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The Effect of Hold-Relax Therapy In Inflammation Phase of Patient with Extremities Fracture and Length of Stay In RSUD Dr.M.Yunus Bengkulu 2018

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***ABSTRACT*- The rate of incidence in a well-restored fracture is only 10% of all incidence In 2013th Indonesia. The healing process of fracture takes a longer time and more special attention especially on mobilization actions which will lead to an increase in the length of stay patient in the hospital. Hold-relax therapy helps to improve the relaxation of the antagonistic patterns, improvement of mobilization and decrease pain so the length of stay will be as needed. Purposed of this research to determine the effect of hold relax therapy on patient fracture of the extremities length of stay. The research used quasi-experimental with post-test only with a control group. The populations are patients with fracture extremities in RSUD Dr.M.yunus Bengkulu. The sampling technique used continuous sampling. Total samples are 34 respondents. analysis test with independent t-test (p-value <0,05). Mean of the length of stay in the control group is 4.76 days and in the intervention group is 3,94 days. The difference mean in control, and intervention group is 0,82 days, that can make reduce the length of stay with p-value 0,012<0,05. hold relax therapy effective to reduce the patient fracture of extremities length of stay**

***Key Word*- fracture, length of stay, hold-relax.**

I. INTRODUCTION

A broken bone is called a fracture. Fracture is a broken continuity of bone tissue, usually followed by damage to surrounding tissue. Breach is a condition in which whole or partial bone tissue is disconnected caused by forceful or osteoporotic. For a fracture to heal, the bones must be held in the correct position and protected [1]

In Indonesia, the incidence of fractures is quite high, as many as 84,774 cases[7]. The prevalence of injury prevalence showed a slight increase from 7.5% (Riskesdas 2007) to 8.2% (Riskesdas 2013). The fracture injury prevalence of Bengkulu Province is 5.8 percent, with the highest incidence found in South Bengkulu (13.4%) and the lowest in North Bengkulu (2.7%)[7]

The resulting survey of health department Indonesia in 2013, 23% of people with fractures had death, 47% had physical disabilities, 15% experienced psychological stress such as anxiety or even depression and 10% recovered well[5]

Further risks and complications of fracture can be minimized by providing appropriate and immediate management. The management of fractures can be carried out in a conservative manner which includes immobilization, reduction and rehabilitation, and operative. Management of fractures with operative techniques is usually done with ORIF (Open Reduction Internal Fixation) whose actions refer to open surgery to regulate bone.[13]

The patient's level of knowledge about exercise therapy influences the patient's actions towards mobilization which should be carried out by the patient immediately after the surgery. This condition will affect the length of time the patient in the hospital or the range of the patient's care.[9]

Difficult problems cause the length of day inpatient care due to no mobilization. The pain experienced by the patient makes the patient afraid to move the injured limb, so that the patient tends to stay lying long, allowing the body to remain stiff[11]

Hold-Relax is a form of exercise therapy where the muscle or group of shortened antagonistic muscles is contracted optimally and then followed by muscle or muscle group relaxation (the principle of reciprocal inhibition) with the aim of improving antagonistic pattern relaxation, enhanced mobilization, and pain relief.[2]

Providing exercise therapy in the form of Hold-Relax can maintain joint motion, reduce pain, reduce swelling, increase the scope of collective action [8]. By doing the exercise, the patient can restore functional activities and can carry out daily activities as usual.

As a nursing provider, a nurse must be able to minimize or refuse interference during the client. It is consistent with the concept of nursing management for fracture clients according to Halstead (2004) principles of fracture care management such as mobilization and prevention[6]. Therefore, to avoid other problems that arise from the ability to mobilize clients so that it needs to be given exercise therapy.

II. METHODS

The research design used in this study was pre-experimental with a quasi-experimental approach. I am using the post-test only with control group design. This study aims to discuss the effect of giving hold relax therapy in the inflammatory phase to the length of stay.

Respondents in this study were divided into two groups, namely the control group and the intervention group. The control group was only observed in the hospital, and the intervention group was observed and intervened in the form of hold relax therapy for 15 minutes and one time a day for three days.

Sampling was carried out at RSUD Dr. M. Yunus Bengkulu, and data collection was carried out in several hospital rooms namely Seruni, and Flamboyan rooms from January to March.

The population in this study were all patients who had fractures of the upper extremities and lower extremities in the long bones of the post repositioning area who were treated at the RSUD Dr. M. Yunus Bengkulu.

The sample in this study were some of the patients who experienced upper and lower extremity fractures in the extended bone area that treated at M. Yunus Bengkulu Hospital. The sampling technique used in this study is consecutive sampling technique, which is the technique of determining samples by entering patients who meet the criteria until the desired number of samples is fulfilled with the number of samples in each group totaling 17 respondents so that the entire sample in this study amounted to 34 respondents.

The length of the day of treatment will be calculated from the first day of surgery after the patient is undergoing a surgical process. The length of stay is measured after the patient gets the intervention and is allowed to go home

III. RESULT

a. Univariate Analysis

TABLE 1: CHARACTERISTICS OF RESPONDENTS, IN POST-REPOSITIONED EXTREMITY FRACTURE PATIENTS IN RSUD DR. M.YUNUS BENGKULU

Variable	Group		*P Value*
	Control	**Intervention**	
Age (year)			0,65
	19- 64	20 - 58	**
Min-Maks	41	36,5	
Mean	44	32	
Median	14,14	12,49	
SD	33,73 - 48,27	30,11 – 42,95	
CI *for Mean* 95%			
Gender			0,31
Mae	9 (52,90%)	12 (70,60%)	*
Female	8 (47,10%)	5 (29,40%)	
Nutritional status			0,53
Mean	20,75	20,64	**
Median	20,63	20,23	
SD	01,23	01,32	
Min-Maks	18,98 - 22,89	18,95 - 22,76	
CI *for Mean* 95%	20,12 - 21,38	19,97 - 21,32	

Respondents in the control group had a mean age of 41 years with an average age range of 33.73-48.27 years, and the intervention group had a mean of age 36.5 with a mean age range of 30.11-42, 95 years. More than half of the respondents in the group were male as many as 9 (53.90%) respondents, and in the intervention group, most of the respondents were male, as many as 12 (70.60%) respondents. Nutritional status in each group was in good nutritional status with a mean BMI score of 20.75 in the control group and 20.64 in the intervention group.

b. Bivariate Analysis

TABLE 2: AVERAGE AND DIFFERENCE LENGTH OF STAY RESPONDENT'S FOR CONTROL AND INTERVENTIONS GROUPS IN RSUD DR. M. YUNUS BENGKULU

Variable	Group		p-value
	Control	**Intervention**	
Length of stay			0,012
Min-maks	3 - 6	3 - 5	
Mean	4,76	3,94	
Median	5	4	
SD	0,83	0,96	
C1 *for Mean* 95%	4,34 - 5,19	3,44 – 4,44	

The average length of stay in the control group was 4.76 days, and intervention was 3.94 days. The average difference in length of stay in each group was 0.82 days.

Independent sample t-test obtained p-value 0,012 ($p < \alpha = 0,05$), so there were differences in mean length of stay in the control and intervention groups. It can be concluded that there is an effect of giving hold relax therapy to the patient's length of stay.

IV. DISCUSSION

a. Description of Fracture Characteristics in RSUD Dr. M. Yunus Bengkulu

The results obtained the characteristics of the age of the respondents who experienced extremity fractures in the control group had an age range of 19-64 years, with a mean age 41 years of respondents. In the intervention group, the age range of respondents was 20-58 years with an average age of 36.5 years. It is consistent with the study of C.B Ropyanti et al. in 2013 who reported that fracture prevalence was more prevalent in the early adult and middle adult groups.[10] IThis is because early adulthood is the ideal age when it reaches the peak of musculoskeletal efficiency, at this age a person feels comfortable with his condition compared to late adulthood[4], resulting in a lack of alertness to trauma-causing agents

The gender of the respondents in this study was more than half were male with the number of male respondents in the control group were 9 (52.90%) respondents and females were 8 (47.10%) respondents, while in the intervention group male respondents were as many as 12 (70.60%) respondents and women were 5 (29.40%) respondents. The results of this study are in line with the research of C.B Ropyanti et al. in 2013, which explained that the majority of respondents were male with a total of 28 (80%) of the total respondents[10]

Nutritional status in the respondent group showed that all respondents were in good nutritional status, the BMI value of each respondent evidenced this in good nutritional status with a range of 18.98-22.89 in the control group and the intervention group 18.95-22, 76. Patients with good dietary condition tend to go through a period of first bone union, and malnourished patients experience delayed union and even unified bone.[3][12]

b. Average Length Of Stay In Patients With Post-Repositioned Extremity Fractures In The Intervention Group and Control Group

The mean length of stay in the control group was 4.76 days with a range of 3-6 days, and the mean of the intervention group was 3.94 days with a variety of 3-5 days. The control group received therapy from the hospital without being given exercise therapy in the form of hold relax treatment from the researchers. The intervention group received healing from the hospital with accompanying exercise therapy in the way of grip relax therapy from researches.

The length of stay in the intervention group and the control group by the length of stay in the indicator of hospital service quality is 6-9 days.[6]

From research conducted by Sheps (2006), from the University of British Columbia found that clients who experience upper limb fractures who perform early mobilization in the form of joint motion exercises or road mobilization tend to move usually faster than clients who do not do early mobilization

c. Differences In Mean Length Of Stay In Patients With Post Disposition Extremity Fractures In The Control and Intervention Groups

The mean difference in length of stay between the intervention group and the control group was 0.82 days with a p-value of 0.012 ($p < \alpha = 0.05$). The average length of stay in the intervention group respondents was shorter compared to the respondents in the control group.

The length of stay in the intervention group and the control group by the length of stay in the indicator of hospital service quality is 6-9 days.[6] The shorter length of stay in the intervention group respondents was due to the provision of exercise therapy in the intervention group. Exercise therapy given in the form of hold relax therapy is an exercise therapy to improve the ability of early mobilization by providing additional resistance slowly without any movement from the patient

d. Analysis of the Effect of Hold-Relax Therapy on Length of staying in Patients Fracture Extremity

The results of this study prove that there is a significant effect of giving hold relax therapy to the length of stay in post-repositioned extremity fracture patients in RSUD Dr. M. Yunus Bengkulu.

Increased blood flow will also help supply oxygen and nutrients to tissue cells so that it can help speed up the recovery process. It is because one of the factors that accelerate the wound healing process according to Taylor is circulation and oxygenation. Lack of oxygen perfusion causes recovery to be hampered. Consequently, oxygen is needed to repair it.

V. CONCLUSION

The present study suggested that hold relax therapy effective to hold relax treatment sufficient to reduce the patient fracture of extremities length of stay,

The difference mean value length of stay in the intervention and control groups was 0.82 days with a range length of stay in intervention group 3-5 days and mean of 3.94 and in the control group 3-6 days with a mean of 4.76 days.

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