The Effectiveness of Distraction Techniques for Pain in Fracture Patients in Sundari General Hospital, Medan

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Abstract

The impact of fracture is discontinuity and tissue damage. If not treated immediately will cause complications. There needs to be management that can prevent complications. Pain experienced by patients can be known by measuring using a pain scale. If not treated immediately will cause complications. There needs to be management that can prevent complications. Surgical management includes closed reduction, fixation, open reduction, Open Reduction External Fixation (OREF), and Open Reduction Internal Fixation (ORIF). *Distractions have the best effect for short periods of time, for example during invasive procedures or while waiting for analgesics to work. Distraction techniques can be applied to patients with acute pain, chronic pain and anxiety patients. The role of the nurse is to provide physical health services to the patient, namely as a care giver and to the patient's psychological health, namely as an educator. Nurses must be able to provide comfort so that patients avoid pain. So, nurses should combine pharmacological and non-pharmacological management such as providing distraction techniques according to SOP to reduce pain. This research is a quantitative research with a quasi-experimental research type. With the treatment group by measuring the level of pain before the distraction technique was carried out with the control group by measuring the level of pain after the distraction technique was carried out. Statistical test results showed that there were differences in pain levels before and after the distraction technique was performed with a p value of 0,017 (0.15). Distraction technique is effective for reducing the pain level of post ORIF extremity fracture patients at Sundari General Hospital in Medan. Should be able to apply more distraction techniques as non-pharmacological therapy to reduce pain in accordance with established operational standards.*

Keywords : Distraction technique, Fracture, Pain

INTRODUCTION

Extremity fractures are loss of bone continuity in the upper and lower extremities, whether partial or partial. Caused by trauma that is determined according to the type and extent. WHO (2020) noted the incidence of lower extremity fractures was 46.2% of the accident incidents that occurred and 60.70% of victims suffered tibia injuries. Data from the Indonesian National Police (2021), road accidents reached 13,399 incidents, with 9,865 people dying, 6,142 people being seriously injured, and 8,694 minor injuries. Most of the injuries that occur are fractures (Wardah et al., 2019).

The impact of fracture is discontinuity and tissue damage. If not treated immediately will cause complications. There needs to be management that can prevent complications. Surgical management includes closed reduction, fixation, open reduction, Open Reduction External Fixation (OREF), and Open Reduction Internal Fixation (ORIF)(Rampengan, 2019; Mustofa,

2021). ORIF is used for intra-articular, unstable, avulsion fractures, fractures in the elderly with tissue interposition between the two fragments and when rigid fixation is required. Surgery often makes the patient feel pain. Pain experienced by patients can be known by measuring using a pain scale (Holo et al., 2018; Suciarti, 2020).

Pain measurement is usually done using a pain scale. The VDS scale has the advantage of being easy to apply to patients because it allows patients to choose a category to describe pain (Irmayani, 2018). Pharmacological and non-pharmacological management is needed to reduce pain. Pharmacological management is medical treatment with the use of analgesics. Analgesics function to reduce pain within a few hours. Non-pharmacological management can be used as a combination of pharmacological management in overcoming pain problems (Junaiddin, 2019).

Non-pharmacological management is management without the use of drugs including physical stimulation and cognitive behavior including distraction, relaxation, and others. Distraction techniques are pain reduction or pain relief techniques that can reduce muscle tension and create feelings of security and peace (Handono, 2020; Ituga et al., 2020). Distractions have the best effect for short periods of time, for example during invasive procedures or while waiting for analgesics to work. Distraction techniques can be applied to patients with acute pain, chronic pain and anxiety patients (Yasa, 2021; Jamil, 2018)

Rabi'a (2019) conducted research on the use of distraction techniques to reduce pain in cancer patients with chronic pain. However, its use in this study was combined with relaxation techniques and the results obtained were that distraction and relaxation techniques were equally effective in reducing pain with value p> 0,05 yaitu 0,868 (Heni, 2018).

The role of the nurse is to provide physical health services to the patient, namely as a care giver and to the patient's psychological health, namely as an educator (Purqoti, 2020). Nurses must be able to provide comfort so that patients avoid pain. So, nurses should combine pharmacological and non-pharmacological management such as providing distraction techniques according to Standard Operasional Procedure (SOP) to reduce pain (Aulya et al., 2022)

Sundari Medan is a hospital in Medan that has inpatient and outpatient facilities. Medical record data at Sundari General Hospital in Medan show that there were 116 patients with upper and lower extremity fractures in 2021-2022 in post ORIF patients (1.32% of the total surgery, namely 8816 patients). A preliminary survey on January 19 2023 in the Sundari Medan General Hospital inpatient room found that a post ORIF patient with an extremity

fracture on day 3 said that he had only been given medication and had not been taught distraction techniques to reduce pain.

METHODS

This research is a quantitative research with a quasi-experimental research type. With the treatment group by measuring the level of pain before the distraction technique was carried out with the control group by measuring the level of pain after the distraction technique was carried out.

Total population in this study were 65 post ORIF patients with extremity fractures at Sundari General Hospital in Medan. Researchers grouped the samples by means of the first sample encountered, namely as a treatment group then the next sample was used as a control group and so on. So, between the treatment group and the control group the numbers are always the same. The total number of samples obtained at Sundari General Hospital in Medan was 18 post ORIF patients divided into 9 respondents for the treatment group and 9 respondents for the control group. The sampling technique used purposive sampling. The researcher determined the study inclusion criteria, namely post ORIF fracture patients who were no longer affected by anesthetic drugs (post orif day 1), conscious, cooperative patients, patients who were willing to be respondents.

RESULTS

The results of the study regarding the effectiveness of distraction techniques in reducing pain levels in patients with post ORIF limb fractures at Sundari General Hospital in Medan. The number of samples obtained was based on the criteria, namely 18 respondents who were grouped into 2 including 9 respondents for the treatment group and 9 respondents for the control group.

Table 1. Results of Respondents Age Analysis

Variabel	Mean	Std Deviasi	Min- Max	95% CI
Age				
Treatment Group	30,56	15,661	14-60	18,52 – 42,59
Control Group	30,00	18,993	12-69	15,40 – 44,60

Based on the table above, the average age in the treatment group is 30.56 years, with a standard deviation of 15.661. The minimum age of the respondent is 14 years and the maximum age of the respondent is 60 years. And the results of interval estimation concluded that 95% CI believed that the average age of respondents in the treatment group was 18.52 – 42.59 years, while the average age in the control group was 30.00 years, with a standard

deviation of 18.993 years. The minimum age of the respondent is 12 years and the maximum age of the respondent is 69 years. From the results of interval estimation it is concluded that 95% CI is believed that the average age of respondents in the control group is 15.40 – 44.60 years.

Table 2. Pain level before and after action in the treatment group and in the control group

Variabel	Mean	Std Deviasi	Min- Max
Pain level before the action:			
Treatment Group	3,89	1,054	2 - 5
Control Group	3,00	11,18	2 – 5
Pain level after the action:			
Treatment Group	2,67	0,866	1- 4
Control Group	3,78	1,202	1- 5

Based on the table above, the average pain level in the treatment group before the action was taken was 3.89 with a standard deviation of 1.054. The minimum pain level was 2 and the maximum pain level was 5. Meanwhile, the average pain level in the control group before the procedure was performed was 3.00 with a standard deviation of 1.188. the minimum pain level is 2 and the maximum pain level is 3. Based on the table above, the average pain level in the treatment group after the procedure is 2.69 with a standard deviation of 0.866. The minimum pain level was 1 and the maximum pain level was 4. Meanwhile, the average pain level in the control group after the procedure was 3.78 with a standard deviation of 1.202. The minimum pain level is 1 and the maximum pain level is 5.

Table 3. Differences in average pain before and after the distraction technique was performed

Average Pain Before And After	Mean	Std Deviasi	p-value
Treatment Group			
Pain level before distraction techniques	3.89	1.054	0.005
Pain level after distraction techniques	2.67	0.866	
Control Group			
Pain level before distraction techniques	3.33	1.000	0.317
Pain level after distraction techniques	3.11	1.054	

Based on the table above, the average pain level before action was taken was 3.89 with a standard deviation of 1.054. While the average pain level after the action was 2.67 with a standard deviation of 0.866. The results of the statistical test obtained a p value of 0.005, so it can be concluded that at an alpha of 5% there is a significant difference between pain before and after the distraction technique is carried out. The pain level obtained before the action was carried out with an average of 3.33 with a standard deviation of 1,000. While the average pain level after the action was 3.11 with a standard deviation of 1.054. The results of the statistical test obtained a p value of 0.317, so it can be concluded that at an alpha of 5% there is a significant difference between pain before and after the distraction technique is performed.

Table. 4. Differences in pain levels in the treatment group and the control group

Variable	Mean	Std Deviasi	p-value	n
Level Pain				
Treatment group	6.61	1,166	0,017	9
Control group	12.29			9

Based on the table above, it was found that the average pain level in the treatment group was 6.61. While the average pain level in the control group was 12.29. The results of the statistical test obtained a p value of 0.017, so it can be concluded that there is a significant difference between the pain level in the treatment group and the control group.

DISCUSSION

The results of the discussion of this study entitled The effectiveness of distraction techniques in reducing pain levels in postoperative ORIF patients with extremity fractures at Sundari General Hospital in Medan. From the results of the study it was known that in the treatment group the average age of post ORIF patients with extremity fractures was 30.56. While in the control group the average age of the respondents was 30.00. This is corroborated by the information obtained from the respondents, that on average the respondents experienced fractures due to traffic accidents, work and sports where at that age they were classified as active adults and had high work productivity (Ibrahim et al., 2020). According to Potter & Ferry (2018), age is an important variable that affects pain, especially in children and the elderly. Young children have difficulty understanding pain and the procedures performed by nurses that cause pain (Parwati et al., 2020).

The average pain level before the action was 3.89 and the pain level after the action was done the average was 2.67. Here there is a decrease in the average level of pain. Referring back to Tamsuri (2018) which states that distraction can reduce pain perception by stimulating the descending control system, which results in less pain stimulation being transmitted to the brain. Severe pain requires more active participation from the individual in an effort to block painful stimuli (Sitinjak et al., 2018).

Long-standing pain requires significant attention. The reticular activating system inhibits painful stimuli if a person receives sufficient or excessive sensory input. Individuals who feel bored or isolated only think about the pain they feel so they perceive the pain more acutely (Dita Puri Rahayu, 2019). Distraction diverts the individual's attention to something else and thereby reduces awareness of pain and even increases pain tolerance. The effectiveness of distraction depends on the patient's ability to receive and generate sensory input other than

pain. Pleasant stimuli from the outside can also stimulate the secretion of endorphins, so that the pain stimulus felt by the patient is reduced. Brain stimulation will be more effective in reducing pain (Nuhan et al., 2018).

The average pain level before the action was performed was 3.33 while the pain level after the action was carried out on average was 3.11. the pain experienced by patients occurs due to tissue trauma around the fractured organ. The patient experiences tissue interposition due to excessive pressure. According to Deglin (2020), the usual pharmacological pain management for fracture patients is analgesics (Ayu et al., 2020).

The pain level in the treatment and control groups, the results of the statistical test obtained a p value of 0.017, there was a significant difference between the pain level before and after the action was carried out because the p value <0.05. Juniarti (2019) the results of this study reinforce previous research conducted by on cancer patients with chronic pain, in this study combined with relaxation techniques. The results obtained are that both distraction and relaxation techniques are equally effective in reducing pain (Pristiadi et al., 2022).

For the treatment group, the distraction technique used in this study was guided imagination, namely the diversion of the facilitator who encourages patients to visualize or think of pleasant sights or sensory to divert attention away from pain. Consistent with the theory in the literature review that distraction, which involves focusing one's attention on something other than pain, can be a very successful strategy and may be the mechanism responsible for other effective cognitive techniques. Distraction is very well done before pain occurs or immediately after pain occurs (Ediyanto, 2019).

CONCLUSIONS

Based on the results of the study it can be concluded that, the average age in the treatment group is 30.56 years, while the average age in the control group is 30 years. The average pain level before distraction techniques in the treatment group was 3.89, while the average pain level after distraction techniques was 2.67. There is a significant difference between the level of pain in the treatment group and in the control group as indicated by the p value of 0.005, which is 0.017. So, it is proven that distraction techniques can reduce pain levels in patients with post ORIF limb fractures. Suggested to Sundari Hospital Medan Should be able to apply more distraction techniques as non-pharmacological therapy to reduce pain in accordance with established operational standards.

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