Traditional Music Therapy to Decrease Pain Perception on Elderly in Jakarta Elderly Social Institution

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Abstract

Objective: Pain is a health problem that often occurs in the elderly with various precipitation factors. This study aims to analyze nursing care on elderly with acute pain through traditional music therapy at Jakarta Elderly Social Institution

Methods: Three older adults were given traditional music therapy intervention about twenty minutes each day within five weeks.

Results: The result of this study showed that the pain perception of clients decreased after intervention. It was showed by pain scale (Numerical Rating Scale), blood pressure and pulse decreasing.

Conclusion: Elderly Social Institution as a health service provider can apply traditional music therapy as a program in reducing acute pain on elderly.

Keywords: acute pain; elderly; traditional music therapy

Introduction

Elderly is part of family and community members whose numbers are increasing in line with the increase in life expectancy¹. The elderly in the world, including Indonesia continued increasing as time went on. United Nations² stated that the proportion of elderly population in the world increased from 8% in 1950 to 12% in 2013 and will continue to increase to 21% in 2050. The same condition also occurs in the proportion of elderly population in Indonesia. Badan Pusat Statistik³ stated that a country is said an old structure if it has elderly population above seven percent. The proportion of elderly in Indonesia amounted to 8.03 percent or 20.24 million in 2014⁴. Life expectancy of Indonesian elderly also needs attention. Komisi Nasional Lanjut Usia⁵ states that the increase in the number of elderly people is due to an increase in life expectancy as a result of improving the quality of health. Indonesia experienced an increase in life expectancy from 66.0 years old in 2000 to 70.1 years old in 2015⁶.

The increasing proportion and life expectancy elderly in Indonesia is a good thing but challenging for the country. This is due to an increase in the proportion and life expectancy will affect the burden of dependence on the elderly, because elderly people differ from adults with adult age. When someone became elderly, there will be a setback in various aspects, such as physiological aspect that causes of health problems in the elderly.

Pain is a health problem that often occurs in the elderly. National health survey showed that at age $\geq 55$ years old, 40% of the elderly experience pain⁷. Pain is not only about perception, but will affect a person condition. Untreated pain will cause other physiological problems such as hypertension, heart palpitations and sleep disturbances. Not only physiological problems will be affected, but also psychological problems will be found in the elderly if pain is not treated. Pain will become a separate stressor, leading to the emergence of depression in the elderly.

Acute pain is one of the problems in nursing science. Carpenito says acute pain is a condition when individuals experience and report a great feeling of discomfort or an unpleasant sensation for 6 months or less⁸. Price & Wilson describes two interventions that are carried out to deal with acute pain, namely pharmacological and non-pharmacological therapy⁹. Pharmacological therapy is the collaborative administration of analgesic drugs or pain relievers. However, the drug still has side effects when consumed, starting from allergic reactions, nausea and disrupting the functioning of kidneys and liver when consumed it excessively. Then, there are also non-
pharmacological therapies to reduce pain such as relaxation, distraction, guided imagery, biofeedback, and transcutaneous stimulation such as warm compresses. Music therapy is part of non-pharmacological therapies in nursing to reduce pain. The type of music can be tailored to the desires, such as classical music, instrumental and other slow tempo music.

Music therapy is also appropriate to reduce acute pain on elderly in nursing homes because this intervention can be done immediately without waiting for certain times, so that elderly can feel the impact immediately. The study of McCaffrey and Freeman's showed that administering a slow tempo music therapy for 14 days with duration of intervention for 20 minutes was able to reduce perceived pain perception. Another study that was conducted by Phosida et al showed that giving traditional music therapy 20-30 minutes in three days was able to reduce pain perception in the elderly with acute pain.

Based on results of interviews and information through the medical records, there were 24 cases related to elderly who experienced acute pain in the Elderly Social Institution Budi Mulia 1 Ciracas. The causes of pain were various, such as falling, slipping, hypertension, gout, too much heavy activity and others. Then, health services from Elderly Social Institution Budi Mulia 1 Ciracas are usually giving analgesic medication when consulting a doctor at clinic of nursing home. However, based on interviews with nursing staff, the clinic is only opened every Wednesday. So the elderly who feel pain on their body must wait until Wednesday (the day that clinic is opened) to get the right treatment.

Based on description of various theories, the results of previous study and the facts that were obtained from the results of client assessment, the authors are interested in providing traditional music therapy as one of non-pharmacological nursing interventions to reduce pain perception in the elderly with acute pain.

Method

The author did traditional music therapy once for 20 minutes every day during client breaks. Intervention was carried out for five weeks from May 7 to June 9, 2018 independently without involvement of nurses or pre-social workers. However, nurse observed the intervention that author did even in a short time.

Three clients got the same treatment. They were getting traditional music therapy every day for five weeks with duration of intervention for 20 minutes. The difference in intervention was only found in the type of traditional music. It was according to the wishes or preferences of clients, mentioning traditional music of their region as the music they wanted to listen. The first client from Javanese tribe said she enjoyed listening to traditional Javanese music such as “Langgam Jawa”. The second client wanted to listen “Tarling Cirebon” with a slow tempo and the third client enjoyed listening to “Kecapi Sunda”.

The order of implementation was carried out in one meeting each day. The author prepared equipment such as music players and headsets as interventions supporting equipment and checks the functioning of equipment. Then, author made an introduction and explained about music therapy to the client, the purpose of music therapy, things that client did when music was played (relaxed and closed eyes) and made contract related intervention, such as 20 minutes music therapy in her bed. The client approved the intervention. Next, author checked vital signs of client and conducted an assessment related to the pain that time, especially the scale of pain. The author observed client condition for 20 minutes, such as the client condition was relaxed (client did not raise his head), checked whether the headset was properly installed or was released during the intervention, observed the environment. Then, the vital signs and pain scale were examined after music was listened.

Evaluation consists of subjective and objective evaluation. Then, evaluation was carried out in a measurable manner, namely a subjective evaluation in the form of Numeric rating Scale (NRS) before and after an intervention, and objective evaluation in the form of changes in vital signs (pulse and blood pressure) before and after intervention.

Result and Discussion

At the first client, final evaluation showed that blood pressure decreased after intervention from the first week to the fifth week of each day. First day intervention, blood pressure was 170/70 MmHg and the last day of intervention, blood pressure was 110/70 MmHg. The pulse rate evaluation of the first clients showed that there was a decrease before and after intervention every day. Pulse rate on the first day of intervention was 75x/ minute and pulse rate on the last day of intervention was 74x/ minute. Then, there was a decrease in the pain scale from the beginning of intervention with score 6 and the end of intervention with score 4. In addition, judging from intervention process that was carried out each day, pain scales decreased or remained before and after intervention.

The second client showed that blood pressure decreased and there were several days that did not change but were still within normal limits after intervention from the first week to the fifth week of each day. On the First day of intervention, blood pressure was 130/60 MmHg and on the last day of intervention, blood pressure was 110/70 MmHg. Pulse rate evaluation of the second client showed that there was a decrease in pulse rate before and after intervention. Pulse rate on the first day of intervention was 87x/ minute and pulse rate on the last day of intervention was 72x/ minute. Then, there was a decrease in the pain scale from the beginning of intervention with
score 7 and the end of intervention with score 4. In addition, the pain scale tended to decrease before and after the intervention each day during intervention. Evaluation of the third client showed that blood pressure decreased after intervention from the first week to the fifth week. On the first day of intervention, client blood pressure was 140/80 MmHg and on the last day of intervention, blood pressure was 110/70 MmHg. Evaluation of the third client pulse rate showed that there was a decrease in pulse rate and changes in pulse rate within normal limits before and after intervention. Pulse rate on the first day of intervention was 86x/ minute and pulse rate on the last day of intervention was 73x/ minute. Then, there was a decrease in the pain scale from the beginning of the intervention with score 6 and the end of the intervention with score 4. In addition, judging from intervention process that was carried out each day, pain scales decreased or remained before and after intervention.

Three clients who had been intervened traditional music therapy showed the same results. There was a decrease in client pain perception showed by pain scale, a decreased blood pressure and pulse. This was supported by study from Phosida et al which showed that giving traditional music therapy 20-30 minutes in three days can reduce pain perception in the elderly with acute pain based on indicators of decreased pain scale, blood pressure and pulse rate12. In addition, the decrease in pain perception after giving traditional music therapy was also related to Gate Control Theory. Huss stated that when a defense gate is opened, pain impulses will reach the brain and inform the message as pain13. When other sensory impulses are sent like music along with the passage of pain impulses, these impulses will compete to get the defense gate, so incoming pain impulses are reduced and pain perception is reduced.

Andarmoyo14 stated the decrease in pain perception with an indicator of decrease in pain scale, blood pressure and pulse is also in accordance with Endogenous Opiate Theory, which explains that there are substances such as opiates that occur naturally in the body, this substance is called endorphin. Music triggers pituitary gland, limbic system and hypothalamus to secrete endorphins. Endorphins have the same effect as morphine to reduce pain. Then, music also stimulates the body to produce nitric oxide, a molecule that works on blood vessel tone so that it can reduce blood pressure and pulse12.

During five weeks of intervention, there were several components on a particular day that did not experience a decrease, such as no decrease in pain scale, blood pressure and pulse rate. Potter and Perry explained about one of the factors that influence pain perception on elderly is their focus on the pain15. Within a few days of intervention, there was influence from the environment around client, such as the noise of some elderly people around client's bed. Client who initially focused on listening to music, was disturbed several times, thus client did not focus on listening to music in order to reduce perceived pain perception. Later, Dunn16 explained that music cannot directly influence the elimination of pain perception. Music works simultaneously and persistently to reduce pain perception. The effects are extraordinary and systemic. This thing can be seen from the decrease in scale of pain, blood pressure, and pulse rate at the end of intervention compared to the beginning of intervention.

Students can further develop music therapy to reduce pain perception in the elderly with acute pain using other types of slow tempo music such as classic, murotal and others. Interventions can also be carried out with a longer duration of time than intervention in this study, because the perceived effect will be better if intervention is given continuously.

Conclusions

The results of this study show that traditional music therapy can reduce pain perception in the elderly with acute pain. Nursing home can apply traditional music therapy to elderly with pain in addition to the availability of clinics as a treatment for pain. Therefore, the institution can provide at least one tape or other music player at each room. Provision of equipment can also be modified by borrowing temporarily for elderly who have tape for traditional music therapy. Then, results of this study can be used as information for gerontology nursing in providing elderly nursing care with acute pain through traditional music therapy as well as strengthening existing theories.

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References


