Level of Psycoeducation Effectiveness on Adaptation Fracture Patients at Pirngadi Hospital Medan City

Rina Rahmadani Sidabutar[1], Budiana Yazid[2], Heni Triana[3]
[1,2,3]Bachelor of Nursing, Sekolah Tinggi Ilmu Kesehatan Flora, Medan, Indonesia

Email Corespondence: amiradalimunte2016@gmail.com

Track Record Article

Accepted: 6 August 2024
Revised: 27 March 2024
Published: 8 August 2024

How to cite :
Sidabutar, R. R., & Yazid, B. (2024). Level of Psycoeducation Effectiveness on Adaptation Fracture Patients at Pirngadi Hospital Medan City. *Contagion : Scientific Periodical of Public Health and Coastal Health*, 6(2), 827–837.
.

.

Abstract

Two thirds of injury cases in developing countries, including Indonesia, are still a major public health problem in all countries. In 2020 there were 152.256 injury cases in Indonesia (17.8%). Fractures cause a variety of negative effects, including psychological, social, and spiritual. A report from the Department of Health shows that 15 percent of fracture sufferers experience emotional stress and even depression. Psychological education helps in the treatment and reduction of depressive symptoms, which are part of the psychological response to disability. This research is to find out how well psychoeducation helps fracture patients adapt at Pirngadi Hospital, Medan City. This type of research is quasi-experimental with a pre-test-post-test design with control group. This research was carried out at Pirngadi Hospital, Medan City from 21 July to 23 August 2023. The study population included 67 patients who experienced grade 2 and 3 fractures. The sampling technique is non-probability sampling. The number of samples in this study was 16 people for the control group and 16 people for the treatment group. The research instrument has been tested for validity and reliability. Univariate analysis to describe research variables, while bivariate analysis with dependent t test to determine the mean differences in the treatment group before and after being given psychoeducation and in the control group at pre-test and post-test. The results of the study showed that there was a difference in the average adaptation of fracture patients who were given psychoeducational intervention compared to the group of patients who were not given intervention with p value = 0.000; 95% CI < alpha = 0.05.

Keywords: Frakture, Injury Patient, Psychoeducation

INTRODUCTION

The musculoskeletal system is a system that functions as a means of movement and structure of the human body. The musculoskeletal system consists of bones, joints, muscles and other supporting structures such as tendons, ligaments, fascia and bursae. The bone structure functions as a support for the body structure and provides protection for vital organs such as the brain, heart and lungs. Loss of the main function of the bones can cause problems with other body organs, such as the risk of injury to organs in the thoracic cavity. Fractures are one of the most common disorders of musculoskeletal function. A fracture is a break in bone continuity caused by trauma where there is excessive pressure on the bone in the form of direct trauma and indirect trauma (Nur Hidayat et al., 2022).

Fractures occur more often in men than women under 45 years of age. Fractures are a major public health problem in all countries, with two-thirds occurring in developing countries, including Indonesia. The fracture mortality rate continues to increase to 8.4 million from the initial 5.1 million (9.2% of overall deaths) and is estimated to occupy third place in disability

adjusted life years (DALYs) in 2020. Fracture problems contribute to mortality. amounting to 15%, disease burden 25% and economic losses 5% growth development product (GDP) (Permatasari & Yunita Sari, 2022) . In Indonesia, recorded injury cases in 2013 reached 84,277 people (8.2%) of the total population (Jhonet et al., 2022).

Based on data from the North Sumatra Provincial Health Service in 2017, it was found that around 2,700 people experienced fracture incidents, 56% of whom experienced physical disability, 24% experienced death, 15% experienced recovery and 5% experienced psychological disorders or depression. Based on data from Dr. Pirngadi Medan, the number of closed extremity fracture patients in 2017 was as high as 169 people, in 2018 there were 196 people, in 2019 there were 159 people and 45 people (28.3%) of them were teenagers.

Fracture treatment can be done conservatively or operatively. Surgery is a difficult experience and can cause anxiety for almost all patients and their families. The anxiety experienced by patients and their families is usually related to all kinds of foreign procedures that the patient must undergo and also threats to life safety due to all kinds of surgical procedures and anesthesia (Permatasari & Yunita Sari, 2022). Therapies that can be given to reduce anxiety include: psychopharmaceutical therapy, somatic therapy, psychotherapy, psychoreligious therapy and psychoeducation. Psychoeducation is a useful way to reduce anxiety. Psychoeducation can reduce anxiety levels because in psychoeducation there is information conveyed so that patients are able to understand and improve skills in processing their illness (Risnah, 2019).

Psychoeducation is a very appropriate therapy for preoperative patients who experience anxiety. The aim of psychoeducation itself is to reduce the intensity of emotions such as anxiety to a certain level by prioritizing knowledge management about the problems the patient is facing (Yadnya & Wijaya, 2022). The benefits of providing psychoeducation can help overcome anxiety, make you feel better and can help overcome anxiety. Apart from that, psychoeducation can also strengthen coping strategies or a special way of dealing with the mental changes experienced.

Psychoeducation has a greater influence on the ability to respond adaptively in individuals who have experienced a fracture. Psychoeducation is the development and provision of information in the form of information related to psychology or other information that affects the psychosocial well-being of society. Psychoeducation is not a treatment, but psychoeducation is designed to be part of the overall treatment plan. A person's knowledge about the disease is very important for patients and their families to be able to design an optimal care and treatment (Permatasari & Yunita Sari, 2022).

A person who experiences stress in facing stressors that threaten his condition, needs personal abilities and support from the environment, in order to reduce stress. The method used by individuals to reduce stress is called coping. The effectiveness of coping is assessed if the coping is able to reduce the stress experienced by a person. Patients after fracture surgery must be prepared by providing information through psychoeducation so that individuals who have experienced a fracture are able to respond adaptively, especially to their physical condition.

The results of the study stated that all fracture patients experienced inadequate physical adaptation to the disease they were suffering from, in this case fracture patients who had undergone surgical operations. Effective coping occupies a primary place in the body's resilience and the body's resistance to disturbances or attacks of disease, both physical and psychological, social and spiritual. Attention to coping is not only limited to minor illnesses but instead focuses on serious illness (Apriyani, 2022). If the coping mechanisms used are adaptive, the stress experienced will also be lighter

The research results of Ewari et al., (2021) state that psychoeducation has a greater influence on the ability to respond adaptively in individuals who have experienced a fracture. Psychoeducation is the development and provision of information in the form of information related to popular/simple psychology or other information that affects the psychosocial welfare of society.

Psychoeducation is not a treatment, but psychoeducation is designed to be part of the overall treatment plan. A person's knowledge about the disease is very important for patients and their families to be able to design an optimal care and treatment plan (Luhur, 2021). A person who experiences stress in facing stressors that threaten his condition, needs personal abilities and support from the environment, in order to reduce stress. The method used by individuals to reduce stress is called coping. The effectiveness of coping is assessed if the coping is able to reduce the stress experienced by a person. Patients after fracture surgery must be prepared by providing information through psychoeducation so that individuals who have experienced a fracture are able to respond adaptively, especially to their physical condition.

The long time it takes to heal a patient with a fracture causes various negative consequences, including psychological, social, and spiritual impacts. These effects appear during the period of hospital admission, during surgery, after surgery, and during the rehabilitation phase. In 2007, the Department of Health reported that fifteen percent of fracture sufferers experienced depression or psychological stress. The length or duration of the fracture healing process can vary for each individual, depending on age, body health condition, nutritional intake, blood flow to the bones, severity, and the type of treatment received. In

general, the healing process for relatively mild fractures usually takes 4-5 months. Meanwhile, in cases of severe fractures, it takes approximately 1 year to fully recover (Srinayanti et al., 2021).

On the day of surgery, nurses have a very big task to educate patients who will undergo surgery. Patients with orthopedic conditions often require longer treatment than other patients. When carrying out activities, fracture patients often rely on other people even for their activities basic needs. Musculoskeletal system problems have a significant impact on other people, families, communities and also countries because they reduce individual productivity (Suryani & Soesanto, 2020).

The impact of a fracture is disability, even death. In productive age, if a fracture occurs it will affect activity and productivity. Not only those of productive age, if they experience an injury such as a fracture, especially the lower extremities, their function will decrease (Beletsky et al., 2023).

METHODS

This type of research is quasi-experimental with a pre-test-post-test design with a control group. This design is considered the most appropriate by researchers because they cannot control other confounding variables strictly during the research process (Soekidjo Notoadmodjo, 2018). This research was conducted in the Asoka inpatient room at the Pirngadi Regional General Hospital, Medan City. This room is specifically for treating patients undergoing surgery (fractures). Researchers carried out the research process for one month (21 July–23 August 2023).

The population in this study were all patients who experienced grade 2 and fractures 3 who were hospitalized at the Pirngadi Regional General Hospital, Medan City. The average number of patients with fracture cases treated at Irna Asoka per month is 67 patients. Samples that met the inclusion and exclusion criteria for the study were those who were at least 18 years old, able to communicate well, had undergone fracture surgery on the first day, and were grade 2 and 3 fracture patients. They were also willing to participate in the study by providing written consent. In this study, the sample size, researchers were able to get 16 respondents for the treatment group and 16 respondents in the control group. The research use the Psycoeducation Effectiveness On Adaptation Fracture Patients make by me by as a researher.

The validity test of the instrument was carried out by an expert lecturer in the field of gerontic nursing from the Faculty of Nursing, University of North Sumatra, while the reliability

test was carried out on 20 different people from the research sample, using KR-21 analysis. The reliability test result is 73 so the instrument is suitable for use.

There are two variables in the research, namely independent variables and dependent variable. The independent variable in this study is the intervention of providing psychoeducation to fracture patients and the dependent variable in this study was the adaptation of fracture patients

Data analysis was carried out univariately to describe demographic data and bivariate data analysis using the dependent t-test was used to identify differences in the mean/means in the treatment group before and after being given psychoeducation as well as in the control group in the pretest and post-test. Researchers also used the independent t-test technique to analyze the difference in the mean between the treatment group that had been given psychoeducation and the control group.

Control ethical considerations were carried out after the researchers received approval from LPPM STIKes Flora and permission from Pirngadi Regional Hospital, Medan. In this research there are several things related to ethical issues, namely providing explanations to potential respondents about the objectives and procedures for carrying out research.

RESULTS

The research results in Table 1. In the treatment group and control group show that respondents were generally male (87.5%), male (81.3%), self-employed (50%), self-employed (43.8%), marital status, never married (50%), married (56.2%). Based on education level, most were high school (68.2%), high school (63.5%).

Table 1. Distribution of gender, education level, occupation, marital status and degree of fracture respondents

Variable	Treatment Group		Control Group		Total	
	n	%	n	%	N	%
Gender						
Man	14	87.5	12	75	26	81.3
Female	2	12.5	4	25	6	18.7
Amount	**16**	**100**	**16**	**100**	**32**	**100**
Education						
Not Finish Elementary	1	6.2	1	6.2	2	6.3
Elementary	3	18.8	1	6.2	4	12.5
Junior High School	1	6.2	3	18.8	4	12.5
High School	11	68.2	10	63.5	21	65.6
College	0	0	1	6.2	1	3.1
Total	**16**	**100**	**16**	**100**	**31**	**100**
Job						
Self Employee	8	50	7	43.8	15	46.9
Teacher	0	0	1	6.2	1	3.1

Variable	Treatment Group		Control Group		Total	
	n	%	n	%	N	%
Student	5	31.2	3	18.8	8	25
Farmer	2	12.5	2	12.5	4	12.5
Housewife	0	0	3	18.8	3	9.4
Etc	1	6.2	0	0	1	3.1
Total	**16**	**100**	**16**	**100**	**32**	**100**
Marital Statue						
Marriege	7	43.8	9	56.2	16	50
Not Married Yet	8	50	6	37.5	14	43.8
Divorce/Widow/Wodower	1	6.2	1	6.2	2	6.7
Total	**16**	**100**	**16**	**100**	**32**	**100**

Table 2. Description of adaptation of fracture patients

Adaptationof fracture patients	Treatment Group				Control Group			
	Pre test		Post test		Pre test		Post test	
	n	%	n	%	n	%	n	%
Inefektif	8	50	8	50	7	43,75	7	43,75
Adaptation	8	50	8	50	9	56,25	9	56,25
Total	16	100	16	100	16	100	16	100

The research results in table 2 shows that the adaptation of fracture patients in the treatment group was the same for the ineffective and adaptation categories. For the control group, the majority of fracture patients in the adaptation category were 9 people (56.25%).

Table 3. Difference in adaptation of fracture patients in the treatment group and control group using the independent sampe t test

Variable	T	*Mean Difference*	*95% CI*		*p -value*
			Lower	*Upper*	
Patient Adaptation	5,918	36,938	23,647	50,228	0,000

Table 3 shows the results of the test of the difference between the average adaptation of fracture patients who were given psychoeducational intervention and the group of patients who were not given the intervention, showing a significant difference with p value = 0.000; CI 95% < alpha = 0.05. Based on the test results, it can be concluded that Ha is accepted or Ho is accepted.

DISCUSSION

The treatment group showed different adaptation responses before and after the psychoeducational intervention. The majority of participants in baseline (pre-test) measurements carried out on the first day after surgery showed ineffective reactions to stress factors. The results of the adaptation scoring show a very high number, which shows that all respondents' responses, including those that were ineffective, had a very high score. After receiving psychoeducation for three sessions on the second and third days after surgery, the scoring results on the fourth day showed an increase in progressivity. With decreasing

adaptation scores, respondents showed a very high adaptive response. Lower scores indicate better adaptability. Researchers did not conduct psychoeducational interventions in the control group; in contrast, fracture patients at the study site received similar information. The results showed that respondents who showed an ineffective response to stressors in the first measurement also changed to a more adaptive response on the fourth day after surgery. The results of the difference test with paired samples t also showed significant results: patients were able to act adaptively to stress without psychoeducation. The average pre-test score and the average post-test score for measuring adaptation scores differentiate the treatment and control groups. In the treatment group, the average post-test score was better, but not as much as in the treatment group. This suggests that there are other sources that may influence how patients handle stressors. Everyone responds to stressful situations in different ways, but some situations can pose a threat or difficulty for them. Individuals will do something to reduce stress in situations that can cause stress (Rozi et al., 2021).

This is part of individual coping. Lazarus and Folkman were the first to put forward this theory. The results of the mean difference test with the paired sample t test show that there is a significant difference in adaptation between the means. This shows that psychoeducation has a significant role in causing changes in respondents' responses to stressors (Lazarus, 1984). There is evidence that psychoeducation helps patients with fractures adapt. According to several studies, psychoeducation improves the psychomotor and cognitive abilities of clients and their families (Ewari & Premana, 2021).

Coping mechanisms are a person's efforts to maintain a sense of control in uncomfortable situations and face stressful situations . The test of the difference in mean adaptation of fracture patients with psychoeducational intervention compared to the group that was not given showed a significant difference with p value = 0.000, 95% CI < alpha = 0.05 (Indrawati & Arham, 2021).

After knowing that the treatment and control groups had differences in individual adaptation responses, further analysis was carried out to find out how big the difference was between the two groups. The results of the independent t test showed that the adaptation responses of patients in the treatment and control groups were significantly different. In people who have experienced a fracture, psychoeducation has a greater influence on their ability to act adaptively. Psychoeducational interventions can reduce mental health symptoms, especially depression and anxiety, according to the findings of several studies (Astari & Maliya, 2020).

Psychoeducation can also reduce the level of postpartum blues. To track patient progress, effective psychoeducation with daily follow-up is essential (Rachman et al., 2023).

Psychoeducation is the development and dissemination of information about popular or simple psychology or other information that has an impact on the psychosocial welfare of society. Various types of media and techniques can be used to provide this information (Sembiring & Rahmadhany, 2022).

To reduce stress, a person must learn personal abilities and get support from their environment (Oktavina et al., 2022). Coping is a technique that a person can use to reduce stress. Coping is effective if it can reduce a person's stress level. If the coping used is adaptive but cannot reduce a person's stress level, then the coping is ineffective (Ribka et al., 2023).

As a homeostatic improvement in internal environmental systems, adaptation has been defined as a healthy response to stress. This includes responses to internal biological stabilization processes and psychological maintenance of identity and sense of self-worth (Erwin et al., 2022). Ineffective coping leads to maladaptive behavior, namely behavior that deviates from normative desires and can harm oneself, others or the environment. In contrast, effective coping results in persistent adaptation, which is a new habit and improvement of the old situation (Luhur, 2021).

People are constantly trying to cope with changes in their health status, and nurses must act in response to help people adapt to this. Individuals use coping mechanisms to overcome the changes they receive (Luhur, 2021). People will adapt to changes once coping mechanisms are successful. The process of learning and remembering forms a coping mechanism. Learning, on the other hand, is a person's ability to adapt (adapt) to the influence of internal and external elements (Novitasari & Pangestu, 2023).

In the adaptation system (cognator), the learning mechanism is a process that involves understanding information, both implicit and explicit. In most cases, implicit learning is reflective and does not require (focal) awareness (Lestari et al., 2018). The mechanism for adaptation or coping with environmental changes is the regulator and cognator subsystem, which is seen in biological, psychological and social changes (Apriyani, 2022).

Its responses related to changes in the nervous system, body chemistry, and endocrine organs, while the cognator subsystem represents responses related to cognitive and emotional changes (Rozi et al., 2021). These responses include perception, information processing, learning, reasoning, and emotionality, including maintaining the desire to ask for help. The results of this research can be used as a relevant source that patients after fracture surgery must be prepared by providing information about psychoeducation so that individuals who have experienced a fracture are able to respond adaptively because psychoeducation can reduce the symptoms of mental health problems, in particular it can reduce depression and anxiety (Jhonet

et al., 2022). It is hoped that the results of this research can become a reference for the care of fracture patients and can be used as a basis for further research so that it becomes standard regulations for nursing services for fracture patients.

In addition, the control group showed significant differences in adaptation before and after psychoeducational therapy in fracture patients, and the intervention group showed significant differences in adaptation before and after psychoeducational therapy in fracture patients.

Health services can carry out initial assessments to predict the risk of falls in the elderly, especially those with problems with decreased body function. Providing education and dynamic postural balance training through elderly exercise as an effort to prevent falls in the elder (Platini H, 2020). The final part of the mode described by Roy is the interdependence mode, which focuses on interactions to give and receive attention, love, and respect for each other. In accepting something for oneself, interdependence is a balance between dependence and independence (Sandra et al., 2020). Dependency indicates the ability to relate to others, while independence indicates the ability to take initiative on your own. Viewed from an interdependence perspective, a balance between two extreme values, give and take, is essential (Suhail Ahmad et al., 2021).

Being an adaptive system, humans produce ineffective responses. Effective or nonadaptive responses disrupt integrity, whereas adaptive responses maintain or enhance integrity. The response-response feedback process provides additional input to humans as a system (Beletsky et al., 2023b).

This research can be used as a reference to prepare patients who experience post-surgical fractures by providing information about psychoeducation. Psychoeducation can reduce symptoms of mental health problems, especially depression and anxiety (Lazarus, 1984).

CONCLUSIONS

The results of the study showed that psychoeducation had an impact on the adaptation of fracture patients at RSUD Dr. Pirngadi, Medan City. Make the results of this research a source of learning in treating fracture patients in terms of psychosocial to increase the ability to adapt to the events experienced. Disseminate the results of this research findings to colleagues in clinical settings to increase knowledge and skills in providing psychoeducational interventions, especially for post-surgical fracture patients to reduce ineffective adaptation responses. Continuing research by providing psychoeducation over a longer period of time, to

respondents who experience a prolonged adaptation process, as well as conducting follow-up after the patient leaves the hospital to truly evaluate the patient's level of adaptation.

REFERENCE

Apriyani, A. (2022). Pengaruh Pemasangan Cervical Collar Terhadap Pertolongan Pertama Pada Pasien Kecelakaan Dengan Fraktur Servikal : Literature Review. *Masker Medika, 10*(1), 73-78. https://doi.org/10.52523/maskermedika.v10i1.474

Astari, R., & Maliya, A. (2020). Pengaruh Hipnoterapi terhadap Penurunan Nyeri pada Pasien Post Operasi Fraktur Femur di Ruang Rawat Inap Bedah Rumah Sakit Ortopedi Surakarta. *Jurnal Berita Ilmu Keperawatan*, *1*(2), 35-42. http://publikasiilmiah.ums.ac.id/handle/123456789/3696

Beletsky, A., Liu, C., Alexander, E., Hassanin, S. W., Vickery, K., Loomba, M., Winston, N., Chen, J., & Gabriel, R. A. (2023a). The Association of Psychiatric Comorbidities With Short-Term and Long-Term Outcomes Following Spinal Cord Stimulator Placement. *Neuromodulation*, *26*(5), 123–128. https://doi.org/10.1016/j.neurom.2022.12.010

Ewari, G. A. P., & Premana, Y. (2021). Karakteristik pasien fraktur kruris di RSUD Sanjiwani Gianyar tahun 2020. *Intisari Sains Medis*, *12*(3), 689-693. https://doi.org/10.15562/ism.v12i3.1141

Indrawati, U., & Arham, A. H. (2021). Pengaruh pemberian teknik relaksasi genggam jari terhadap persepsi nyeri pada pasien post operasi fraktur. *Jurnal Keperawatan*, *18*(1), 13-24. https://doi.org/10.35874/jkp.v18i1.801

Jhonet, A., Armin, M. F., Mandala, Z., Sudiadnyani, N. P., & Sari, H. M. (2022). Angka Kejadian Fraktur Tibia Berdasarkan Usia, Jenis Kelamin Dan Klasifikasi Fraktur Berdasarkan Mekanisme Trauma Di Rsud. H. Abdul Moeloek Bandar Lampung. *Jurnal Ilmu Kedokteran Dan Kesehatan*, *9*(1), 122–134. https://doi.org/https://doi.org/10.33024/jikk.v9i1.6283

Lazarus, F. (1984). *stress appraisal and coping*. Springer Publishing Company, Inc.

Lestari, D. Y., Hafiz, A., & Huriyati, E. (2018). Diagnosis dan Penatalaksanaan Fraktur Le Fort I-II disertai Fraktur Palatoalveolar Sederhana. *Jurnal Kesehatan Andalas, 7, 89-95*. https://doi.org/10.25077/jka.v7i0.854

Luhur, L. J. (2021). Gambaran Karakteristik Pasien Fraktur Terbuka Ekstremitas Bawah Di Rumah Sakit. *Nursing Arts*, *15*(1), 60-66. https://doi.org/10.36741/jna.v15i1.134

Novitasari, D., & Pangestu, R. S. A. (2023). Tatalaksana Keperawatan Nyeri Akut Pasien Fraktur Radius Ulna Sinistra dengan Terapi Relaksasi Nafas Dalam. *Jurnal Penelitian Perawat Profesional*, *5*(3), 1067-1076. https://doi.org/10.37287/jppp.v5i3.1663

Nur Hidayat, Abdul Malik, A., & Nugraha, Y. (2022). Pendampingan Asuhan Keperawatan Medikal Bedah pada Pasien dengan Gangguan Sistem Muskuloskeletal (Fraktur Femur) di Ruang Anggrek RSUD Kota Banjar. *KOLABORASI JURNAL PENGABDIAN MASYARAKAT*, *2*(1), 52–87. https://doi.org/10.56359/kolaborasi.v2i1.52

Oktavina, R., Yonathan, C., Azis, R. R., & Winata, H. (2022). Gambaran Union pada Fraktur Tulang Panjang Bagian Metafisis di RS Ciputra Januari – Desember 2020. *Jurnal Kedokteran Meditek*, *28*(3), 158-164. https://doi.org/10.36452/jkdoktmeditek.v28i3.2512

Permatasari, C., & Yunita Sari, I. (2022a). Terapi Relkasasi Benson Untuk Menurunkan Rasa Nyeri Pada Paisen Fraktur Femur Sinistra: Studo Kasus. In *Jurnal Keperawatan Merdeka (JKM)* (Vol. 2), 216-220. https://doi.org/https://doi.org/10.36086/jkm.v2i2.1420

Platini H, C. R. R. U. (2020). Karakteristik Pasien Fraktur Ekstremitas Bawah. *Journal Keperawatan 'Aisyiyah*, 49-53. https://doi.org/10.33867/jka.v7i1.166

Rachman, T., Rahmadian, R., & Rusjdi, S. R. (2023). Pola Penatalaksanaan Fraktur Femur Di RSUP Dr. M. Djamil Padang tahun 2020. *Jurnal Ilmu Kesehatan Indonesia*, *4*(2), 81-87. https://doi.org/10.25077/jikesi.v4i2.624

Ribka, H. A., Victoria, A. Z., & Yono, N. H. (2023). Gambaran Penerimaan Diri pada Pasien Fraktur. *Jurnal Keperawatan Sumba (JKS)*, *2*(1), 11–20. https://doi.org/10.31965/jks.v2i1.1293

Risnah, R. et al. (2019). Terapi Non Farmakologi Dalam Penanganan Diagnosis Nyeri Pada Fraktur :Systematic Review. *Journal of Islamic Nursing*, *4*(2), 42-77. https://doi.org/10.24252/join.v4i2.10708

Rozi, I. F., Tekwan, G., & Nugroho, H. (2021). Hubungan Usia Pasien, Jenis Fraktur dan Lokasi Fraktur Tulang Panjang Terhadap Lama Rawat Inap Pasca Bedah di RS Ortopedi Prof. Dr. R. Soeharso Surakarta. *Jurnal Sains Dan Kesehatan*, *3*(5), 661-666. https://doi.org/10.25026/jsk.v3i5.568

Sandra, R., Aisyah Nur, S., Morika, H. D., Sardi, W. M., Syedza, S., & Padang, S. (2020). Pengaruh Terapi Musik Klasik Terhadap Tingkat Nyeri Pasien Post Op Fraktur Di Bangsal Bedah Rs Dr Reksodiwiryo Padang The Effect Of Classical Music Therapy On Pain Levels Post Op Frakture Patients In The Surgical Ward Of Dr Reksodiwiryo Padang Hospital. *Jurnal Kesehatan Medika Saintika*, *11*(2), 175-183. https://doi.org/10.30633/jkms.v11i1.778

Sembiring, T. E., & Rahmadhany, H. (2022). Karakteristik Penderita Fraktur Femur Akibat Kecelakaan Lalu Lintas Di Rsup Haji Adam Malik Medan Pada Tahun 2016-2018. *Ibnu Sina: Jurnal Kedokteran Dan Kesehatan - Fakultas Kedokteran Universitas Islam Sumatera Utara*, *21*(1), 123-128. https://doi.org/10.30743/ibnusina.v21i1.244

Soekidjo Notoadmodjo. (2018). Metodologi Penelitian Kesehatan. JAKARTA: PT Rineka Cipta.

Srinayanti, Y., Widianti, W., Andriani, D., Firdaus, F. A., & Setiawan, H. (2021b). Range of Motion Exercise to Improve Muscle Strength among Stroke Patients: A Literature Review. *International Journal of Nursing and Health Services (IJNHS)*, *4*(3), 332–343. https://doi.org/10.35654/ijnhs.v4i3.464

Suhail Ahmad, N. S. B., Rahmadian, R., & Yulia, D. (2021). Gambaran Kejadian Fraktur Femur di RSUP Dr. M. Djamil Padang Tahun 2016-2018. *Jurnal Ilmu Kesehatan Indonesia*, *1*(3), 358-363. https://doi.org/10.25077/jikesi.v1i3.82

Suryani, M., & Soesanto, E. (2020). Penurunan Intensitas Nyeri Pada Pasien Fraktur Tertutup Dengan Pemberian Terapi Kompres Dingin. *Ners Muda*, *1*(3), 172–177. https://doi.org/10.26714/nm.v1i3.6304

Yadnya, I. G. N. K., & Wijaya, I. M. A. S. (2022). Epidemiologi dan Terapi Pada Fraktur Colles. *Ganesha Medicine*, *2*(1), 96–104. https://doi.org/http:10.23887/gm.v2i1.47041