becoming infected and infecting other people,

common symptoms such as other health problems (e.g., fever) can be mistaken for COVID-19¹.

The Centers for Disease Control and Prevention (2020) stated that the psychological impact that is often encountered as a result of the extraordinary COVID-19 incident is fear and worry about the health of oneself and those around loved ones. Anxiety in the COVID-19 pandemic is a physiological response that occurs because of the new outbreak of COVID-19 for which a cure and vaccine has not been found, besides that the corona virus is an infectious disease that can cause physical symptoms even to death so that there is a sense of fear of contracting or transmitting the virus. In addition, the information on social media and TV is frightening and the truth is uncertain².

The interventions used to reduce anxiety are very diverse; there are many actions that can be done to overcome someone's anxiety or worry, such as deep breath relaxation therapy techniques, music relaxation therapy, distraction therapy, spirituality and hypnotherapy. Hypnosis therapy that is commonly given is five finger hypnosis therapies.

Five- finger hypnosis is a form of self-hypnosis that can cause a high relaxing effect, thereby reducing tension and stress from one's mind. Five -finger hypnosis

affects a person's limbic system so that it affects the release of hormones that can spur stress. Five- finger hypnosis can also affect respiration, heart rate, pulse, blood pressure, reduce muscle tension and body coordination, strengthen memory, increase body temperature productivity and regulate stress-related hormones³.

Method

The method used in this research is the quantitative method, using the Quasy Experiment research design or quasi-experimental, with a non-equivalent approach (pretest and posttest) control group design. The populations in this study were all quarantine participants, totaling 52 people in the COVID 19-isolation Unit Province of Bali. The sampling technique used in this study is total sampling. The samples studied in this study were all quarantine participants (52 people) in the Bali Province COVID-19 Isolation Unit. The technique of collecting data in this study was carried out using a questionnaire; the study was carried out for three consecutive days via Google form.

Results and Discussion

Table 1. Frequency distribution of quarantine participants' anxiety levels before (Pre-test) Five Finger Hypnosis was given at the COVID-19 Isolation Unit in Bali Province.

Anxiety Level	Frequency	Percentage (%)
No Anxiety	7	13,5
Mild anxiety	20	38.5
Moderate Anxiety	23	44.2
Severe Anxiety	2	3.8
Total	52	100

Based on Table 1, it can be seen that the results of the study show the level of anxiety of quarantine participants before (pre-test) being given Five-finger Hypnosis therapy in the COVID-19 Isolation Unit in Bali Province with categories: no anxiety, namely 7 respondents (13.5%), respondents 20 respondents (38.5%) with mild anxiety, 23 respondents (44.2%) with moderate anxiety, 2 respondents (3.8%) with severe anxiety.

The difference in the intensity of anxiety depends on the seriousness of the threat and the ability of the security mechanism that a person has. Feelings of pressure and helplessness will arise when people are not ready to face threats⁴. Theoretically, individuals have the risk of developing anxiety; the feeling of anxiety

experienced by the individual appears in all conditions. In this case, individuals who are undergoing quarantine in the COVID-19 isolation unit in the province of Bali tend to feel worried and afraid related to their conditions.

Respondents who experience anxiety have different levels. The difference in the level of anxiety occurs because anxiety is a subjective subject which is influenced by many factors. Each individual has different coping when dealing with stressors. The more often individuals encounter stressors, the better the response to stress and anxiety.

According to Haryanto, 2002, Individual development and growth can be seen through their age, the higher the age, the more experiences associated with the stressor they are experiencing⁵. Diverse experiences will trigger understanding, views and knowledge related to trauma that has been experienced; this will trigger the formation of individual behavior and perceptions in understanding the stressors that occur.

Men and women have different levels of anxiety, women are more easily offended, very sensitive, and highlight their feelings, while men have masculine characteristics that tend to be dominant, active, and more rational and do not highlight feelings⁶. However, from the

results of the analysis the researcher found that the frequency of respondents who experienced mild to moderate anxiety on the female was smaller than that of men.

Based on the results of the analysis conducted by the level of education on anxiety, there is a significant relationship with the level of education, the higher level of education, the lower the level of anxiety. This is similar to previous research that the higher a person's education level, then the easier it is to receive information so that the more knowledge one has, the lower the level of anxiety⁷.

Table 2. Frequency distribution of quarantine participants' anxiety levels after (Post-test) Five Finger Hypnosis Therapy in the COVID-19 Isolation Unit, Bali Province.

Anxiety Level	Frequency	Percentage (%)
No Anxiety	15	28.8
Mild anxiety	34	65.4
Moderate Anxiety	2	3.8
Severe Anxiety	1	1.9
Total	52	100

Based on Table 2, it can be seen that the results of the study show the level of anxiety of quarantine participants after (post-test) being given Five-finger Hypnosis therapy in the COVID-19

Isolation Unit in Bali Province in the category of no anxiety, namely 15 respondents (28.8%), There were 34 respondents (65.4%) with mild anxiety, 2 respondents (3.8%) with moderate anxiety, 1 respondent (1.9%) with severe anxiety.

The results of the analysis showed that there was a difference in the number of adult respondents who initially experienced moderate to mild anxiety, from mild anxiety to no anxiety after being given five-finger hypnosis therapy. This is in accordance with research conducted by Syukri (2017) which states that five-finger hypnosis therapy is effective in reducing levels of anxiety, five-finger hypnosis therapy affects a person's consciousness to cause calm, relaxation, and feelings of peace⁸.

Five finger hypnosis therapy is an intervention that aims to calm psychologically by doing hypnosis. This therapy can reduce anxiety, fear and stress that a person is experiencing. Five-finger hypnosis is given within 10 minutes⁸.

Stuart G.W & Laraia M.T (2007) in (Vellyana et al., 2017) argues that a person's maturity is directly proportional to the coping mechanism. Mature individuals find it is difficult to experience psychological disorders, this is because individuals are able to adapt to stressors and trauma experienced compared to the

immature age range. It was proven in the study that adult age was more controlled for anxiety compared to range at the age of children because the coping ability in adulthood was sufficient in controlling and managing anxiety.

In some cases the level of anxiety will increase after being given five-finger hypnosis therapy, this is influenced by various factors. The increase in anxiety is influenced by the coping conditions that are formed through one of the knowledge that a person has about the situation he is feeling and the knowledge of one's ability to control him ⁹.

According to Adler and Rodman in M. Nur Ghufon & Rini Risnawita, S, (2014), there are two factors that can increase anxiety, namely: Negative experiences in the past, Irrational thoughts, Catastrophic failure, Perfection, Approval, Incorrect generalizations.

Table 3. Effect of providing Imagery Guide (Five Finger Hypnosis) on Decreasing Anxiety in Participants who Underwent Quarantine in the COVID-19 Isolation Unit in Bali Province

Variable	N	Mean	SD	Median (Min- Max)	P value
Pretest	52	2.38	0.771	2(1-4)	0,000
Posttest	52	1.79	0.605	2(1-4)	0,000

Based on table 3, it can be seen that the results of statistical analysis using the Wilcoxon test showed that the mean value of anxiety levels before (pre-test) and after (post-test) was given five-finger hypnosis therapy, namely, the average level of anxiety before (pre-test) was given hypnosis therapy. Five fingers were 2.38 while the mean value after (post-test) was given five-finger hypnosis therapy was 1.79. It can be concluded that there is a difference in the mean value of the quarantine participants' anxiety levels before and after being given five-finger hypnosis therapy.

The Wilcoxon test statistical analysis obtained p value = 0.000. Therefore, the p value is 0.000 < 0.05, it can be concluded that there is an effect of providing guide imagery (five-finger hypnosis) on reducing anxiety in participants undergoing quarantine in the Isolation Unit of Bali Province.

The results of the analysis showed that the differences in the anxiety levels of the quarantine participants after giving five-finger hypnosis, most of the respondents' anxiety levels decreased. Respondents whose anxiety decreased after giving five-finger hypnosis were 31 respondents (59.6%) but there were 3 respondents (5%) who showed an increase after being given five-finger hypnosis therapy.

Theoretically, giving the 5 finger hypnosis therapy will automatically stimulate the sympathetic nervous system to reduce levels of catecholamine, which catecholamine are substances that can constrict blood vessels so that they can increase blood pressure. When the activity of the sympathetic nervous system decreases due to the relaxing effect, the production of catecholamine substances will decrease, causing dilation of blood vessels and ultimately blood pressure, heart rate, and respiratory rate to decrease. The body will then be able to carry out its functions properly, blood supply throughout the body is evenly distributed, and breathing regularly, so that the body is in a state of calm or anxiety is controlled¹⁰. Evidenced by the data obtained by researchers at the COVID-19 isolation unit in Bali province, it was found that the respondents' anxiety level improved after being given five-finger hypnosis therapy for 3 days.

The results of this study are in line with research conducted by Hastuti (2015) which shows that the value of P value = 0.000 where the value of $p < (\alpha = 0.05)$, so it can be concluded that there are differences in the value of the measurement of pretest and posttest behavior. The results showed that there was a significant effect between five-

finger hypnosis therapy and the level of anxiety, this was evidenced by differences in anxiety levels before and after being given five-finger hypnosis therapy. Anxiety (anxiety) is a feeling of anxiety as if something bad is going to happen and feeling uncomfortable as if there is a threat accompanied by physical symptoms such as heart palpitations, cold sweat and trembling hands.

Reinforced by research conducted by Syukri (2017), the results showed that there were differences in the mean level of anxiety of patients after being given five-finger hypnosis, the patient's anxiety level decreased compared to before being given therapy. It was stated that there were 60.6% (20 people) of patients who experienced severe anxiety, but the number of patients with severe anxiety decreased after five-finger hypnosis was performed to 12.1% (4 people). Most of the patients experience mild anxiety⁸.

Conclusion

The results of this study concluded that there was a decrease in the average level of anxiety before and after five-finger hypnosis therapy, so that it can be interpreted that five-finger hypnosis therapy has an effect on reducing anxiety in participants undergoing quarantine in the COVID-19 isolation unit in Bali

province. It is hoped that five-finger hypnosis can become one of the independent nursing interventions that nurses can carry out in providing nursing care to participants who undergo COVID-19 quarantine and the general public who experience excessive anxiety.

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The Effect Guide Imagery (Five Fingers Hypnosis) Toward Decreasing Of Anxiety To The Quarantine
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pada Mahasiswa Kedokteran
Universitas Andalas. 2010;319–24.



A Cross Sectional On Leukocytes, Blood Glucose, Cholesterol, Triglyceride, Temperature, Onset, Comorbidities, Sex, And Benson's Relaxation Response

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Keywords:

Acute Ischemic Stroke, Factors of Physiological Response, Relaxation Response.

Abstract. *The increase in physiological response may lengthen ischemic duration, cause recurrent stroke risk and worsen the complication of AIS (Acute Ischemic Stroke) attack which results in impairment and death. The identification of AIS patients with the risk of increasing physiological response is essential during treatments in hospitals. Some of the factors related to the increase of physiological response had been identified, yet the factors that include the intervention remain unknown. The factors are leukocyte, blood glucose, total cholesterol, triglyceride, temperature, onset, coexisting disease, gender, and Benson's relaxation response. This observational analysis research uses cross-sectional design. The total number of subjects are 42 AIS patients that include 21 respondents in control group and 21 respondents in intervention group. The results of the study show that the level of Leukocyte $p=0.790$; Blood Glucose $p=0.565$; Total Cholesterol $p=0.982$; Triglyceride $p=0.782$; Temperature $p=0.50$; Onset $p=0.028$; Coexisting Disease $p=0.345$; Sex $p=0.707$; Benson's Relaxation Response $p=0.019$. Based on the results of the study, it is concluded that Onset and Benson's Relaxation Response are significant factors in physiological response of AIS patients.*

INTRODUCTION

The increase of physiological response in AIS patients may cause various types of complication such as musculoskeletal problems, dysphagia, bladder and bowel dysfunction, inability to perform self-care, damaged skin integrity, and disorder of aspects related to depression and social features.^{1,2} The effects of complication in AIS patients include lengthened ischemic duration, recurrent stroke risk, and worsened post-AIS attack

complication which may lead to impairment and death. Initial identification of factors related to the increase of physiological response in AIS patients is highly essential during treatments in hospitals in order to prevent complication that may worsen the outcome of stroke. There are many factors related to the physiological response of AIS patients, such as premature neurological deficit, patients' age³, high blood glucose level, high body temperature, recurrent stroke⁴, medical complications⁵, leukocyte, lipid profile⁶, onset⁷,

coexisting diseases such as Chronic Heart Disease (CHD) and Diabetes Mellitus (DM) which relate to outcome function in females.⁸

Some of the contributing factors in the increase of physiological response had been identified, yet the factors that include the intervention remain unknown. Therefore, further research in the factors related to physiological responses of AIS patients which include intervention as one of the variables is needed. Based on this matter, this research is aimed at analysing the factors related to physiological responses of AIS patients in several hospitals in Semarang area. This research hypothesizes that there are connections between those factors and physiological response of AIS patients.

In the United States, stroke is the fourth leading cause of death among all diseases, with an annual incidence of 795.000, resulting in nearly 130.000 deaths a year.⁹ Stroke is the main cause of death in Indonesia, with the percentage of 15.4%. The prevalence of stroke increases to 12,1 per 1000 residents in the year of 2013.¹⁰ It is estimated that 500.000 residents have stroke attack per year, around 2,5% or 125.000 people die and the rest have moderate impairment. That statement supports an argument that averagely once every 3 days there is 1 Indonesian resident, old or young, dies due to stroke.¹¹ The number of ischemic stroke patients in K.R.M.T Wonsonogoro Regional Public Hospital Semarang 156 cases, while in Tugurejo Regional Public Hospital Semarang there were 284 cases found.^{12,13}

The factors related to physiological responses of AIS patients in this study are leukocyte, blood glucose, total cholesterol, triglyceride, temperature, onset, coexisting diseases, gender, and Benson's relaxation response. High level of leukocyte in acute cerebral ischemic phase is a significant independent predictor in initial severity level of severe stroke attack after 72 hours and change in disability.¹⁴ Random level of blood glucose with NIHSS input and improvement show a significant connection ($p=0.024$ and $p=0.047$).³ The nature of total cholesterol as a risk factor in ischemic stroke somehow is paradoxical but this correlation justifies that cholesterol can act as a supportive agent and neutralize free radicals as well as oxidative stress.¹⁵ Although it is not significant, the result of triglyceride serum increase correlated with the decrease of NIHSS score.¹⁶ The increase of body

temperature beyond normal is an independent risk factor that results in bad outcome, and it is connected to higher morbidity and mortality as well as expanded infarction.¹⁷ Patients who show partially decreasing symptoms have more possibility to postpone the pre-hospital phase faster than those who show no sign of improvements.¹⁸ The first ischemic stroke case with coexisting disease, aged older than 60 years, showed a significant connection with bad outcome and mortality.¹⁹

METHOD

The method used in this study is observational analysis with cross-sectional design, using the patients' medical record as data source. The subjects are chosen using consecutive sampling method. The subjects are AIS patients and the total number of the subjects is 42.

The research instrument used in this study is assessment format, National Institute of Health Stroke Scale (NIHSS), and Mini Mental State Examination (MMSE). The assessment format includes data on age, gender, leukocyte, blood glucose, lipid profile, temperature, onset, and coexisting disease. NIHSS is used to measure the physiological response AIS patients in the domain of motoric, sensorial, visual, and awareness level. The other instrument, MMSE, is used to measure mental functions of the patients during sampling. The inclusive criteria of the patients chosen as subjects in this study are: 1) Patients who are diagnosed with AIS and hospitalized at Alamanda, Dahlia 2,3 and 4 rooms in Tugurejo Regional Public Hospital Semarang and Yudistira, Nakula 2 and 3 rooms in K.R.M.T Wongsonogoro Regional Public Hospital Semarang; 2) Patients are completely compos mentis; 3) Patients are able to communicate well; 4) Patients are in healthy mental state measured with MMSE 27-30; 5) Patients are able to commit to the research processes. The exclusive criteria are: 1) Patients receive thrombolytic therapy; 2) Patients receive psychotropic therapy; 3) Patients have comorbid malignancy; 4) Patients with severe stroke according to NIHSS criteria > 25 ; 5) Patients have amputation extremity that hinder the motoric examination of arms and legs using NIHSS scores; 6) Patients with intubation or other physical barriers.

The location of the research is in

Alamanda, Dahlia 2,3, and 4 rooms in Tugurejo Regional Hospital Semarang and Yudistira, Nakula 2 and 3 rooms in K.R.M.T Wongsonegoro Regional Public Hospital Semarang.

The independent variables analysed in this study are factors related to physiological response such as leukocyte, blood glucose level, total cholesterol, triglyceride, temperature, onset, coexisting disease, gender, and Benson's relaxation response. The dependent variable is physiological response change. The statistical test carried out in this study is quantitative with bivariate test using correlation and multivariate test using linear regression.

Research ethics for this study was issued from Ethics Commission of Diponegoro University Medical Faculty or Dr. Kariadi Regional Public Hospital with the issue number 468/EC/ FK-RSDK/ VII/ 2017. This study was carried out using 4 basic ethics principals: respecting human dignity of the subjects, respecting the subjects' privacy and confidentiality, respecting inclusivity justice, and considering the advantages as well as disadvantages of the study.

RESULTS AND DISCUSSION

The characteristics result from 42 respondents in the respondents' age shows a statistically insignificant difference ($p=0.999$). The characteristics result in the respondents' gender shows a statistically insignificant difference as well ($p=0.355$) (Table 1).

Table 1. Demographic Characteristics (Age and Gender)

Variable	Total	P*
	Frequency (%) (n = 42)	
Age		
30-44	3 (7.1)	0.999
45-59	17 (40.5)	
60-74	21 (50)	
75-90	1 (2.4)	
Gender		
Male	18 (42.9)	0.355
Female	24 (57.1)	
Total	42 (100)	

Note: *= Chi-Square Test

There were various coexisting diseases found in the respondents of this study. They are hypertension, Diabetes Mellitus (DM), heart disease, vertigo, kidney disease, and lungs disease. Based on the calculation, there were 2 respondents who had no coexisting disease (4.8%), while the respondents with

coexisting diseases are larger in number, 21 respondents or 50%. The result of coexisting disease statistical test is insignificant ($p=0.13$) (Table 2).

Table 2. Coexisting Disease Factor Category

Category	Total (%) (n = 42)	P*
Non-coexisting disease	2 (4.8)	0.13
One coexisting disease	21 (50.0)	
More than one coexisting diseases	19 (45.2)	
Total	42 (100)	

Note: *= Chi-Square Test (CI= 95%)

Factors related to physiological response are leukocyte, blood glucose, total cholesterol, triglyceride, temperature, onset, as well as physiological response 1,2, and 3 interpreted in Mean value and Standard Deviation. Mean $\pm$ SD leukocyte factor 10.021 $\pm$ 3.4470 mg/dL; blood glucose 148.98 $\pm$ 96.500 mg/dL; total cholesterol 212.45 $\pm$ 42.279 mg/dL; triglyceride 164.79 $\pm$ 91.897 mg/dL; temperature 36.781 $\pm$ 0.5782°C; and onset 2.21 $\pm$ 2.007 days (Table 3).

Physiological response in 42 respondents from both control and intervention groups showed as Physiological Response 1 is the baseline, Physiological Response 2 is pre-test and Physiological Response 3 is post-test. Mean $\pm$ SD of Physiological Response 1 and 2 is between 6-8 with moderate stroke interpretation, while Physiological Response 3 is 4.98 with mild stroke interpretation. This result data show that there were differences between Physiological Response 1 (baseline), Physiological Response 2 (pre-test), and Physiological Response 3 (post-test) (Table 3).

Table 3. Factors Related to Physiological Response (N=42)

Variable	Mean	$\pm$ SD	P*
Leukocyte	10.021	$\pm$ 3.4470	1.000
Blood Glucose	148.98	$\pm$ 96.500	1.000
Total Cholesterol	212.45	$\pm$ 42.279	1.000
Triglyceride	164.79	$\pm$ 91.897	1.000
Temperature	36.781	$\pm$ 0.5782	0.103
Onset	2.21	$\pm$ 2.007	0.000
Physiological Response 1	7.40	$\pm$ 4.254	0.176
Physiological Response 2	7.38	$\pm$ 4.299	0.126
Physiological Response 3	4.98	$\pm$ 4.331	0.249

Note: *= Chi-Square Test (CI= 95 %)

Bivariate test of the factors related to physiological response can be seen in Table 4. Study on 42 respondents shows that physiological response is not correlated to p value in the following factors: leukocyte 0.939, blood glucose 0.913, total cholesterol 0.482, triglyceride 0.114, temperature 0.704, coexisting disease 0.263, and gender 0.746. This study found that there is a correlation among physiological response, onset, and Benson's relaxation response ($p=0.007$ and $p=0.0005$) (Table 4).

Table 5 show, it can be seen that multiple regression linear test on leukocytes, blood glucose, total cholesterol, triglyceride, temperature, gender, and coexisting disease shows $p > 0.05$ which means that statistically, those factors have no significant correlation to physiological responses of AIS patients. Onset and Benson's relaxation response factors show $p < 0.05$ which means that those factors have significant correlation to AIS patients' physiological responses.

In other words, the patients' physiological response can be predicted using Benson's relaxation response and onset variables. Coefficient B from every decline in AIS patients' onset by 1 day means that the physiological response will decrease by 0.281 after being controlled using Benson's relaxation response. Coefficient B from Benson's relaxation response done with AIS patients shows that the physiological response of the patients will decrease by 1.195 after being controlled by onset (Table 5).

Table 4. Factors Related to Physiological Response Delta (N=42)

Variable	P
Leukocyte	0.939*
Blood Glucose	0.913*
Total Cholesterol	0.482*
Triglyceride	0.114*
Temperature	0.704*
Onset	0.007*
Coexisting Disease	0.263**
Benson's Relaxation Response	0.005**

Note: * Pearson Correlation Test and ** t-test

Table 5. Factors Related to Physiological Response (N=42)

Model	Unstandardized Coefficients		Standardized Coefficients	t	P*
	B	SE	Beta		
(Constant)	4.963	0.752		6.601	0.000
Leukocyte	-0.021	0.079	-0.042	-0.269	0.790
Blood Glucose	-0.002	0.003	-0.087	-0.581	0.565
Total Cholesterol	0.000	0.007	-0.004	-0.022	0.982
Triglyceride	-0.001	0.004	-0.058	-0.279	0.782
Temperature	0.306	0.450	0.099	0.679	0.501
Onset	-0.281	0.123	-0.321	-2.283	0.028
Coexisting Disease	-0.456	0.477	-0.131	-0.956	0.345
Benson's Relaxation Response	-1.195	0.488	-0.344	-2.449	0.019

Note: *ANOVA (Analysis of Variance)

Stroke might happen to every individual in every age range; however, the occurrence and prevalence of stroke tend to increase significantly in older people. In the whole world, stroke occurrence exponentially increases after 30 years of age with around 95% of stroke happen to people aged 45 years or older, and more than 65% of them are older than 65 years.²⁰ The majority of respondents' age in intervention group ranges from 45-59 years vold (10 respondents or 47,6%). The majority of respondents' age in control group ranges from 60-74 years (12 respondents or 57,1%). The result of this study is similar to that of the previous one, which shows that the respondents aged 45-54 years old (50%) and 51-65 years old (41,6%).^{7,21} According to the theory, cholesterol deposit in atherosclerosis needs to be watched as someone ages, with the most serious consequence on coronary artery. The level of certain arteriosclerosis needs to be considered and the resting blood pressure might increase which can damage arterial wall. The consequences of the damage include stroke and heart failure. Vena might as well worsen by age. The thinning wall might get weaker and stretchy which makes the valve less competent.²² The majority of AIS respondents' gender in this study is female, with a total number of 24 respondents (57,1%). The previous study showed a similar result, the majority of the respondents' gender was also female. This was proven by data analysis test which showed the percentage of female AIS patient was 57,9% while male AIS patient took 42,1% out of all respondents.²³ The occurrence of stroke in female tends to increase during post-menopause period because before

menopause period, a woman is protected by estrogen hormone. Estrogen helps prevent atherosclerosis process. However, estrogen level decreases after menopause period. Estrogen also helps in increasing HDL. HDL is essential in preventing atherosclerosis process.²⁴

Leukocyte factor in this research shows insignificant correlation to physiological response of AIS patients ($p = 0.790$). It is not in accordance with previous researches which stated that high leukocyte level in acute ischemic cerebral phase was a significant independent predictor in initial severity level of severe stroke attack after 72 hours and change in disability. The occurrence of leukocytosis is associated with thrombolysis resistance, increase in thrombus burden, and microvascular perfusion disorder.¹⁴ The difference of the results in this study occurs because the increase of leukocyte level in AIS patients is still considered as normal (about 3,8-10.6/uL).

Blood glucose level factor in this study shows insignificant correlation to AIS patients' physiological response ($p = 0.565$). This number corresponds to the result of the previous study which also showed insignificant correlation between random blood glucose level and NIHSS outcome ($p = 0.548$); however, the correlation between random blood glucose level and NIHSS input was significant ($p = 0.011$). The result of Chi-Square test between random blood glucose level and NIHSS outcome shows insignificant correlation ($p = 1$). On the contrary, the correlation between random blood glucose level and NIHSS input and improvement is significant ($p = 0.024$ and $p = 0.047$). There is no significant correlation between random blood glucose upon admission to Emergency Room and clinical outcome of AIS patients. However, normal random blood glucose level shows improvements and tends to have a better outcome.³

Total cholesterol factor in this study shows insignificant correlation to AIS patients' physiological response ($p = 0.982$). This number corresponds to the results of the previous study which showed that the level of total cholesterol was $204,29 \pm 49,55$ mg/dL. The Spearman correlation shows insignificant correlation between total cholesterol serum level and score function ($r = 0,16$, $P = 0,057$). High level of total cholesterol in AIS patients

is linked to a better prognosis and higher status of general functional level according to Barthel index. Although the reversal correlation between post-AIS prognosis and total cholesterol level is comparable with the nature of total cholesterol as a risk factor in AIS, somehow this correlation is paradoxical but justifies that cholesterol can act as a supportive agent and neutralize free radicals as well as oxidative stress.¹⁵

Triglyceride factor in this study shows insignificant correlation to AIS patients' physiological response ($p = 0.782$). This number corresponds to the results of the previous study that stated the increase of triglyceride serum level correlated to the decrease of NIHSS score, although in an insignificant way. The statistical analysis using Spearman correlation shows that there is no significant correlation between triglyceride level and NIHSS score ($p > 0.05$).¹⁶

Temperature factor in this study shows insignificant correlation to AIS patients' physiological response ($p = 0.501$). This result corresponds to the previous study's result that showed the body temperature of patients upon admission was not correlated to infarct measurement or bad results of the analysis. The peak body temperature which are higher during the first days of post-AIS, not during initial admission, is correlated to the bigger size of infarct and bad functional measure.²⁵ Other studies stated that the correlation between hyperthermia and bad prognosis in AIS patients could be explained because the occurrence of infarct influenced hypothalamus anterior, so the hyperthermia transformed the ischemic penumbra area to bigger infarct and accelerated the occurrence of cerebral necrosis. Ischemic that occurs in acute stroke shows that hyperthermia is one of the independent risk factors that contributes badly to higher rate of morbidity and mortality as well as bigger volume of infarct.²⁶

Coexisting disease factor in this study shows insignificant correlation to AIS patients' physiological response ($p = 0.345$). It corresponds to the results of the previous study that showed coexisting disease had negative correlation to functional result.²⁷ It is different with the other previous study that showed the first ischemic stroke in a patient aged 60 years old with coexisting disease was significantly correlated to bad outcome and mortality.¹⁹

Onset factor in this study shows a

significant correlation to AIS patients ($p=0.028$). This statement corresponds to the previous study's result which stated that only patients who showed partially decreasing symptoms have more possibility to postpone the pre-hospital phase faster compared to those who showed no sign of improvements. Patients who experience the onset during the night tend to have a better possibility in pre-hospital postponement than those who experience the onset during the day.¹⁸ The average of onset in this study was a few days because of some factors, like most of the respondents had to wait for other family members to make decisions because they were the ones responsible for their treatment fee, knowledge, perception, economy, and transportation.^{18,28,39} Onset of AIS that exceeds golden period results in the increase of physiological response value which is shown by the increase of NIHSS values, therefore outcome of stroke patients becomes less promising. The further impact of the lengthened of onset in AIS patients is the widening of ischemic in cerebral tissues which leads to the inevitable worsened complication.

Gender factor in this research shows insignificant correlation to physiological response of AIS patients ($p=0.707$). In the previous study, the highest average number of NIHSS was 6,2 (5.5) for male respondents and 5 (3.7) for female respondents. The highest frequency of NIHSS average number in the previous study was moderate with a total number of 58 respondents (48,3%). This explained that the values in NIHSS of females are better than that of males and almost half of the subjects' population had moderate NIHSS value.³⁰ A different result was shown in another study which stated that the clinical outcome of male ischemic stroke patients is better with the value of $p < 0.005$.³¹

Benson's relaxation response factor in this study shows a significant correlation to AIS patients' physiological response ($p=0.019$). This result corresponds to the previous study which stated that the physiological response of AIS patients in intervention group after Benson's relaxation response treatment had improved compared to the physiological response of AIS patients in control group with the value of $p=0.0001$.⁶ The changes of physiological response occur due to Benson's relaxation response that alters the activity pathway of Hypothalamus Hypophysis

Adrenal (HPA) and Sympatho Adreno Medullary (SAM). Both of the main pathways are activated by hypothalamus which secrete Corticotrophin Releasing Hormone (CRH) and causes the pituitary to release Adreno Corticotrophic Hormone (ACTH). The quick reaction of SAM pathway causes ACTH to drop and lead to the decrease of the sympathetic nerve's activities. This causes the adrenal medullary to decrease catecholamines epinephrine and norepinephrine which results on the decrease of blood pressure, heart rhythm, breathing, and oxygen consumption. The rather slow HPA pathway's reaction causes ACTH to stimulate adrenal cortex to drop cortisol. The level of cortisol serum is significantly lower following the meditation period.³²

Nitric Oxide pathway (NO) is also useful in controlling the process of norepinephrine in many different levels including synthetic, secretion, and activity. NO pathway is essential because constitutive NO has lots of amelioration and/or protection capacity, so that it is possible to start a beneficial function to fight the diseases related to stress and re-balance the autoregulatory signalling process.³³

The limitation of this study lies on the nursing intervention to AIS patients' physiological response that has not been studied further. The limitation of other previous studies lie on the limited number of subjects which affects the result of the multivariate analysis.

CONCLUSION

This study concludes that Onset and Benson's relaxation response factors are significantly correlated to the physiological response of AIS patients. Based on the results of the study, it is advised that nursing interventions need to be done to control the factors related to the physiological response of AIS patients as a preventive act against complication. The upcoming study will identify the factors of AIS patients' physiological response that involve more nursing intervention with a larger number of subjects.

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Nurse's Experience In Playing Role As Assistance Pregnant Women In Semarang

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Abstract. The Assistance of pregnant women aims to reduce the incidence of crisis and complications of pregnancy that cause maternal death. This study aims to determine the description of the main duties of nurses in assisting pregnant women using OSOC (One Student One Client) approach in Semarang. This study aims to determine the main duties of nurses in assisting pregnant women using OSOC (One Student One Client) approach in Semarang. The design of this study is qualitative with a phenomenological approach. The number of samples for Focus Group Discussion (FGD) was 4 nurses participants. Triangulation participants were 2 midwives and 1 community health workers. This study shows nurses are still not optimal in carrying out their role in assisting pregnant women because they work in the outpatient health centers within the scope of the treatment center and the implementation of assistance policies for pregnant women does not fully support the nurses. Nurses do not get the main duties structurally assisting pregnant women but still carry out their duties in public health care. This research shows that nurses are able to become partners of pregnant women in assistance.

Introduction

A total of 830 women throughout the world in 2015 died in cases of pregnancy due to bleeding, hypertension, infection, and indirect causes due to medical conditions before pregnancy^{1,2}. Maternal mortality in the world is estimated due to acute obstetric problems, socio-cultural factors that cause low awareness of antenatal care, delay in seeking help, and maternal knowledge about inadequate nutrition³⁻⁶. It's because the lack of assistance for pregnant women to reduce the incidence of crisis and pregnancy complications due to various causes^{7,8}.

The statement of Udofia and Christie confirms otherwise that during pregnancy and after delivery 98% of mothers in Nigeria expect husband's support, cooperation in childcare and household care⁹. The research results of Arifin et al and Kemp et al, strengthen that there is a significant relationship of family support for pregnant women^{10,11}. Assistance to pregnant women from husband or family, friends, trusted people, health workers is needed to help pregnant women overcome the crisis of maturation from pregnancy to the puerperium to adapt physically and mentally^{12,13}. Assistance activities assistance during pregnancy, labour and post partum which is the implementation of

the nurse's duties¹⁴. This study aims to determine the main duties of nurses in assisting pregnant women using OSOC (One Student One Client) approach in Semarang

Methods

Design

This research is a qualitative research with a phenomenological approach.

Sample

The population is nurses in Puskesmas or Public Health Center who have not been able to meet the success targets of the MCH (Mother and Child Health) program. Rowosari Puskesmas was Puskesmas that has post partum visit rates (KF3) below the target of success for pregnant women health service programs. This Puskesmas has a special program called "Kamis Safari" which is puskesmas health personnel traveling around in their working area to check on the condition of residents^{15,16}. The sample used was 4 nurses.

Data collection

In-depth interview method was conducted on triangulation participants consist of 2 midwives and 1 community health workers. The study was conducted on August 24, 2016 until September 17, 2016.

Data Analysis

The data analysis process uses thematic analysis.

Result

Characteristics of participants and triangulation participants

Table 1 Characteristics of FGD Participants

No	Initial	Education	Age (years)	Gender	length of working (years)
1.	P1	Diplom III in Nursing	33	Male	7
2.	P2	Diplom III in Nursing	35	Female	13
3.	P3	Ners Profession	26	Female	1
4.	P4	Ners Profession	30	Female	8
Partisipan Triangulation :					
1.	P5	DIII Midwifery	28	Female	2
2.	P6	DIII Midwifery	29	Female	2
3.	P7	Master of Health	46	Male	25

Based on table 1, the nurses participant were educated with Diploma III and Ners profession. Triangulation participants were 3 people with 2

people of midwifery Diploma III education and 1 person with a master of health education.

The Role of Care Provider

The role of nurses as care provider in assistance is illustrated through provider themes consist of ANC (Antenatal Care) sub themes and post partum care by nurses.

ANC sub-themes are known by the category KIA (Mother and Child Health) by midwives and posyandu by nurses.

The statement in the category KIA by midwives, as follows:

"Assisting pregnant women, this duty usually goes to the midwives, we're giving focus of assistance to the midwives. Assistance program for pregnant women in puskesmas under The KIA program as the responsible coordinator by midwife" (Group Of Nurses)

Statements in the category posyandu by nurses, as follows:

".....Usually we are conducted Posyandu, whether it's Posyandu in the morning or in the evening, there are not only toddlers, sometimes there are also Posyandu for the elderly, there are also pregnant women came....." (Group Of Nurses)

The sub-theme of post partum care by nurses is known by the category of treatment center.

"..... nurses usually assist the Sectio Caesaria wound care, we were doing it in treatment center" (Group Of Nurses)

The Role of Collaborators

The role of nurses as collaborators in assistance is illustrated through the theme of collaborators with sub-themes of nurse performance among health workers and the category of collaboration boundaries.

The performance of nurses among health workers sub-themes are known by the category of collaboration boundaries

The statement on the categories of collaboration boundaries, as follows:

"... nurse ... will also help (referral) ..." (group of nurses)

"... I have never made a referral for pregnant women. If there are referrals depending on the situation of the staff, for example in KIA Program chamber, if there

is only one midwife and there is only one doctor with one nurse in treatment center. It means the possibility of nurses who delivered the referral" (group of nurses)

The Role of Case Finder

The nurse's role as a case finder is illustrated by the kamis safari category

The statement on the kami safari category, as follows:

"Kamis safari's for all health problems ... The problems found are a lot. (group of nurses)

Triangulation participants strengthen by providing the following statement:

"Kamis safari including founding the pregnant women case because sometimes they still find pregnant women with less Antenatal Care or yesterday there was a case with no Antenatal Care at all of a mother.... "(P7)

The Role of the Educator

The nurse's role as an educator is described in the category of providing advice.

The statements in the category providing advice, which are:

"..... Also provide advice (education) on nursing mothers nutrition and exclusive breastfeeding. Including counseling (education) we usually put it in "(Group of nurses)

Description of the Main Duties of in Assisting Pregnant Women

Nurses in Assisting Pregnant Women are explained on the theme of Nursing Care in assisting pregnant women by the sub-theme of coverage of mentoring by nurses with the categories of experience of accompanying, nurse performance and nurse constraints.

In the accompanying experience category, the group of nurses provides the following statements:

"So far it has never been ... nurses are indeed rare. nurses mostly work on treatment center. I also have never helped childbirth "(Group of nurses)

In the nurse performance category, the group of nurses provides the following statements:

"We're only at treatment center... nurses also collide with main duties. We will be busy with our main duties, that is to say at

treatment center because it has been decide our main duties in here. So we're collide each other in main duties and our knowledge only runs on treatment center (group of nurses)

In the category of nurse constraints, the group of nurses provides the following statements:

"All assistance is carried out by all midwife programs ... We hope nurses have an important role, not limited but directed and capable to monitor the pregnant women, without limiting the scope of midwives or nurses or other health care providers ..." (group of nurses)

Triangulation participants provide the following statement:

"... nurses have responsibilities and duties at treatment center." (P5)

"We have our own main duties... Nurses are concentrated on treatment center..." (P6)

"..... very rarely, we made referral with the nurse as the companion ... the cases are very rare ... If it's just a nurse, who travel through the referral I've never seen it very rarely, rarely is the nurse ... according to the activities and main duties..." (P7)

Discussion

Description of The Nurse's Experience In Playing Role As Assistance Pregnant Women

In this study shows the lack of nurse's role as care providers in assisting pregnant women because of their poor experience and has never been done. Nurses at the Health Center without inpatient facility are focused on their duties at the treatment center carrying out their main duties with a large number of patients and long procedures. One of the roles of nurses at the Health Center without inpatient facility in assisting pregnant women is when providing Sectio Caesaria wound care at postpartum visits, although the cases are rare. This is closely related to the implementation of the main duty of Nurses at the Health Center without inpatient facility which do not have the main duties in assisting pregnant women, but they have the duties of supporting of providing health education about breastfeeding¹⁷.

The situation is an obstacle for nurses, where the implementation of assisting pregnant women in the Puskesmas is carried out all by midwives. Nurses feel bumped into the main duties who have provided a barrier to their performance in the implementation of the Community Health Center. The nurse stated that their main duty in the Puskesmas did not have a relationship with the assistance of pregnant women, this indicated the nurse's lack of confidence in their abilities. Their condition is contrary to the research of Rahmatullah, et al and regarding nurses who work in remote area can carry out comprehensive assistance for pregnant women including the handling of childbirth, thus showing that nurses are able to carry out these responsibilities¹⁸. Similar research revealed that nurses facilitated the process of patient engagement in prenatal visits well¹⁹

Nurses at the Puskesmas have an expectation that they will be given space and opportunity to carry out assistance without limits but structured in the implementation of the main duties in assisting pregnant women, because they've mastered this knowledge scientifically. Alfredo L Fort's statement explained that nurses and midwives had the same possibility in carrying out maternal care, where the performance of health workers (nurses and midwives) was influenced by clear, timely work expectations, environment and adequate tools, motivation and incentives, knowledge and the skills and capacity to do work²⁰.

This study shows the nurse's role as a collaborator when helping to make a referral and only if needed the nurse will take the patient to the hospital, but the cases are very rare. Fewster explained about the collaboration of nurses with other health workers as being very important for the interests of clients, the lack of collaboration between health workers is one of the biggest causes (70%) of medical error.²¹.

In activities outside the building, nurses can carry out their role as case finders by participating in Kamis safari activities at the Rowosari Community Health Center to find cases that occur in the community. Dugravier et al's research states that maternal case findings can be carried out through home visits²².

The role of educator is carried out by nurses in this study by giving advice to pregnant women regarding pregnancy, breastfeeding or nutrition. Meidiana Dwidiyanti believes nurses must be able to help patients to be independent in fulfil their needs²³. The ability of the mother will support further information-giving interventions such as in Aisya's study that presents the results of health education by nurses to postpartum mothers who have a significant influence on their health level²⁴.

The Other roles that nurses cannot carry out are planners, agents and leaders, client advocates, case managers and researchers. This role can be optimized by nurses with aligning between policies that have been in force and opportunities to meet with clients.

Conclusion

Nurses are still not optimal in carrying out their role in assisting pregnant women because nurses who work in the outpatient Puskesmas work within the scope of the treatment center. The policy of implementing assistance for pregnant women also does not favor nurses, so nurses hope that space and opportunities are given to carry out assistance for pregnant women.

Ethical Aspects and Conflict Of Interest

The author Stating there is no conflict of interest from publishing this article. Etchical clearance of research was published by the Health Research Ethics Commission (KEPK) of the Faculty of Medicine, University of Diponegoro with number 833 / EC / FK-RSDK / VII / 2016.

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DIET AND EXPOSURE TO SOURCES OF INFORMATION AS CAUSE FACTORS OF TYPE II DIABETES MELLITUS IN KENDARI CITY

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Keywords: Diet, Exposure to Information Sources, Diabetes Mellitus.

ABSTRACT

Diabetes Mellitus is also known as a disease related to food intake, both as a causal factor and treatment. Diabetes is increasing every year. The worldwide commonness of Diabetes among grown-ups is expanding and happening quicker in the center world. Until 2020 when the age of the Indonesian population over 20 years reached the number of 178 million people and assuming the number of people with Diabetes Mellitus 4%, the proportion of cases of Diabetes Mellitus from 2018 to 2019 increased to 2546 cases from all Community Health Center in Kendari City. This analysis could be a sort of quantitative analysis with a cross-sectional style. The population in this study is all new cases of Diabetes Mellitus patients who conducted examinations or treatment at the Labibia Health Center Kendari city as many as 107 people and samples in this study took 52 people with accidental sampling techniques. The statistical test used was Chi-square with a 95% confidence level. The results showed that the diet about diabetes mellitus in the sufficient category was 19.2%, and the less category was 80.8%. In comparison, the exposure to sources of information about diabetes mellitus in the sufficient category was 46.2%, and the less category was 53.8%. The analysis results also show a significant relationship between diet and Diabetes Mellitus, as evidenced by the p -value = 0.036 ($= 0.05$), and exposure to information sources with Diabetes Mellitus as evidenced by the p -value = 0.012 ($= 0.012$ value). 0.05).

INTRODUCTION

Diabetes Mellitus is a chronic disease characterized by hyperglycemia and glucose intolerance that occurs because the pancreas gland cannot produce insulin adequately or because the body cannot use effectively produced insulin or both ¹.

The transition of disease patterns has shifted from communicable infectious diseases to non-communicable diseases or degenerative diseases. Until now, degenerative diseases have become the cause of death in the world. Shifts in disease patterns have also occurred in Indonesia, where

degenerative diseases have increased. Indonesia currently bears the double burden of conditions in the health sector, namely infectious diseases that are still rampant and various chronic degenerative diseases³.

The high number of people with diabetes mellitus is partly due to changes in people's lifestyle, low level of knowledge, awareness attitude to conduct early detection of diabetes mellitus disease is lacking, lack of physical activity and traditional dietary arrangements containing a lot of carbohydrates and fiber from vegetables to westernized diets, with the

composition of overeating protein, fat, sugar, salt, and a little fiber. Among people with diabetes mellitus, many do not realize they have a disease more commonly called sugar disease or Diabetes due to several factors, including knowledge level, education level, attitude, behavior, eating habits, and exposure to information sources.

According to World Health Organization (2015), the global prevalence of Diabetes among adults is increasing and occurring more rapidly in middle and low-income countries. And in 2015, there were 1.6 million deaths directly caused by Diabetes and 2.2 million deaths caused by high blood glucose. Half of the deaths of people with Diabetes mellitus caused by high blood glucose occur at 70 years. WHO projects that Diabetes will be the cause of death by 2030. Based on the current pattern of population growth, it is estimated that in 2020 when the Indonesian population over 20 years reached the number of 178 million people and assuming the number of people with Diabetes Mellitus 4%, there will be about 7 million diabetes mellitus patients. According to WHO data, Indonesia occupies the 4th largest place with the highest prevalence of Diabetes in after India, China, and the United States. Indonesia with a growth of 152% or from 8,426,000 people in 2000 to 21,257,000 people in 2030 (Jelantik & Haryati, 2014)^{4,9}.

Data of Kendari City Health Office, the proportion of Diabetes Mellitus cases in 2018 was 184 cases and in 2019 increased to 2546 cases from all Community Health Center in Kendari City. There are still many cases and improvements related to Diabetes Mellitus type II disease, which is the 3rd out of the top 10 non-communicable conditions and has increased every year by 84%. Therefore, it is necessary to research factors related to Diabetes mellitus, especially in Kendari City.

METHODS

This research is a type of quantitative research with a cross-sectional design, where dependent variables and independent variables are collected simultaneously and directly. This study was aimed to examine the factors associated with Diabetes Mellitus type II patients⁵.

The population in this study is all new cases of Diabetes Mellitus patients who conducted examinations or treatment at the Labibia Health Center Kendari period January - December 2019

as many as 107 people. The sampling technique in this study was an Accidental Sampling technique by taking samples based on needs; namely, anyone who accidentally met with researchers can be used as a sample. The research instrument used was a questionnaire and examination of blood glucose levels in Diabetes mellitus, which was then analyzed in stages. A univariate analysis was carried out on each variable from the research results. Bivariate analysis was used to test whether there was a relationship between the independent and dependent variables using the Chi-square⁸.

RESULTS AND DISCUSSION

Characteristics of Respondents

The frequency distribution of respondent characteristics from this study can be seen in Table 1 below:

Table 1. Frequency Distribution of Respondent Characteristics by Age, Gender, Education, and Occupation at Labibia Public Health Center, Kendari City in 2020

Characteristics of Respondents	Total	Percentage (%)
Age (y.o) :		
23 – 33	7	135
34 – 44	17	32.7
45 – 55	16	30.8
56 – 66	6	11.5
67 - 77	6	11.5
Gender:		
Male	27	51.9
Female	25	48.1
Education :		
No School	4	7.7
Elementary School	10	19.2
Junior High School	5	9.6
Senior High School	22	42.3
Academy/University	11	21.2
Occupation :		
Retired/out of work	3	5.8
Civil Servant/Army/Police	7	13.4
Entrepreneur/Merchant	8	15.4
Private Employee	18	34.6
Housewife	16	30.8

Table 1 shows that out of 52 respondents, the most were the age group of 34 - 44 years old, namely 17 people (32.7%), and the smallest age group is 56 - 66 years old and 67 - 77 years old, which is as many as six respondents each (11.5%) from the gender group 51.9% male and 48.1% Female. The education level of most respondents, namely 42.3%, is high school educated. Only a tiny percentage of respondents do not go to school, i.e., four people (7.7%). In comparison, of the types of work, most of the respondents are private employees that are as many as 18 people (34.6%), and a small percentage are retirees / not working as many as three people (5.8%).

Univariate Analysis

Distribution of respondents' diet in Labibia Health Center Work Area, Kendari City

The distribution of the diet of respondents in the Working area of Labibia Health Center, Kendari City, can be seen in the table below:

Table 2. Distribution of Frequency of Respondents According to the diet of respondents in Labibia Health Center Work Area, Kendari City in 2020

No	Diet	n	%
1	Sufficient	24	46,2
2	Insufficient	28	53,8
Total		52	100

Table 2 shows that the respondents' diet in the Working Area of Labibia Health Center Kendari city with a category of sufficient category as many as ten respondents (19.2%), while the category of insufficient category as many as 42 respondents (80.8%).

This study showed that respondents had an unhealthy diet due to the interaction between genetic susceptibility factors and exposure to the environment, and changes in one's lifestyle. Among them is that unbalanced eating habits will lead to obesity. The obesity condition will trigger the onset of Diabetes mellitus type II. In adults, obesity will have a four times greater risk of the onset of Diabetes mellitus type II

compared to people with normal nutritional status. In contrast, some respondents gave different assessments of the insufficient diet but did not suffer from Diabetes Mellitus type II. This is supported by other factors, namely physical activity and regular exercise.

Distribution of exposure of respondents' information sources in Labibia Health Center working area, Kendari City

Distribution of exposure of respondents' information sources in Labibia Health Center working area, Kendari City can be seen in the table below:

Table 3. Distribution of Frequency of Respondents According to the exposure of respondents' sources of information in Labibia Health Center working area, Kendari City in 2020

No	Exposure to information source	n	%
1	Sufficient	24	46,2
2	Insufficient	28	53,8
Total		52	100

Table 3 shows the exposure of respondents' information sources in Labibia Health Center's working area, Kendari City, with a sufficient category of as many as 24 respondents (46.2%). In comparison, the insufficient category has as many as 28 respondents (53.8%).

One of the factors that influence a person's actions in improving the quality of health is the availability of information related to the activities that a person will take. In Diabetes Mellitus patients, the ease of obtaining information about blood sugar level control can facilitate measures to control blood sugar levels.

Bivariate Analysis

Bivariate analysis using Chi-Square statistical test at a confidence level of 95% ($\alpha = 0.05$) can be seen in the following table:

Table 4. Distribution of Diet Relationship with Diabetes Mellitus Type Ii disease in the working area of Labibia public Health Center, Kendari City in 2020

Diet	Incidence of Diabetes Mellitus				Total		X ² Hit	phi
	Suffer		No Suffer					
	n	%	n	%	n	%		
Sufficient	8	80	2	20	10	100	5,054	0,312
Insufficient	17	40,5	25	59,5	42	100		
Total	25	48,1	27	51,9	52	100		

Table 4 shows out of 52 respondents, 80% of respondents have a sufficient diet causing diabetes mellitus, and those who have an adequate diet do not cause diabetes mellitus 20% of respondents. In comparison, 40.5% of respondents with a insufficient diet cause diabetes mellitus, and 59.5% of respondents have a insufficient diet but do not cause diabetes mellitus.

Statistical analysis obtained, the value of $0.036 < 0.05$ means H_a received, or there is a relationship of dietary factors with the incidence of Diabetes mellitus type II in the working area of Labibia Health Center, Kendari City with a coefficient test value phi (0.312). Which means it has a moderate relationship strength.

The study results give an idea that 8 (80%) respondents have a sufficient diet but suffer from Diabetes Mellitus; this is due to the interaction between genetic susceptibility factors and exposure to the environment and changes in one's lifestyle. Among them is that unbalanced eating habits will lead to obesity. The obesity condition will trigger the onset of type II diabetes mellitus. In adults, obesity will have a four times greater risk of the onset of Diabetes mellitus type II compared to people with normal nutritional status. While 25 (59.5%) respondents gave different assessments where the diet is lacking but do not suffer from Diabetes Mellitus type II. This is supported by other factors, namely physical activity and regular exercise. People with Diabetes mellitus, a form of behavior change starting from increasing knowledge about diabetes management. Then, attitude to be willing to listen or see nutrition

information, including new dietary habits or diets in their lifestyle, group and family support, and sustainable nutrition counseling, greatly influences changes in one's behavior following a healthy lifestyle (Sari Paramitha, 2013). Despite having good nutritional knowledge but no awareness of changing his eating behavior, his diet will not change for the better. So that a person's behavior to obey or obey the diet can be related to the intensity of counseling, education, and motivation given regularly and continuously, the level of economy and awareness in the individual.

The results of this study are following the results of research from Febriana (2005), who expressed that there is a critical connection among diet and the rate of Diabetes mellitus in diabetes mellitus patients. Also, research led by Rahmawati 2011 said that there is a connection among diet and glucose levels in patients with diabetes mellitus type II^{3,7}. Another thing based on the assumption of dietary researchers related to the incidence of Diabetes Mellitus where a good diet and coupled with daily activities of respondents have a balance so can digest that food properly.

Table 5. Distribution of Dietary Relationship with Diabetes Mellitus Type II disease in the Working Area of the Labibia Public Health Center, Kendari City in 2020

Exposure to Source of Information	Incidence of Diabetes Mellitus				Total		X ² Hit	<i>phi</i>
	Suffer		No Suffer					
	n	%	n	%	n	%		
Sufficient	7	29,2	17	70,8	24	100	6,385	0,350
Insufficient	18	64,3	10	35,7	28	100		
Total	25	48,1	27	51,9	52	100		

Table 5 shows that out of 52 respondents who have sufficient exposure to sources of information is enough to cause diabetes mellitus, 29.2% of respondents and 70.8% of respondents have exposure to sufficient sources of information but do not cause diabetes mellitus. While 64.3% of respondents have exposure to insufficient information sources, cause diabetes mellitus, and have insufficient exposure to information sources but do not cause diabetes mellitus, 35.7% of Respondents.

Statistical analysis obtained the value of $0.012 < 0.05$ means H_a received, or there is a relationship of information source exposure factors with the incidence of Diabetes mellitus type II in the working area of Labibia Public Health Center, Kendari City. The value of the phi coefficient test (0.350) means it has a moderate relationship strength.

The results showed 29.2% of respondents have sufficient exposure to sources of information but suffer from Diabetes Mellitus; this is due to the ease in obtaining information, but the diet of respondents who are not maintained such as still consume sweet foods and often eat fried foods. While 10 (35.7%) respondents gave different assessments where exposure to information sources is lacking but do not suffer from Diabetes Mellitus type II. This is due to the high motivation to control the diet and control the diet, although the lack of health information, especially the control of blood sugar levels.

The results of this study are not in line with the research presented by Qurratuani (2009), which stated that based on the results of the study, there is not enough evidence to state the relationship of exposure factors of information sources with the incidence of Diabetes mellitus⁶.

This study suggests assumptions related to research on the exposure of sources of information. The information or instructions given by health workers should be digested and studied well and clearly by patients. Although the data obtained is very minimal but can be applied well by patients daily to control blood sugar levels.

CONCLUSIONS AND SUGGESTIONS

Dietary factors and exposure to information sources significantly affect Diabetes Mellitus type II disease in the Working Area of Labibia Public Health Center, Kendari City. Therefore, health agencies, in this case, health officials in the working area of Labibia public Health Center in Kendari city, monitor dietary and dietary compliance through the provision of nutrition knowledge questionnaires and diet conducted every month and increase the frequency of information for the public through health counseling.

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The Effect of a Combination between In-Water Recompression (IWR) and Leg Posterior Massage Toward Neurotic Symptom for Those Who Suffer Decompression

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ABSTRACT

Indonesia has lots of marine biota and has been associated with coral reefs such as sponges, sea urchins, crustaceans, mollusks, and more. In addition, fishery products of Indonesian's biota are the biggest contributor for marine's fishery in the world (Burke, 2001). Saponda Laut is an area at Toronipa beach, Konawe. It is inhabited by 90 households and their economic income is from coral reefs and other biota. Most of the fishermen don't care about the safety stop in a rescue process causes them suffer decompression. This study aims to obtain the effect of a combination between in-water recompression and leg posterior massage toward neurotic symptom for traditional divers who suffer decompression at Saponda Laut Island. This is an experiment study uses post-test only control group design to obtain the effect of a combination between in-water recompression and leg posterior massage toward neurotic symptoms for those traditional divers who suffer decompression at Saponda Laut island. Data analysis were done by observing the changes happened on patients after teaching them about how to take a pee, join paint, numbness, and move weak extremist. There is a meaningful difference showed by treatment group than those who are in control group. The patients who suffer decompression in treatment group have been treated with an intervention uses a combination between in-water recompression and leg posterior massage with P value = 0.025.

INTRODUCTION

Economic growth which depends on coral reefs and marine life require local people to dive much deeper about 40 meters above sea level. Diving is done without using equipment and a safe diving time. Based on the result of previous observations, it was found that 25 fishermen actively dive using tire compressors.

Most of the fishermen do not care on their safety stops in diving process cause them suffer decompression. When the diver descends at a depth, the body is exposed to increase the environmental pressure and it causes amount of

inert gas dissolves in the tissues and the blood becomes emboli. An embolism that enters into the brain vessel causes stroke and usually occurs within a few minutes when the diver is being on the surface.

To minimize the bad effects of diving, other efforts can be done when decompression occurred, that is by performing special treatment in the acute phase where the diver begins to feel disturbances such as numbness, unable to excrete the urine, and when feeling paralysis. The treatment is by performing In-Water recompression/IWR¹.

METHOD

This study aims to obtain the effect of a combination between in-water recompression and leg posterior massage toward neurotic symptom for traditional divers who suffer decompression at Saponda Laut Island. This study was carried out at two sites, Mekar and Saponda Laut villages, Soropia sub-district, Konawe region, Southeast Sulawesi.

The study was begun by organizing administrative things such as preparing a permit for conducting the research from the provincial Balitbang, then it was forwarded to the sub-district government of Saponda Laut. Furthermore, the researchers asked for the approval to choose fishermen who met the criteria as samples. The sample in this study were traditional divers who experienced neurological disorders such as numbness, weakness in the lower extremities and inability to excrete urine after diving 2 hours ago. The patient would be given oxygen on the sea surface, then recompression was carried out in the water with the help from 2 rescuers, the recompression was carried out based on the response shown by the client / sample who dived not more than 9 meters (191 kPa), the recompression should not exceed 3 hours in the water. The success of the intervention was based on reducing symptoms such as weakness in the extremities, reduced on numbness and the client's ability to excrete the urine.

RESULT AND DISCUSSION

The study was carried out in 2 location sites, Bokori and Saponda Laut villages. The subject of this study was traditional fishermen who experienced neurological disorders such as numbness, paralysis and micturition disorders / inability to excrete the urine / urination. The number of samples are 12 people, 6 people in the treatment group (patients of decompression + in water recompression + posterior leg massage) and 6 people in the control group, then the subjects would be given oxygen on the sea surface, then 2 rescuers helped them to carry the recompression into the water, recompression was carried out based on the response shown by the client/sample who dived not more than 9

meters (191 kPa), the recompression should not be exceed 3 hours into the water. The success of the intervention was based on reducing symptoms such as weakness in the extremities, reducing numbness and the client was able to excrete the urine. The data obtained was presented in the percentage table. Based on the results of the normality test using the Kolmogorov-Smirnov Test, it was found that the distribution of data was carried out by non-parametric statistical testing of the two unpaired samples, the Mann-Whitney Test, with a 95% confidence level ($p < 0.05$).

a. Respondents' characters based on their age

Table 1
Frequency Distribution of the Subject based on their age at Bokori and Saponda Laut villages in 2020

No	Age (years)	total	Percentage (%)
1	17 – 39 (Young adult)	10	83,3%
2	40 – 59 (middle age)	1	8,3%
3	≥60 (Elders)	1	8,3 %
Total		12	100 %

Source: Primary Data, October-December 2020

Based on the table, it shows that middle age is more dominant for diving.

b. Respondents' characters based on the depth of their diving

Table 2
Frequency Distribution of the Respondents based on the depth of their diving at Bokori and Saponda Laut in 2020

No	Category	Total	(%)
1	12 meters (39 feet)	0	0
2	18 – 20 Meter s (60 feet)	11	91,6 %
3	30 meter (100 feet)	1	8,3 %
Total		12	100

Source: Primary Data, Oktober-December 2020

c. Respondents' Characters based on symptoms

Table 3
Frequency Distribution of the Respondents' time to solve their neurological symptom at Bokori and Saponda Laut Villages in 2020

No	Category	Total	(%)
1	< 3 times intervention	2	33
2	3 times intervention	3	50
3	➤ From 3 times intervention	1	16,6
Total		6	100

Source: Primary Data, October-December 2020

d. Different test of man Whyte U test between treatment and control sample

Group	P
Treatment-Control	0,02

Source: Primary Data, October-December 2020

DISCUSSION

The results of the analysis used unpaired difference test of control group, the Mann Whitney U test found a different condition of neurological symptom for those who suffered

decompression before and after getting an intervention of in-water recompression combined with posterior leg massage with p value = 0.02 (p=0.05). Decompression is a disease with symptoms on increasing the size of extravascular gas bubbles (in the tissue), released and dissolved in the blood (intravascular) due to the pressure surrounding has decreased. The solubility of gas in the tissue or blood depends on the tissue where it occupied; the accumulation of dissolved gases (oxygen, carbon dioxide, nitrogen and helium) turns to be air embolism and occurs in arteries and veins². Diving activity of fishermen isn't in accordance with safe diving standards such as when the diver rises to the surface too quickly, it probably caused by the dissolved nitrogen returns to be of gas while it is still liquid in the body tissues and causes air bubbles³.

The severity of each decompression symptoms might be anticipated by the diver's compliance in applying safety stops and rising to the surface technique. In addition, a prompt prevention and appropriate treatment are the right solution to overcome the effects of decompression, but some conditions make it impossible to apply this action, such as the sample of this study, 95% fishermen dived more than 20 meters below sea level by only using a hose which connected to a compressor engine contains nitrogen level almost 90%, without implementing a safety stop as a safe method for divers rising on the surface⁴.

There are some ideal ways in preventing and managing decompression cases however there various obstacles also faced by the community, especially those who live in the Saponda Laut island, considering the inadequate economic conditions of obtaining diving equipment that meets standards, demands to meet the targets so that the correct technique of rising to the surface is ignored, it's difficult to get the fastest health care services and the most important is the absence of the nearest hospital with a hyperbaric chamber facility.

Pre-hospital treatment becomes the most important part in minimizing the impact caused by decompression, one method that can be considered is by performing in-water recompression, this is relevant to several studies related and a need to consider applying In Water

Recompression (IWR) with a condition that those fishermen who dive in far areas or those who do not have compression chambers, in addition, underwater recreation and diving activities with different skills increase, and it is followed up by actively promoting the actions⁵.

In addition, this study discussed about in water recompression and modifies IWR with massage on the posterior leg. Several studies have shown that massage of this area significantly increases peripheral vascular BF in the lower extremities, may affect and change returned veins and cardiac parasympathetic nerve activity⁶. When the returned veins increased and it would facilitate trapped nitrogen transportation in the blood and to be eliminated in the lungs, while autonomic nerve stimulation restores the urinary function, lower urinary tract mainly consists of autonomic nervous system, especially the parasympathetic system affects the detrusor muscle mainly through cholinergic transmission. Parasympathetic travels through the pelvic nerves and arises from S2-S4. Sympathetic transmission arises from T10-T12 and forms inferior hypogastric nerve with the parasympathetic nerves then form the pelvic plexus.

CONCLUSION

There was a significant difference between those who were in treatment group, these people who suffered decompression and given an intervention of a Combination In water recompression and potsterior legs massage and the control group with p value = 0.025

Suggestion: The need for a more varied control group to obtain an effectiveness in-water recompression, and the need to consider other

parameters to assess the validity of effectiveness of the action, for example measuring gas levels in the body such as nitrogen, or oxygen saturation.

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