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Research Article

Prayer and dhikr as spiritual-related interventions for reducing post-surgery pain intensity in moslem's patients

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ABSTRACT

Background: Pain is a sensory and emotional unpleasant condition which faced by patient after have medical-surgery. Spirituality and emotional status are recognized as factors influencing pain scale level of post-surgery patient. This study aimed to determine the effect of prayers and dhikr as spiritual-related activities that can reduce pain level of post-surgery in Moslem's patient.
Methods: This study design was quasi-experiment (pre and post-test) with non-equivalent control group. The total samples involved were 50 post-surgery Moslem's patients who were divided into two groups: first, the intervention group and second is the control group. Pain level was measured using a Numerical Rating Scale (NRS). Prayers and Dhikr interventions were run 6 hour after providing analgesic.
Results: The results showed that the decreasing mean score of pain level in intervention group was higher (1.72) than control group (0.88). Furthermore, there were statistically significantly difference of mean score of pain level between intervention group and control group (p =0.0005).
Conclusions: In Moslem patients, prayer and dhikr can be an alternative of non-pharmacological pain management to reduce the level of post-surgery pain intensity.

Keywords: Prayer, Dhikr, Post-surgery pain

INTRODUCTION

Medical-surgical procedures in hospital have been increase as a treatment of particular disease. Data from the World Health Organization (WHO) indicate that there are approximately 230 million major surgery performed around the world each year, and estimated one for every 25 live people. Some studies in 56 countries of the 192 WHO members are states that in 2005 estimated 234.2 million surgical procedures performed every year.[1] In Dr. Dradjat Prawiranegara Hospitals, the number of surgery rising for every years, from 1779 in 2011 to 2336 in 2013. In 2015 the average of post surgery patients in the surgical ward were 200 surgical procedures per month.[2]

Pain is a subjective sensory and unpleasant emotional experience which associated with tissue damage actual or potential or perceived in the events in which the damage occurs. For instance, incision or wound are produced a trauma for patient, and it cause perceive of pain. Post-surgery pain, including the type of acute pain, where fast onset of pain have varied in intensity (mild to severe) and lasts for a short time until eventually disappear with or without treatment after recovering state on the damaged area.[3]

Pain defined as the subjective sensory and unpleasant emotional experience.[4] Thus, the pain does not only involve physical processes, but also involves psychological aspects. Emotional involvement in the pain that cannot be separated explained by Chapman that the negative emotions become part of the pain. Patients who get the procedure make repeated pain led to the development of fear and emotional distress. When the

pain becomes severe, prolonged, the patient feels a prolonged distress.[5]

Explanation that the relationships between pain and psychological aspect such as anxiety is cyclic, which mutually reinforce one another. Inadequate pain management causes anxiety, and as a result, anxiety increases the pain intensity. If the pain and anxiety untreated then the patient will be in a condition of despair, suffering, and psychological changes such as agitation and delirium.[6]

The relationship between the psychological perceptions of pain is having proven by research conducted on 55 post-surgery Moslim patients in the surgical treatment of Berkah Public Hospital, Pandeglang. The results showed that there is a relationship between spirituality and pain intensity (p = .019), patients with low spirituality five times greater to be potential to suffer from pain compared to patients with high spirituality.[7] This study shows that spirituality as part of the emotion has a role in the pain perception. The results of 212 studies have been conducted by experts earlier showed 75% stated that religious commitment (in prayer and remembrance) showed a positive effect on patient, and only 7% who concluded that religion is not good for health.[8]

A survey conducted by TIME magazine and CNN and USA Weekend (1996), states that more than 70 patients believe that faith in God Almighty, prayer and dhikr can speed up the healing process. Meanwhile more than 64% of patients state that the medical officer should also provide spiritual-related therapy such as prayer and dhikr. From this study revealed that the patients actually require religious approach of therapy as an additional of treatment through drugs and other medical treatments.[8]

Positive emotions play an important role in self-management of pain. According to the previous research studies showed that spiritual practice is positively related to the health and is improve coping mechanism in the condition of ill. These researches also showed that patient performed praying to reduce pain, so that prayer recognized as non-pharmacological methods in order to control pain.[9]

METHODS

This study is a quasi- experiment (pre-test and post-test) with non-equivalent control group. Research conducted in the medical-surgical department of Dr. Dradjat Prawira Negara Hospital, Serang during April to May 2015. A number of 50 patients who were adult Moslem and they were in the condition of post-surgery day 1st with a program providing analgesic ketorolac two times a day (12 hours) were included in the study. Selection day of operation 1st is based on the results of previous studies showed that post-surgery pain intensity was highest on days 1st and 2nd.[10] The intervention group and the control group consisted of 25 patients for each group. Pain level was measured using a Numeric Rating Scale (NRS). Researchers to test the use of NRS agreement by two observers in 15 patients post-surgery with the results of percent agreement was 73%.

In the intervention group, researchers assessed pain intensity pre interventions on 6 hours after administration of the analgesic ketorolac 30 mg. Furthermore, researchers gave the intervention of prayer and remembrance by reading the beads (subhanallah) 33 times, Tahmid (Alhamdulillah) 33 times, Takbeer (Allah akbar) 33 times, tahlil (la ilaha ilallah) 33 times, alhauqalah (la haula walaquwwata illa billah) 33 times, continue reading the letter al -fatihah and ends with read the prayer to eliminate pain 7 times. Assessment of pain intensity post intervention performed 30 minutes after the intervention. In the control group of researchers assess pain intensity at 6 hours and 7 hours after administration of ketorolac 30 mg.

Univariate data showed the mean, standard deviation, minimum-maximum and CI 95% of variables, while independent t-test was used to find out the difference reduction in pain intensity between the control group and the intervention group.

RESULTS

Characteristics of respondents

Based on the characteristics, respondents in this study were described in the table 1.

Based on table 1, it can be seen that the highest percentage types of anesthesia used was general anesthesia, and most of respondents in this study were female who were in middle age category. Based on the history of surgery, most patients had not medical surgery before, and excisio was the highest percentage of surgery. Thus, most of respondents were come from javanese etnic.

The average of pain intensity before, after and difference in the intervention group and control group

The analysis is resulting the average intensity of pain before and after, and the differences in the intervention group and the control is described in the table 2.

Table 2 showed the decreasing of pain intensity in intervention group was higher than control group. The mean score of pain intensity in intervention group decrease 1.72 point from 6.36 to 4.64, whereas mean score in control group regarding pain intensity decrease 0.88 point which is from 6,48 to 5.60.

Analysis of differences average of pain intensity between the intervention group and the control group

Based on table 3 it showed that the average score of pain intensity between the intervention group and control group is significantly different.

Table 1: Frequency distribution of respondents (n = 50).

Variable	Intervention group	Control group
	F (%)	F (%)
Anaesthesia		
GA	23 (92%)	20 (80%)
Spinal	2 (8%)	5 (20%)
Age		
19-30 (Early Adult)	7 (28%)	10 (40%)
31-55 (Middle Adult)	14 (56%)	13 (52%)
>55 (Late Adult)	4 (16%)	2 (8%)
Gender		
Male	9 (36%)	9 (36%)
Female	16 (64%)	16 (64%)
History of surgery		
No	20 (80%)	19 (76%)
yes	5 (20%)	6 (24%)
Surgery type		
Excisio	10 (40%)	10 (40%)
Appendictomy	3 (12%)	3 (12%)
Herniaraphy	3 (12%)	3 (12%)
Tonsilodektomy	3 (12%)	3 (12%)
Orif	3 (12%)	3 (12%)
Debridement	3 (12%)	3 (12%)
Etnic (culture)		
Javanese	17 (68%)	12 (48%)
Sundanese	6 (24%)	10 (40%)
Batak	2 (8%)	3 (12%)

Table 2: The average of pain intensity before, after and difference in intervention and control group (n1=25; n2=25).

Group	Pain Intensity	Mean	SD	Min-Max	95% CI
Intervention	Before	6.36	0.907	5 – 8	5.99–6.73
	After	4.64	1.186	3 – 7	4.15–5.13
	Differences before and after	1.72	0.678	0 – 2	1.44–2.00
Control	Observation 1 (O1)	6.48	0.823	5 – 8	6.14–6.82
	Observation 2 (O2)	5.60	0.866	4 – 7	5.24–5.96
	Differences O1 dan O2	0.88	0.600	0 – 2	0.63 – 1.13

DISCUSSION

Characteristics of respondents

Based on table 1 it can be seen that most types of anesthesia used is general anesthesia. This is consistent with studies that show that general anesthesia is a type of anesthesia that is most widely used (79.2%) compared to spinal anesthesia (13.8%). Bivariat test results showed that no significant relationship between the type of anesthesia to pain intensity before intervention in post-surgery patients (p value = 0.308).[11] It is not in accordance with the opinion of Smeltzer et al. which states that the extent and severity of post-surgery pain is influenced by how anesthesia is given.[12] Another study on 153 women who underwent caesarean section with general anesthesia and spinal showed the pain scores almost equal.[13]

Table 3: Differences average of Pain Intensity between the intervention group and the control group (n = 50).

Group	Mean difference in pre and post	SD	SE	P Value
Intervention	1.72	0.678	0.136	0.0005
Control	0.88	0.600	0.120	

Based on age, respondents in this study are mostly adult patients with middle age category (56%). Bivariate test results showed that no significant relationship between age and pain intensity before intervention in post-surgery patients (p value = .066). This is not in accordance with the results of previous studies that showed the older age groups post-surgery pain intensity lower than younger age groups.[14]

By gender, bivariate test results also showed that there was no significant relationship between gender and pain intensity before intervention in post-surgery patients (p value = 0.735). Smeltzer and Bare revealed that gender were not significantly different in response of pain.[12] This is also reinforced by the opinions Potter & Perry who stated that in general men and women did not significantly different in responding to pain. However, tolerance to pain is influenced by biochemistry factors and is unique in individuals without regard to gender.[3]

Based on operating surgery experience, most patients never had surgery before. Bivariate analysis results also showed no relationship between the operating experience with pain intensity before intervention in post-surgery patients (p value = 0.233). According to Potter & Perry, each individual learn from the experience of pain. Previous painful experience does not necessarily mean that the individual will receive pain more easily in the future. If the individual has long series of episodes often experience pain without ever recover or suffer severe

pain, the anxiety or even fear may arise. Conversely, if an individual is experiencing pain, the same type over and over again, but then the pain is successfully removed, it will be easier for the individual to interpret the sensation of pain.[3]

Based on the type of operation, bivariate analysis showed p value >0.05. These results indicate that there is no significant relationship between the types of surgery with the post-surgery patient pain intensity. Results of this study are also not in accordance with the Smeltzer opinion stating that the pain caused by surgery, extent and severity of the pain depends on the type of surgical procedure and extensive surgical wound.[12]

In this study, ethnicity also showed no correlation with pain intensity (p value = .318), in contrast to the results of Ping Ho & Johnson research showing that culture provides an important role in pain experience and expression of pain. China has a lower intensity compared to New Zealand.[15] The difference in results can be caused by the entire ethnic groups in this study are ethnic Malay Asia, despite different ethnic origin.

The average of pain intensity before, after and difference in the intervention group and control group

In Table 2, the results showed that the average pain intensity respondents in the intervention group before and after the intervention of prayer and dhikr decreased from 6.36 to 4.64. Mean decrease amounted to 1.72. In the control group there is also a decrease in mean pain intensity from 6.48 to 5.60. The average decline is smaller than the intervention group only reached .88. The results showed that the intervention of prayer and remembrance after six hours of administration of analgesics in patients post-surgery can lower mean pain intensity greater than the group of patients who were given analgesics.

Analgesic effect of parenteral drug reached peak levels between 30 minutes to one hour, and longer working analgesic for six hours, after 6 hours analgesic effect decreasing so necessary to manage non-pharmacologic so that patients' pain can be reduced to the following analgesic schedule and not just rely on analgesic.[16] Side effects from the use of analgesics can also be reduced because the patient may be recommended to reduce the dose of analgesic consumption. This will help in reducing patient costs and improving patient satisfaction on nursing care.

Analysis of differences average of pain intensity between the intervention group and the control group

Based on table 3, it showed that the difference of mean score between the intervention group and control group was significantly different. How prayer and dhikr can reduce the intensity of pain can be explained that the relationship between emotions and the spiritual is where positive emotions can enhance one's spirituality and spiritual practices such as prayer can enhance positive emotions and improve coping when sick, in riverse negative religious coping may increase the negative emotions.[9]

A study among patients with chronic pain showed that administration of spiritual needs is very desirable for patients who complain of pain, be a source of happiness, and a means to draw closer to God. Differences in pain was found after administration of the intervention of prayer and remembrance also reinforces that needs prayer and remembrance complementary therapies are needed to reduce pain, reduce complaints and long hospitalizations.[17]

The results of this study reinforce that the intervention of prayer and dhikr able to reduce pain, not only for chronic pain but also for acute pain such as post-surgery pain. This strengthens the research conducted by Haryani and Febriyanti, which states that a person's spiritual level may affect the perceived pain intensity. The higher the spirituality it affect to the lower the perceived pain.[7]

Some experts explain the relevance of spirituality with pain. This linkage is actually a reciprocal relationship between emotions and spirituality. Positive emotions can increase spirituality; on the other hand spiritual practice can enhance positive emotions. Positive emotions play an important role in the self-management of pain.[9] Linkage emotional and physical pain physiology is also supported by the opinion of Haruyama who explained that beta endorphin is a hormone that makes people happy. The interesting of beta-endorphin is its association with psychology. Positive thinking increases the secretion of endorphins. Based on brain waves, endorphins hormones are secreted in the brain when it in the alpha waves, calm waves and relaxed.[18]

Previous research studies also showed that the spiritual practice is positively associated with health and can increase coping when facing the stress. Research also showed that prays frequently used by patients to reduce pain so that prayer becomes non-pharmacological methods to control pain. Spiritual approach to prayer pre-surgery also give effect to the post-surgical pain, the research shows that prayer a spiritual approach decrease the first day post-surgical pain (p value = .043), second and third (p value = .000) so it can be concluded that there is a positive influence and significant spiritual approach with pre-surgery prayer to the reduction of post-surgical pain.[9,12,19]

There are four processes in pain transduction, transmission, modulation, and the pain perceived in the brain. The role of prayer and dhikr intervention is to improve the spirituality, thus providing positive emotions. Positive emotions affect the modulation process in which a process of liberation of endogenous opioids such as β - endorphins by the central nervous

system. Modulation mechanism by psychological aspect involves many parts of the brain. Some affect that modulate pain include distraction factor that can reduce the pain, the mechanism is influenced by active PAG region and cortex orbitofrontal. On the other hand the active area of the thalamus, anterior cingulate cortex, insular cortex and the primary somatosensory cortex is involved in attention to pain. Emotions status influence through limbic system activity.[20-22]

Results of this study can certainly have implications on the nursing practice in non-pharmacological pain management. Prayer and dhikr therapy may be alternative option nonpharmacologic interventions by nurses in post-surgery Moslem patients. Prayer and dhikr which is used is a common prayer and dhikr in daily activities so it is easy for the patient. Thus, to meet the spiritual needs of post-surgery Moslem patients can be facilitated with a booklet or guide book of prayer and dhikr so that the patient can do it independently.

CONCLUSION

Results showed that patients with post-surgery day 1st are still having pain with average pain intensity 6.36 in the intervention group and 6.48 in the control group. Perceived pain intensity was high enough on the hour to sixth after providing analgesic ketorolac 30 mg as analgesics become a standard option on the pharmacological management of post-surgery pain.

Intervention prayer and dhikr in the intervention group were affecting to the lower level of pain intensity than the control group. Statistical analysis showed that there were significantly different in average reduction in pain intensity in the intervention group and the control group. Thus, in Moslem patients, prayer and dhikr can be alternative non-pharmacological management options of post-surgery pain.

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