

HUMOR THERAPY IS EFFECTIVE TO REDUCE HEADACHE RELATED TO HYPERTENSION

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ABSTRACT

Headache is often experienced by individual with hypertension. This symptom could be very disturbing and often disrupt daily activities. Various complementary therapies, including humor therapy have showed benefits for pain reduction. This study aimed to identify the effect of humor therapy to reduce headache related to hypertension. A quasi-experimental design of pre and post control group design was used in this study. A total of 40 people with primary hypertension in Mersi village Purwokerto which selected using purposive sampling method were participated in this study. Numeric pain rating scale was used to measure the pain. Data was analyzed using Mann Whitney test. Statistical analysis showed that there was a significant difference in mean of pain score before and after intervention (p value = 0.000). Thus, humor therapy is significantly effective to reduce headache related to hypertension.

Keywords: hypertension, pain, headache, humor therapy

ABSTRAK

Sakit kepala sering dialami oleh mereka yang menderita hipertensi. Gejala ini akan sangat mengganggu dan berdampak pada aktivitas sehari-hari. Beberapa terapi komplementer, termasuk terapi tertawa telah diketahui manfaatnya untuk mengurangi nyeri. Penelitian ini bertujuan untuk mengidentifikasi efek dari terapi tertawa untuk mengurangi sakit kepala karena hipertensi. Penelitian ini menggunakan desain kuasi experimental, pre dan post grup kontrol. Penelitian ini melibatkan 40 orang yang menderita hipertensi di desa Mersi, Purwokerto. Mereka dipilih menggunakan metode sampling purposive. Skala pengukuran nyeri numerik digunakan untuk mengukur nyeri kepala yang dialami. Data dianalisa menggunakan uji Mann Whitney test. Hasil analisa statistik menunjukkan bahwa terdapat perbedaan yang signifikan pada rerata skor nyeri sebelum dan sesudah intervensi (nilai $p=0.000$). Penelitian ini menunjukkan kesimpulan bahwa terapi tertawa efektif untuk menurunkan sakit kepala karena hipertensi.

Kata kunci: hipertensi, nyeri, sakit kepala, terapi tertawa

BACKGROUND

Hypertension is a condition in which blood pressure greater than 140/90 mmHg (WHO, 2009). It is one of the most leading risk factors of heart and vascular diseases. Hypertension frequently has no symptoms. It is often found unintentionally during routine medical examination or when individual

has other complaints. The most common complaint is headache. The headache could be very disturbing and affecting other organs functions. It often disrupt daily activities of the sufferer. It can also increase the work of heart which results in the demand of myocardial oxygen, harm the immune system, and decrease the function of the stomach and

intestines (Smeltzer, 2008).

Thus, an effective treatment is necessary to relief headache through pharmacologic and non- pharmacologic therapy. The pharmacology therapy becomes the authority doctor while other healthcare professionals such as nurses use non-pharmacologic therapy to relief the pain. The role of primary care providers is to identify and treat the pain and prescribe drugs to relieve it (Kozier, 2004). Nurses give the intervention to relieve the pain, evaluate the effectiveness of the intervention, and act as a patient advocate when the intervention is ineffective.

One of the non- pharmacologic therapy to reduce pain is humor therapy (Kozier, 2004). Humor therapy is an action to stimulate someone to laugh. Humor therapy can be conducted through some activities such as watching funny movies, listening to the comedy group, watching cartoons, reading funny comics and caricatures, as well as reading a collection of funny stories (Kozier, 2004). Humor therapy can stimulate endorphins and enkephalin hormone which can reduce pain. Thus, it is expected that this therapy could reduce patient's dependence on pharmacologic therapy. Besides, it could arouse the release of endogenous opioid called endorphin. The benefit of endorphin is to reduce pain intensity (Kozier, 2004). The purpose of this study was to determine the effect of humor therapy to reduce headache.

METHOD

This study used quasi-experimental pre and post control group design. A total of 40 respondents were participated in this study. Respondents were divided into two groups, 1) experimental group which was given a humor therapy and 2)

control group which did not receive any non-pharmacological therapy (standard therapy). Criterions for inclusion were suffering from hypertension, aged between 45-75 years old, compos mentis, and literate. Respondent suffering mental disorders were excluded from this study. Pain intensity was measured using Numeric Rating Scale (0-10). The higher the score means the higher the pain intensity.

This study was conducted after gaining ethical clearance from ethical committee board. Respondents were explained the research procedure and then asked to sign informed consent. Blood pressure and heart rate of respondents were measured. All respondents then completed pain assessment sheet (pre). Then, respondents in experimental group were given humor therapy by asking them to watch laughter therapy videos, while respondents in control group didn't receive any therapy. After that, all respondents completed pain assessment sheet (post). Blood pressure and heart rate were also measured. To meet ethical principle, beneficence, respondents in control group were given humor therapy after the second measurement.

RESULTS

A total of 40 people who suffering headache related to hypertension were divided into 2 groups. Experimental group received humor therapy, while control group didn't receive any non-pharmacological therapy (standard therapy). Pain was assessed using pain rating scale before and after intervention.

Table 1. Difference in pain score between groups

	Experiment	Control	p
Pre	5.25±0.25	5.15±0.21	0.899

Post	2.00±0.2	5.15±0.20	0.000*
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*p<0.05

Table 1 showed that prior the humor therapy, mean of pain score in experimental group was 5.25, while in the control group was 5.15. That pain can be categorized into moderate pain (4-6).

Table 1 also showed that there was no significant difference on initial pain score between group (p=0.899). In another word, pain score of two groups were homogeneous. Hence, post treatment/ standard therapy data in both groups could be tested. Result showed that mean of pain score after humor therapy in experimental group and after standard therapy in control groups was significantly different (p < 0,05).

Table 2. Difference in pain score before and after humor and standard therapy

	Pre	Post	p
Expe	5.25±0.25	2.00±0.2	0.000*
Control	5.15±0.21	5.15±0.20	1.000

*p<0.05

Table 2 showed that mean of pain score in experimental group decrease significantly from 5.25±0.25 which can be categorized into moderate pain to 2.00±0.2 which is mild pain (1-3). Statistical analysis showed that there was significant difference in mean of pain score in experimental group pre and post humor therapy (p=0.000). While in control group, mean of pain score relatively stable (p>0.05).

DISCUSSION

Study showed that humor therapy is effective to reduce headache related to hypertension. Headache is a problem that frequently experienced by individual with hypertension especially when blood

pressure increases. The increased blood pressure is caused by narrowed blood vessel. When the vessel constricted, it will decrease the blood volume that is circulated throughout the body including brain. Lack of blood flow will lead to lack of oxygen, which will triggers anaerobic metabolism. The anaerobic metabolism causes an increase in the lactic acid which then leads to headache (Gray et al, 2009).

Prior to intervention, mean of pain score in both groups could be categorized into moderate pain. The pain level is almost alike because most all respondents were elderly. The elderly often have low pain level. They often experience pain, but very often they are trying to hide it (Rachmawati, Samara & Tjin, 2006). Often, those who suffer from the pain are reluctant to seek treatment immediately (Badura & Grohmann, 2002; Cook, 2002).

Headache related to hypertension could be categorized into chronic pain. This type of pain lasts a long time. It is consistent with the sympathetic stress response, and appears slowly. This type of pain usually appears to warn the body of certain problem. Chronic pain is also characterized by their ability to increase muscle tension and heart beat rate, raise the blood pressure, increase the stroke volume, decrease the gastrointestinal motility, and cause anxiety (Smeltzer, 2008; Cahan et al, 2011).

Humor therapy is an action to stimulate someone to laugh which could furthermore promote the release of endogenous opiates called endorphin. Endorphin is known able to reduce the pain (Kozier, 2004). Humor therapy is able to stimulate the release of endogenous opiates that inhibit the information transfer by A-delta cell fibers. The inhibition causes the termination of

pain information transfer from nociceptor to postcentral gyrus. The slow transfer of pain stimuli leads to the slow body's response toward the pain (Keegan, 2001). Humor therapy is able to minimize the effects of the pain since it can help respiratory process of the lungs, train the heart function, and increase antibodies and white blood cell in blocking the infection. In addition, the humor therapy is able to reduce anxiety, confusion, sorrow, and worry. According to Keegan (2001), humor therapy can cause the release of deoxyson which is able to decrease blood pressure up to 10-20 mmHg.

CONCLUSION

Humor therapy is effective to reduce headache related to hypertension. Nurse could use this therapy to relieve headache experienced by individual with hypertension in conjunction with pharmacological treatment.

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