



CORRELATION OF PAIN INTENSITY AND PAIN INTERFERENCE IN POST OPERATION PATIENTS

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ABSTRACT

Surgery is all treatment measures that use invasive methods by opening or displaying the body part to be treated. The most frequent and common problem caused postoperatively is pain Objective: The aim of this study was to determine the correlation of pain intensity and pain interference in postoperative patients Method: Desaign of This research is a descriptive correlative research using a cross sectional design. The number of samples in this study were 70 people. The sampling technique used is accidental sampling. Bivariate analysis used is the product moment test. Results: The results showed that postoperative patients had severe pain intensity with a total of 44 people and a percentage of 62.90%, had moderate pain interference with a total of 49 people and a percentage of 70 and there was a significant relationship between pain intensity and pain interference in postoperative patients (p value =0.001, <0.005). Conclusions The conclusion of this study is there was a significant relationship between pain intensity and pain interference in postoperative patients.

Keywords: pain intensity; pain interference; post surgery

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INTRODUCTION

Surgery is all treatment measures that use invasive methods by opening or displaying the body part to be treated (Potter & Perry. 2017). The Organization (WHO) estimates that every year 230 million major operations are performed worldwide, one for every 25 people live. Research in 56 countries from 192 countries estimated that 234.2 million surgical procedures are performed each year and have the potential to cause complications and death. While in Indonesia there is an increase in surgery every year where in 2009 there were 46.87% of surgical cases, in 2010 it was 53.22%, in 2011 it was 51.59%, and in 2012 it was 53.68% (Potter & Perry, 2010).

The problem that most caused after the post-surgery is pain. Postoperative pain is most likely due to the surgical wound, but other possible causes must be considered. The dimensions of awareness of pain, pain experience, and patient behavior are strongly influenced by the patient's anticipation and expectations. The process of the onset of pain complaints is nociceptive stimulation caused by noxa, after which the patient realizes the noxa, only then experiences the sensation of pain and finally a reaction to pain occurs in the form of verbal and nonverbal attitudes and behavior in conveying what he feels (Sjamsuhidajat, 2013). Pain is a condition that is more than just a single sensation caused by a certain stimulus. The

intensity varies from mild pain to severe pain but decreases in line with the healing process (Astuti, 2016).

Post-surgical pain is one of the most common patient complaints in hospitals. Postoperative pain is an unavoidable consequence of surgery. Post-surgical patients received inadequate pain treatment as much as 77%, after being given medication 71% of patients still experienced pain and 80% described still experiencing moderate to severe pain (Katz, 2005 in Tubagus and Budi, 2019).

A person feels severe postoperative or postoperative pain and there are 75% of patients have an unpleasant experience due to inadequate pain management. This is reasonable because pain can be an unpleasant experience due to inadequate pain management. The severity of postoperative pain depends on the individual's psychology and physiology. (Pinandita, 2012). In 2014 patients in the United States reported that 86% of patients had experienced postoperative pain, with 75% describing moderate to extreme pain during the postoperative period. Pain is usually felt by patients after fracture surgery, tumor surgery, cancer surgery, appendectomy, cesarean section, and so on. A study in Canada (acute and chronic) experienced by patients undergoing emergency surgery as much as 54%, of those who underwent elective surgery 48%, in addition to patients suffering from pain reported that 29-38% of pain interfered with their sleep.(Chae EC , et al, 2014). Pain that is felt gives discomfort to the patient so that it affects aspects of life or interferes with pain

Pain interference is a self-report of the consequences of pain related to aspects of life that include social, cognitive, emotional, physical and recreational activities (NHS, 2014). Research conducted by Hatchimonji in 2021 stated that pain interference interferes with the ability to work and social function. Another study conducted by üt, S., & Dağ, G. S. (2019) stated that the interference of pain with social functioning has an impact on the ability to work. Patients with a high level of interference will experience 5.2 times of depression, reporting anger, fear and sadness (Berman et al., 2010). In addition, Prastika & Damkliang (2016) say that pain interference is a pain disorder or pain effect that interferes with function, both activity function or affectivity. Pain interference is the degree to which chronic pain interferes with daily activities. The purpose of this study was to determine the correlation of pain intensity and pain interference in postoperative

METHOD

Design of this research is a descriptive correlative research using a cross sectional design. The design in this study was to identify the correlation of pain intensity and pain interference in postoperative patients with the population in this study were all postoperative patients at Elisabeth Hospital Medan. The sampling technique in research is accidental sampling, which is done by taking cases or respondents who happen to exist or are available in a place according to the research context. Sample calculation using the population proportion estimation formula with the following formula:

$$n = \frac{z_{1-\alpha/2}^2 * p * (1-p)}{d^2}$$

Based on the above formula the Z value used is 1.96, p (estimated score) is 0.1 and d (precision) is 0.5. So the number of samples in this study was 70 people. The inclusion

criteria for this study were postoperative patients, willing to be respondents, able to read and cooperative

RESULTS

The results of this study describe the frequency distribution of demographic data, pain intensity, pain interference and the relationship between pain intensity and interference in postoperative patients at Santa Elisabeth Hospital Medan.

Characteristics of Respondent Demographic Data

The results showed that the highest age of respondents was the late elderly, amounting to 16 people (22.90%) with the average age of the respondents being 47 years (SD=16.30) followed by the age of the respondents being the early elderly with a total of 15 people and a percentage of 21.40%. Gender based on the results of the study the most were men with a total of 40 people and the percentage was 57.10%. Education level based on the results of the study showed that more of the research respondents had a college education level with a total of 42 people and a percentage of 60.10%). Most of the jobs owned by respondents are self-employed and private employees with 21 people for each type of work and a percentage of 30%. Based on the results of the study showed that the most respondents experienced postoperative the second day with a total of 27 people and a percentage of 38.60%. The results of the study also showed that most respondents had never had a history of previous surgery with a total of 60 respondents and a percentage of 85.70%. The frequency distribution of demographic data characteristics can be seen in table

Table 1. The frequency distribution of demographic data characteristics

| Data | f | % |
|-------------------------|---------------|-------|
| Age | | |
| Child | 1 | 1.40 |
| Young adults | 8 | 11.40 |
| Early Adult | 7 | 10.00 |
| Late Adult | 12 | 17.10 |
| Early Elderly | 15 | 21.40 |
| Late Elderly | 16 | 22.90 |
| Old Adults | 11 | 15.70 |
| Mean ± SD | 47.99 ± 16.30 | |
| Gender | | |
| Man | 40 | 57.10 |
| Female | 30 | 42.90 |
| Education | | |
| Primary school | 3 | 4.30 |
| Junior high school | 3 | 4.30 |
| Senior High School | 22 | 31.40 |
| University | 42 | 60.10 |
| Work | | |
| Student/Student | 8 | 11.40 |
| Housewife | 15 | 21.40 |
| Self-employed | 21 | 30.00 |
| Private sector employee | 21 | 30.00 |
| Retired | 4 | 5.70 |
| civil servant | 1 | 1.40 |

| Data | f | % |
|---------------------|----|-------|
| Post Operation day- | | |
| First | 6 | 8.60 |
| Second | 27 | 38.60 |
| Third | 21 | 30.00 |
| Fourth | 8 | 11.40 |
| Fifth | 6 | 8.60 |
| Sixth | 2 | 2.90 |
| Operation History | | |
| Never | 60 | 85.70 |
| Once | 10 | 14.30 |

Pain Intensity

The results showed that the most respondents had severe pain intensity with a total of 44 people and a percentage of 62.90%, having an average pain intensity on a scale of 7 (SD=1.64). The frequency distribution of pain intensity can be seen in table 2.

Tabel.2 The frequency distribution of pain intensity

| Data | f | % |
|--------------------|-----------|-------|
| Mild Intensity | 0 | 0 |
| Moderate Intensity | 26 | 37.10 |
| Severe Intensity | 44 | 62.90 |
| Total | 70 | 100 |
| Mean ± Sd | 7.11±1.64 | |

Pain Interference

The results showed that the most respondents had moderate pain interference with a total of 49 people and a percentage of 70%, had an average pain interference of 28.54 (SD = .48). The frequency distribution of pain interference can be seen in table 3.

Tabel 3.
The frequency distribution of pain interference

| Data | f | % |
|-----------------------|------------|-------|
| Mild Interference | 19 | 27.10 |
| Moderate Interference | 49 | 70.00 |
| Severe Interference | 2 | 2.90 |
| Total | 70 | 100 |
| Mean ± Sd | 28,54±0.48 | |

Correlation of Pain Intensity and Pain Interference in Post-operative Patients

The results showed that more respondents who had moderate pain intensity had mild pain interference with a total of 17 people and respondents who had severe pain intensity had pain interference with a total of 40 respondents. The results also showed that there was a relationship between pain intensity and pain interference (p value = 0.001, <0.005). The frequency distribution and the correlation of pain intensity and pain interference can be seen in table 4.

Tabel 4.
The correlation of pain intensity and pain interference

| Data | Pain Interference | | | Total | P Value | |
|----------------|-------------------|----------|--------|-------|---------|-------|
| | Mild | Moderate | Severe | | | |
| Pain Intensity | Moderate | 17 | 9 | 0 | 26 | 0,001 |
| | Severe | 0 | 42 | 2 | | |

DISCUSSION

Pain Intensity

Surgery is an action on the human body that can have implications for pain. The recovery of postoperative patients takes approximately 72.45 minutes so that patients will feel severe pain in the first 2 hours after surgery because the effects of anesthetic drugs begin to disappear (Mulyono in Pinandita, Purwanti & Utoyo, 2012). Pain intensity is a picture of how severe the pain is experienced by an individual where the intensity of a person's pain is very subjective. The results showed that the intensity of pain experienced by the research respondents experienced the most severe pain intensity with a percentage of 62.90%. The results of this study are in line with research conducted by Berkanis, (2020) which found that based on the results of measuring pain intensity, the intensity of pain was severe. Another study that is in line with this research is a study conducted by Chanif, Petpichetchian and Chongchareon, (2012) which found that the postoperative pain experience of patients had moderate to severe pain intensity. Canaan. et al, (2021) also found that the pain intensity of postoperative patients had moderate to severe pain intensity. Postoperative patients who experience pain due to tissue discontinuities or surgical wounds due to the incision from the surgical process and as a result of the position that must be maintained during the postoperative procedure itself. From the patient's perspective, the severity of pain after surgery is influenced psychologically or emotionally, physically from the character and social and experience from the past to pain (Mayangsari, 2016)

Postoperative pain is a common and natural pain which is a sign that can be predicted, prevented and treated (Apfelbaum, Chen, & Mehta, 2003; Power, 2005). The results showed that the early elderly and the late elderly had severe pain intensity after postoperatively. The results of this study are in line with the research conducted by González-Roldán. et al (2020) who explained that pain at an older age increases accompanied by an increase in the connectivity function of the somatosensory cortex and a decrease in the connectivity between pain-involved areas and pain-inhibiting factors. Pain in the elderly until now has not been understood. Aging is associated with an increase in pain threshold and a decrease in endogenous functional mechanisms to inhibit pain (Lautenbacher, et.al, 2017). The decrease in inhibiting factors for pain sensation will increase nerve excitability, resulting in widening of the sensory function network. This is what causes an increase in the sensation of pain in the elderly.

The difference in pain sensation can also be felt by men and women. The results of this study indicate that more men have severe pain intensity. However, the difference in pain intensity between men and women is not too far apart because the number of male and female respondents is only 10 people different. Based on some literature shows that women have a higher pain intensity than men. This research is in line with research conducted by Canaan. et al, (2021) which stated that the gender difference did not show a significant difference. However, research conducted by Chae. et al (2019) showed a different situation where female patients reported higher NRS scores than male patients in the recovery room. In addition, hormonal influences can also affect the response to pain. Gonadal hormone is a hormone that

functions to modulate pain and affect sensitivity to analgesic drugs. During the luteal phase of the menstrual cycle, the pain threshold will decrease (Aubrun. et al, 2005). Therefore, postoperative pain is complex and is not significantly influenced by gender.

The results showed that the pain intensity patients experienced severe pain intensity on the first and second days. These results are in line with research conducted by Hidayatulloh, et al, (2020) which determined that patients experienced severe pain intensity on the first and second postoperative days. Research conducted by Correl (2017) showed that patients had severe pain intensity up to the fourth postoperative day. Postoperative pain is pain experienced after surgical intervention (Magidy, Warrén-Stomberg, & Bjerså, 2016). As the days after postoperative increase, the intensity of pain experienced by the patient will decrease due to the ongoing healing process and the provision of analgesic therapy.

Pain Interference

Pain interference is a measuring tool to measure how severe pain affects aspects of the patient's life such as impacting social, cognitive, emotional and recreational activities (Correl, 2017). The results showed that the pain interference experienced by postoperative patients was moderate. Tüfekçi, H., Akansel, N., & Sivrikaya, S. K. (2022) found that postoperative pain can interfere with patients' daily activities and have partial dependence on the first day of surgery and the level of independence increases after discharge. Prastika. et al. (2016) also found that patients had moderate postoperative pain interference. üt, S., & Dağ, G. S. (2019) also found that post-cardiac surgery patients also experienced severe pain and inhibited their activities. Ogut & Dag also explained that pain interference has a significant relationship with gender, alcohol consumption, previous surgical experience and satisfaction with pain management.

The results showed that the early and late elderly had moderate pain interference. The results of this study are in line with research conducted by Hasibuan (2019) that the elderly are more susceptible to interference due to pain. Another study that is in line with this research is research conducted by (Poquet, 2016) which explains that age can affect the pain response where it will feel more painful as age increases so that with increasing pain response, pain interference will also increase. Thomas et al., 2004 found that pain interference increases with age. This can be influenced by loss of muscle strength, coordination, decreased expectations and stress (Dominick at al. 2021). The results of research conducted by Kator. et al, 2020 explained that postoperative pain interference in patients is associated with preoperative pain, function and general condition and psychological status. In addition, pain interference is also related to demographic factors and surgical factors. Surgery on the lower extremities is one of the predictors that causes increased pain interference.

Correlation of pain intensity and pain interference in patient with post surgery

The results showed that there was a relationship between pain intensity and pain interference. Based on the cross table, it was also found that postoperative patients who had severe pain intensity had moderate pain interference and postoperative patients who had moderate pain intensity had mild pain interference. Pain interference is a mediator that relates pain intensity to physical function. Research conducted by Hatchimonji. et al (2021) found that there was a significant relationship between pain intensity and pain interference. Lipstick. et al (2021) also found that pain interference affects pain intensity and daily activities. Physical and psychological disorders caused by pain is the interference of pain. Hasibuan (2019) also found that there is a significant and very strong correlation between pain intensity and pain interference.

The increased intensity of postoperative pain experienced by postoperative patients can affect disturbances in daily activities, moods, walking, normal work, relationships with others, sleep, and enjoyment of life. Pain and some of the problems caused by pain can affect and limit a person's daily activities. Increased pain intensity is one of the key indicators of pain interference (Li. et al, 2022)

CONCLUSION

The conclusion of the study is that post surgery patients at Elisabet Hospital Medan have severe pain intensity with a total of 44 people and a percentage of 62.90 Postoperative patients, have moderate pain interference with a total of 49 people and a percentage of 70% and there is a significant relationship between pain intensity and interference. Postoperative pain in Elisabet Hospital Medan (p value = 0.001, <0.005). The results showed that there was a relationship between pain intensity and interference. Therefore, further researchers are expected to examine interventions that can reduce pain intensity and pain interference in postoperative patients.

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