

The Relationship Between Level of Knowledge About Early Mobilization with Pain Intensity of Post Laparotomy Patients

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ABSTRACT

Background: Laparotomy surgery cause severe pain intensity immediately post-surgery. Sufficient knowledge is predicted to be the patient's provision to determine effective pain management through early mobilization.

Purpose: The study aimed to determine the relationship between early mobilization knowledge and pain intensity on postoperative laparotomy patients.

Methods: Cross-sectional study with 41 respondents were treated in the COVID-19 ward at Dr. Saiful Anwar Hospital. Data were collected by early mobilization knowledge questionnaire and Verbal Response Scale (VRS). Data were analyzed using the Spearman rho test with a significance value $\alpha = 0.05$.

Results: The study showed 20 respondents (48.8%) have good knowledge of early mobilization. Of the amount, 25 respondents (61%) felt mild pain post laparotomy surgery. Statistical tests showed a significant relationship between knowledge of early mobilization and pain intensity ($p = 0.046$).

Conclusions: Early mobilization knowledge correlates with pain intensity. Study results suggest for nurses to increase early mobilization education in post-laparotomy patients.

Keywords: knowledge; early ambulation; pain; laparotomy

INTRODUCTION

Data from the World Health Organization (WHO) cited by Haynes et al. (2009) in (Subandi, 2017) shows that for more than a century, surgical treatment has become the crucial component of health care worldwide. WHO also estimates that 230 million major surgeries are performed worldwide every year, 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. The prevalence in Indonesia in 2012 reached 1.2 million cases of surgery. Surgery also continued to increase every year wherein in 2009 there were 46.87% of surgical patients, in 2010 it was 53.22%, in 2011 it was 51.59%, and in 2012 it was 53.68% (Darmawan & Rihiantoro, 2017). The Ministry of Health stated that of the many surgeries and operations, 32% of them were laparotomy (Anggraeni, 2018). The number of cases of post-laparotomy patients undergoing

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treatment in the COVID-19 ward at 19 of Dr. RSUD. Saiful Anwar in the last three months, namely in December 2019 with 25 patients, January 2020 with 30 patients, and February 2020 with 15 patients.

Immediate, gradual mobilization is beneficial for wound healing and prevents infection and venous thrombosis. If it is too early to mobilize, it can affect wound healing. So regular and gradual mobilization followed by exercise is the most recommended thing (Darmawan & Rihiantoro, 2017). Early mobilization has an essential role in reducing pain by eliminating the patient's concentration at the location of pain or the area of operation, reducing the activation of chemical mediators in the inflammatory process that increases pain response, and minimizing pain nerve transmission to the central nervous system. Through this mechanism, early mobilization effectively reduces the intensity of postoperative pain (Wulandari & Anindari, 2018).

A preliminary study conducted by researchers in the COVID-19 ward at RSUD Dr. Saiful Anwar found that not all patients can immediately mobilize early after laparotomy surgery. Generally, after 24 hours, postoperative patients prefer to stay in bed (bedrest) without doing any activity. The results of interviews with several patients said that not doing early mobilization was primarily because of pain, mainly when used for light activities or mobilization. Patients also said they were afraid that the stitches were damaged or torn, and various reasons for discomfort when patients had to mobilize early. When asked about early mobilization, the patient admitted that he still did not know much about it and practiced it in bed. This study was conducted on post-laparotomy patients to determine their level of knowledge on early mobilization.

METHODS

Design

The research design was descriptive-analytic with a cross-sectional study.

Sample and Setting

In this study, the population used were post-laparotomy patients treated in the COVID-19 ward of Dr. RSUD. Saiful Anwar Malang. The number of samples involved in the study was 41 respondents. The sampling technique used in the study is systematic sampling. Inclusion

criteria included (1) post-laparotomy patients (2) stable condition and vital signs. the exclusion criteria were (1) postoperative patients with severe/severe pain with a pain score range of 7-10 (2) postoperative patients receiving narcotic pain medications (3) postoperative laparotomy patients who could not read and write (4) post-laparotomy patients who are not willing to be respondents.

Instruments

The instruments used in the study were questionnaires on the level of knowledge of early mobilization and pain observation sheets (Verbal Response Scale).

Data Collection

The researcher distributed the early mobilization knowledge questionnaire to the respondents, which the researcher had prepared. The early mobilization knowledge questionnaire was compiled based on the literature of Hidayat and Uliyah (2016). Researchers conducted pain observations using the Verbal Rating Scale (VRS) to determine the respondent's pain intensity. Pain observation sheet used is the verbal rating scale (NRS) obtained from the source Hjermstad et al., (2011).

Data Analysis

Data analysis was carried out after the data was collected to determine the relationship between early mobilization knowledge and pain intensity. This study used the Spearman Rho test with a confident interval (CI) of 95% and a calculated r-value.

Ethical Consideration

This research has gone through an ethical test at Dr. Saiful Anwar Hospital, Malang. Information that passes the ethical review will get an ethical approval letter number 400/135/K3/302/2020. On June 15, 2020.

RESULTS

This research was conducted in COVID-19 Ward RSUD Dr. Saiful Anwar Malang. The total number of respondents is 41 respondents. The results showed 15 respondents (36.6%) are in the category of early elderly and late elderly, 18 respondents (43.9%) have an elementary school education background, all of them (100%) are male. Male, 33 respondents (80.5%) never had a history of surgery (Table 1).

Table 1. Characteristic of Respondents (n = 41)

Characteristics	n	%
Age		
Late Teens (17-25 years)	1	2.4
Early Adult (26-35 years)	2	4.9
Late Adult (36-45 years)	8	19.5
Early Elderly (46-55 years)	15	36.6
Late Elderly (56-65 years)	15	36.6
Educational Characteristics		
Elementary School	18	43.9%
Junior High School	12	29.3%
High School	10	24.4%
Undergraduate	1	2.4%
Characteristics Gender		
Male	41	100
Surgery History		
None	33	80.5
Ever Surgery	8	19.5

Table 2. Distribution of Knowledge about early mobilization and pain intensity (n=41).

Characteristics	n	%
Knowledge		
Less	6	14.6
Moderate	15	36.6
Good	20	48.8
Pain Intensity		
No Pain	9	22
Mild	25	61
Moderate	7	17.1

It is known that from 41 respondents, almost half of them, namely 20 respondents or 48.8%, have a level of knowledge of early mobilization in the excellent category. It is known that from 41 respondents, more than half of them, namely 25 respondents or 61.0%, after early mobilization, felt the intensity of pain in the mild category. None of the respondents felt severe pain intensity (Table 2).

Based on table 3, it is known that the Spearman Rho statistical test results obtained $p\text{-value} = 0.046$; $p < 0.05$, there is a relationship between knowledge of early mobilization and pain intensity of post-laparotomy patients in COVID-19 ward at RSUD Dr. Saiful Anwar Malang. The Spearman Rho statistical test results obtained the value of the correlation

coefficient or $r = -0.314$. The value of r indicates the close relationship between knowledge of early mobilization and pain intensity, which is included in the moderate category. The correlation coefficient value is negative, indicating the close relationship between knowledge of early mobilization and pain intensity is inversely proportional. The higher the level of knowledge of early mobilization, the lighter the intensity of pain felt by post-laparotomy patients in the COVID-19 ward at Dr. RSUD. Saiful Anwar Malang.

DISCUSSION

Based on the study results, it is known that from 41 respondents, almost half of them, 20 (48.8%) respondents, have a good level of early mobilization knowledge. While a small proportion of respondents, 6 (14.6%) respondents knew the category of less. The researcher believes that the respondent's education is quite influential in shaping the knowledge of early mobilization. Although nurses have used profane language to explain the standard operating procedure (SOP) for early mobilization in the room, it is still possible that there is a cognitive gap in bridging the information transfer process between the researcher as the sender of the message to the respondent as the recipient of the message. Several factors, such as experience in taking formal education and experience in understanding complex instructions during the learning process, are obstacles that cause patients with a history of low education to find it challenging to achieve good knowledge. Based on the study results, it is known that from 41 respondents, more than half of them, namely 25 (61.0%) respondents felt the intensity of pain in the mild category. The study results did not show that there were respondents who experienced severe pain. However, 7 (17.1%) respondents are still experiencing pain in the moderate category.

Researchers believe that the number of respondents with moderate pain intensity shows that the condition of pain is an absolute thing that occurs in post-laparotomy patients. This pain condition is caused by a tissue incision followed by an inflammatory process resulting in releasing neurotransmitters that cause pain. Pain arising from a laparotomy surgical incision includes the type of peripheral pain and is acute.

Researchers believe that respondents who

Table 3. Cross Tabulation Between Knowledge about early mobilization with pain intensity (n=41)

Knowledge	Pain Intensity			Total n (%)
	No Pain n (%)	Mild n (%)	Moderate n (%)	
Less	1 (2.4%)	1 (2.4%)	4 (9.8%)	6 (14.6%)
Moderate	2 (4.9%)	12 (29.3%)	1 (2.4%)	15 (36.6%)
Good	6 (14.6%)	12 (29.3%)	2 (4.9%)	20 (48.8%)
Total	9 (22%)	25 (61%)	7 (17.1%)	41 (100%)
Test Type		Sample Quantity	Value (r)	Value (p)
Spearman Rho Statistical Test		n = 41	r = -0.530	p = 0.000

do not have a history of previous surgery feel subjectively more severe postoperative pain than respondents who have had previous surgery (Ditya et al., 2018). Pain is an experience that affects the patient's neurological physical condition and perception (Stamenkovic et al., 2018).

Researchers found that the perception of pain caused the intensity felt by each patient to be different. This perception is built on age, gender, cognitive level, temperament, family background, and, most importantly, previous pain experiences. Aspect's prior experience of pain can form a belief that pain is not scary, can be felt naturally and is something that should be enjoyed peacefully. Patients with previous surgery feel a natural temporary pain sensation. They understand that the pain will go away on its own in a period that they know based on their experience. The individual perception gives rise to the belief that oneself is 'immune' to pain (Permana et al., 2015).

Based on the study results, it is known that of the 41 respondents, most of them, namely 12 (29.3%) respondents, had a level of knowledge of early mobilization in the moderate category and the intensity of pain in the mild category. Spearman Rho statistical test results obtained p-value = 0.046 or p < 0.05, which means H₀ is rejected, so it can be interpreted that there is a relationship between the level of knowledge of early mobilization and pain intensity.

The Spearman Rho statistical test results obtained the value of the correlation coefficient or r = -0.314. The value of r indicates the close relationship between knowledge of early mobilization and pain intensity, which is included in the moderate category. The correlation coefficient value is negative, showing the close relationship between knowledge of early mobilization and pain intensity is inversely proportional. The higher the understanding of early mobilization, the lighter the intensity

of pain felt by post-laparotomy patients. The higher respondent's knowledge, the higher the compliance of mobilization behavior so that it is inversely proportional to the level of pain felt by the respondent. Indirectly, knowledge is inversely proportional to pain intensity in post-laparotomy patients.

There is a relationship between the level of knowledge and the intensity of pain as described in the study's conceptual framework. Based on the research concept framework, it is known that the level of knowledge becomes the basis for individuals to perform a behavior. Knowledge of early mobilization consists of know or know. This basis will grow to be comprehensive and continue at the application level. His knowledge of mobilization at the application stage will impact the benefits felt by postoperative patients. It will directly reduce the patient's bed rest. The low intensity of bed rest decreases the amount of reactive oxygen in the body, decreases inflammatory cytokines, and prevents neuromuscular damage. All of these conditions will simultaneously reduce the intensity of postoperative pain gradually.

The researcher argues a relationship between early mobilization knowledge and pain intensity due to transferring knowledge into practice for the patient. After getting information on early mobilization by the nurse, the patient was moved to practice it according to the instructions. Early mobilization movements directly benefit the wound healing process so that it gradually reduces the intensity of pain felt by respondents.

This opinion is in line with Karyati et al. (2018) research that there is a significant relationship between knowledge and early mobilization behavior in postoperative patients. Karyati et al. (2018) that early mobilization is effectively proven to reduce the pain scale of postoperative patients.

Although most respondents showed a

significant relationship between knowledge of early mobilization and decreased pain intensity, some respondents still had good knowledge but felt pain in the moderate category. Likewise, some respondents with poor category knowledge did not feel pain.

Researchers believe that some respondents may have certain factors that can hinder the receipt of information. Respondents have obstacles such as the lack of support for postoperative physical conditions different surgical histories. The majority of respondents' ages are in the elderly category. It is also possible for cognitive abilities from a non-uniform educational history.

The results of the study support this opinion. The 41 respondents, almost half of them, namely 15 respondents (36.6%), are in the category of early elderly and late elderly. The condition of the elderly allows forming early mobilization knowledge not to be carried out optimally. In addition, the respondent's pain sensitivity will be more intense when the body's metabolic function degenerates related to the age of the respondent who enters the elderly category.

The researcher believes some respondents with a high level of knowledge still feel the pain caused by natural phenomena, influenced by the sensitivity of receptor pain. Each patient has their subjective assessment of a respondent as a human individual identifies pain based on his experience with pain in the past. The number of pain events, the type of pain, the severity or intensity of previous pain experiences, the effectiveness of pain therapy, and how to respond to pain affect how respondents perceive and react to current pain experiences. Researchers believe that patients with minimal previous experience of pain accompanied by inadequate early mobilization therapy still cause distress to respondents.

Limitations

The research was conducted during the COVID-19 pandemic outbreak. The limited process of collecting research data is minimized contact between researchers and research respondents. However, researchers are still trying to optimize while complying with the COVID 19 health protocol. The administration of non-narcotic analgesic drugs (NSAIDs) in post-laparotomy patients may confound the respondents' pain intensity. The type, dose, and frequency of drug administration are carried out by doctors and cannot be controlled

by researchers. However, researchers have attempted to exclude respondents by administering narcotic analgesic drugs to avoid bias.

CONCLUSION

This study concludes a significant relationship between knowledge of early mobilization and pain intensity of post-laparotomy patients in Ward 19 of Dr. RSUD. Saiful Anwar Malang. Increasing education exposure to increase knowledge of early mobilization in post-laparotomy patients in Ward 19 of RSUD Dr. Saiful Anwar. This has been proven from research results that knowledge can reduce patient pain non-pharmacologically. Make standard operating procedures (SOP) for early mobilization complete with instructional media that nurses can use in providing standardized knowledge and information to patients. Further research was conducted by involving the patient's behavior in early mobilization. To obtain a complete picture of the relationship between knowledge and early mobilization behavior in reducing pain intensity in post-laparotomy patients.

Declaration of Interest

No conflict of interest

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Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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