



Scholars Research Library
Der Pharmacia Lettre, 2017, 9 [1]:100-109
[\[http://scholarsresearchlibrary.com/archive.html\]](http://scholarsresearchlibrary.com/archive.html)



Effects of Reiki energy therapy on saphenous vein incision pain: A randomized clinical trial study

Elham Shaybak¹, Abdolghani Abdollahimohammad^{2*}, Mozhgan Rahnama², Nosratollah Masinaeinezhad², Changiz Azadi-Ahmadabadi³, Mohammadreza Firouzkohi²

¹Student Research Committee, Nursing and Midwifery School, Zabol University of Medical Science, Zabol, Iran

²Nursing and Midwifery School, Zabol University of Medical Sciences, Zabol, Iran

³Medical School, Zahedan University of Medical Sciences, Zahedan, Iran

Corresponding author: Abdolghani Abdollahimohammad, Nursing and Midwifery school, Ferdowsi St, Zabol, Iran, Tel: +98 915 542 6096; E-mail: abdollahi@zbm.ac.ir

ABSTRACT

Purpose: This study aimed to determine the effect of energy therapy on saphenous vein incision pain after coronary artery bypass grafting [CABG].

Methods: Forty patients after CABG were randomly assigned to Reiki and Sham Reiki groups. The intensity and sensory as well as affective qualities of pain were measured before and after the interventions. The patients underwent Reiki healing energy and sham Reiki for 9 minutes. The short and modified version of the McGill pain questionnaire and the Visual Analog Scale was used for pain measurement.

Results: There was a significant difference between the Reiki and sham Reiki groups in the mean scores of pain sensory quality in the legs. However, no statistically significant difference was found between the two groups in the mean scores of pains severity and affective quality of pain in the legs [$P > 0.05$].

Conclusion: Reiki could be used as a simple and cost-effective nursing intervention for managing sensory dimension of pain quality in the patients' after CABG.

KEYWORDS: CABG; Energy therapy; Reiki; Pain; Postoperative; saphenous incision site

BACKGROUND

Patients experience moderate to severe pain after coronary artery bypass grafting [CABG] despite receiving routine analgesics [1]. Non-narcotic medications do not completely relieve pain, and narcotic drugs can cause respiratory depression. Epidural anaesthesia reduces blood pressure and results in itching, nausea, vomiting, and urinary retention. The side effects of analgesics limit the prolonged prescription of them [2]. In addition, unrelieved pain stimulates sympathetic system, which affects the circulatory and respiratory systems. Blood pressure, pulse and respiration rates increase, which subsequently enhance oxygen needs of the body and heart muscle, particularly; all these states are dangerous for patients after heart surgery [3,4]. Unrelieved pain also leads to prolonged hospital stay, increased treatment costs, and strained patient-healthcare providers' relationships [5].

Although medicines are the most convenient method to reduce pain, non-pharmacological complementary approaches are even useful after cardiac surgery [6,7]. Treatment with complementary medicine becomes increasingly more acceptable [8, 9]. Reiki energy healing is one of the methods adopted by the National Center for Complementary and Alternative Medicine [NCCAM] [10-13] and gained growing global popularity [14]. Given the lack of research in the field of application of Reiki energy therapy for relief of pain in CABG patients, this study aimed to examine the effectiveness of Reiki for reducing the pain of saphenous incision site in the patients after CABG.

METHODS

Design

This experimental study was a parallel clinical trial with two groups, Reiki and sham Reiki, which aimed at determining the effect of Reiki energy healing on the intensity and sensory and affective dimensions of pain in chest and leg after CABG.

Participants

The study population included patients undergoing CABG admitted to the cardiac surgery unit [CCU-B] in Ali Ibn Abi- Talib Hospital in Zahedan, Iran. Samples were selected from patients who were conscious, and on prescription of Gabapantine 200 mg every 12 hours or Acetaminophen codeine 300/10 mg PRN, orally. Exclusion criteria were previous experience with Reiki therapy, history of chronic pain due to musculoskeletal and connective tissue, and presence of visual and hearing impairment.

Sampling

The sample size was estimated based on the finding of a similar study [13], which was 40 patients in two groups, control and intervention. The systematic random sampling method was done. The samples were randomized in terms of CCU beds. There were four beds for the patients who underwent CABG. The control and intervention groups were also matched based on gender and age.

Outcome measurement

The data were collected using the short-form McGill pain questionnaire [27,28]. Validity and reliability of the modified McGill questionnaire have also been confirmed in several studies [29]. The short-form McGill pain questionnaire contains 11 items, which measures pain quality in both sensory [eight items] and affective [three items] dimensions. Each item is scored based on a four-point scale from zero to three. The visual analog scale [VAS] also was used for measuring the intensity of pain, which is graded from 0 to 10 indicating no pain and very severe pain, respectively, similar to a horizontal ruler. In addition to its validity and reliability, the VAS is the simplest and most widely used pain assessment tool [30].

Intervention

The patients received information about Reiki healing procedure and how-to receive it before intervention. Verbal and written consent were obtained. The patients underwent Reiki therapy or sham Reiki for 9 minutes. A Reiki master performed healing sessions for the intervention group and a trained nurse pretended Reiki sessions for the control group without transferring energy therapy. The intensity and qualities of pain were measured immediately before sessions. The patients took a supine position and closed their eyes, then, the master of Reiki transferred

energy on their aura from a distance of about 2 feet for 6 minutes, and on the root chakra, located in the perineum, for 3 minutes. The pain was reassessed after 10 minutes of energy therapy.

Statistical analysis

The data were analysed using SPSS-22. The demographic and baseline clinical data of the two groups were compared with the chi-square test for categorical variables and the independent *t*-test for numerical variables. The analysis of covariance [ANCOVA] and repeated measures analysis of variance [RM-ANOVA] and Bonferroni post hoc test was used for the data analysis. The significance level was considered at 0.05.

RESULTS

Baseline data

In the current study, 40 CABG patients were recruited randomly. The mean age of the control and intervention groups were 59.05 ± 6.16 and 61.55 ± 7.01 years, respectively. The mean length of stay in the ICU was 3.50 in the control group and 3 days in the intervention group. On average, energy therapy was conducted in the fourth day after the operation in the intervention and control groups. Sixty percent of patients in both the intervention and control groups were male. Most patients were illiterate or had a primary school education level and all were married. There was no statistically significant difference in the demographic data between the two groups [$p > 0.05$]. The results also showed no significant difference in both groups in the history of diabetes, hypertension, addiction, smoking, and hyperlipidemia [$p > 0.05$] table 1.

Outcome measures

Table 2 shows the pre- and post-intervention without controlling for covariates as well as adjusted means after controlling for covariate variables. The results of ANCOVA showed a significant difference in the mean scores of sensory quality of pain in the legs [1.31 vs. 2.13; $P = 0.019$] between the intervention and control group after controlling confounding variables, which were age, gender, length of stay in ICU, days between surgery and energy therapy, history of diabetes, hypertension, hyperlipidemia, addiction, and smoking. However, no statistically significant difference was found between the two groups in the mean scores of pain severity and the affective quality of pain in the patients' legs [$P > 0.05$].

Table-1: Distribution of demographic and baseline clinical characteristics of patients

Demographic characteristics and basic clinical		n [%]		P Value
		Sham Reiki	Reiki	
Gender	Female	8[40%]	8[40%]	1.00
	Man	12[60%]	12[60%]	
Education	illiterate	9 [45%]	6 [30%]	0.41
	Primary education	9 [45%]	8 [40%]	
	Diploma	2 [10%]	5 [25%]	
	Undergraduate and above	0 [0%]	1 [5%]	
History of diabetes	Yes	8[40%]	8[40%]	1.00
	NO	12[60%]	12[60%]	
History of hypertension	Yes	12[60%]	11[55%]	1.00
	NO	8[40%]	9[45%]	
History of hyperlipidemia	Yes	6[30%]	11[55%]	0.20
	NO	14[70%]	9[45%]	
Smoking	Yes	1[5%]	3[15%]	0.60
	NO	19[95%]	17[85%]	
History of addiction	Yes	7[35%]	7[35%]	1.00
	NO	13[65%]	13[65%]	

DISCUSSION

The current study discusses the effect of Reiki on the intensity and sensory and affective qualities of pain in the saphenous vein incision after CABG.

Table 2: The mean scores of intensity, sensory and affective qualities of pain in saphenous vein incision pain before and after CABG in Reiki and sham Reiki groups

Groups			Baseline Mean [SD]	Post intervention Mean [SD]	Post intervention Adjusted Mean [95%CI]
Saphenous vein incision pain	Sensory quality	Reiki	3.50[2.21]	1.65[1.27]	1.31 [0.88-1.74]
		Sham Reiki	2.10[1.21]	1.80[1.00]	2.13 [1.70- 2.56]
		<i>P</i> Value [t-independent]	0.019	0.251	F[1, 28]= 6.17 <i>P</i> = 0.019 0.181
	Affective quality	Reiki	2.40[1.09]	1.20[0.89]	1.67 [1.16- 2.18]
		Sham Reiki	2.00[1.08]	1.80[1.06]	2.02 [1.52- 2.53]
		<i>P</i> Value [t-independent]	0.681	0.060	F [1,29]=0.86 <i>P</i> = 0.359
	Intensity	Reiki	5.29[3.08]	4.00[2.96]	4.63 [3.28- 5.97]
		Sham Reiki	4.60[2.52]	4.10[2.55]	4.37 [3.02- 5.71]
		<i>P</i> Value [t-independent]	0.443	0.909	F [1, 29] = 0.07 0.797

CABG patients. National Center for Complementary and Alternative Medicine [NCCAM] classify Reiki as an ancient Japanese manual healing method for pain reduction [10-13], which is supported by the finding of the current study. The findings are in line with many laboratory and clinical studies that highlight the impact of Reiki on pain management. The findings of various studies indicate Reiki decreases pain in acute coronary syndrome [38], oral surgery [39] and fibromyalgia [40].

Although studies support pain reduction using Reiki energy healing, the exact mechanism has not been determined. Chung [41,42] signifies *Ki* theory as a mechanism of Reiki effects. According to the theory, blockage of energy flow paths and/or lack of circulation and energy imbalance in organs cause pain and disease. Through unblocking, Reiki facilitates energy flow, reduces pain and discomfort, and enhance vitality in individuals [43]. Other mechanisms include increasing the activity of the parasympathetic nervous system [38], reducing the need for opiates likely through stimulating the release of endorphins and enkephalins [43], reducing stress, and enhancing pain threshold. However, these mechanisms might be applicable for the patients in whom Reiki heals last 2-3 days [37]. Besides, pain reduction through a slight touch of Reiki healing can be explained by the Gate control theory [44]; however, no-touch and even distance methods of Reiki healing and most of its immediate effects are unknown mechanisms, which should be examined by scientists, especially, neurologists and biochemists.

The results, however, showed no statistically significant difference between the Reiki and Sham Reiki groups in pain severity and scores of the affective quality of pain in the patients' legs. This might indicate that patients were more focused on painful areas such as chest pain compared to the legs in the current study. Besides, the mean of leg pain intensity was relatively modest and the patients did not perform any physical activity using lower limbs before and after energy therapy, thus, changes in intensity and affective quality of pain might be neglected by the patients.

As the patients' perception of pain intensity might be affected by environmental factors such as noise [37], one of the limitation of the study was no private room for conducting Reiki energy healings and interference of nursing and medical care. Besides, the patients were ethnically diverse, thus, cultural heterogeneity of the subjects might affect the results as a limitation.

CONCLUSION

Reiki reduces sensory quality pain in the patients after CABG. Therefore, Reiki energy healing could be used as a non-pharmacological and noninvasive method with no known complications for relieving sensory quality of pain in CABG patients.

REFERENCES

1. Zakerimoghdam M, et al. Relationship between nurses' knowledge about pain and satisfaction of pain relieving procedures among postoperative CABG patients, *J Hayat*, **2011**, 17(3), 49-58.
2. Forosannia KH, et al. Cryoanalgesia effects in reducing pain and paresthesias after sternotomy Middle after coronary artery bypass graft surgery, *Univ Med Sci Health Serv Sadoughi-Yazd*, **2009**, 115-121.
3. Edwards RR, et al. Symptoms of distress as prospective predictors of pain-related sciatica treatment outcomes. *Pain*, **2007**, 130(1), 47-55.
4. Fayazi S, et al. The efficacy of Benson's relaxation technique on postoperative pain in coronary artery bypass graft. Jundishapur, *Sci Med J*, **2009**, 8(4), 480-489.
5. Tavakoli A, Norouzi M, Hajizadeh E. Patients' satisfaction from pain soothing after the surgery in Kerman hospitals in 2005, *J Kermanshah Uni Med Sci*, **2007**, 11(2), 206-14.
6. Zargarzadeh M, Memarian R, Assessing barriers for using of complementary medicine in relieving pain in patients by nurses, *Quart J Nurs Manag*, **2013**, 1(4):45-53.
7. Kshetry VR, et al. Complementary alternative medical therapies for heart surgery patients: feasibility, safety, and impact. *Ann thorac surg*, **2006**, 81(1), 201-205.
8. Mirzai V, Saiadi AR, Heydarinasab M. Knowledge and attitude of Rafsanjan physicians about complementary and alternative medicine. *Zahedan J Res Med Sci*, **2011**, 13(6), 20-24.
9. Anbari K, Ghanadi K, Use of complementary and alternative medicine methods and its related factors in person referred to health centers in Khorramabad. *Complemen Med J faculty Nurs Midwif*, **2015**, 4(4), 987-999.
10. Bossi LM, Ott MJ, DeCristofaro S. Reiki as a clinical intervention in oncology nursing practice. *Clin j oncol nurs*, **2008**, 12(3):489.
11. Lee MS, Pittler MH, Ernst E, Effects of reiki in clinical practice: A systematic review of randomised clinical trials, *Int J Clin pract*, **2008**, 62(6), 947-954.
12. Vitale A, An integrative review of Reiki touch therapy research. *Holist Nurs Pract*, **2007**, 21(4),167-179.
13. Vitale AT, O'Connor PC, The effect of reiki on pain and anxiety in women with abdominal hysterectomies: A quasi-experimental pilot study, *Holist nurs pract*, **2006**, 20(6):263-272.
14. Barnes PM, Bloom B, Nahin RL, Complementary and alternative medicine use among adults and children: United States, 2007. US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics Hyattsville, MD, **2008**.

15. Miles P, True G, Reiki--review of a biofield therapy history, theory, practice, and research. *Altern Ther Health Med*, **2003**, 9(2), 62.
16. Vitale A, Nurses' lived experience of reiki for self-care. *Holist nurs pract*, **2009**, 23(3):129-145.
17. VanderVaart S, et al. A systematic review of the therapeutic effects of Reiki, *J Altern Complement Med*, **2009**, 15(11),1157-1169.
18. Demir M, et al. Effects of distant reiki on pain, anxiety and fatigue in oncology patients in Turkey: A pilot study, *Asian Pac J Cancer Prev*, **2014**, 16(12):4859-4862.
19. Rae AI, Quantum Physics: A beginner's guide: OneWorld Publications, **2005**.
20. Thomas AH, Hidden in plain sight: The simple link between relativity and quantum mechanics, **2015**.
21. Dale C, The subtle body: An encyclopedia of your energetic anatomy: Sounds True, **2014**.
22. Berger A, How does it work?: Magnetic resonance imaging, *BMJ*, **2002**, 324(7328), 35.
23. Rosenblum B, Kuttner F, Quantum enigma: Physics encounters consciousness: Oxford University Press, **2011**.
24. Nobelprize.org. The nobel prize in physics 2012.
25. Oschman J, Energy medicine: The scientific basis, New York: Churchill Livingstone, **2000**.
26. Suresh K, An overview of randomization techniques: An unbiased assessment of outcome in clinical research. *J Hum Reprod Sci*, **2011**, 4(1):8-11.
27. Fabbri E, et al. McGill Pain Questionnaire: A multi-dimensional verbal scale assessing postoperative changes in pain symptoms associated with severe endometriosis, *J Obstet Gynaecol Res*, **2009**, 35(4), 753-760.
28. Melzack R, Torgerson WS. On the language of pain. *Anesthesiology*, **1971**, 34, 50-59.
29. Khosravi M, et al. Persian-McGill pain questionnaire; translation, adaptation and reliability in cancer patients: a brief report. *Tehran Univ Med J*, **2013**, 71(1).
30. Memarian R, The Effect of Benson relaxation method on anxiety in patients undergoing surgery, *Daneshvar J*, **2000**, 8(30), 65-70.
31. Wentz J, Pain management, In: Perry pAG, editor, Fundamentals of nursing, St. Louis: Mosby Elsevier, **2009**, 1051-1085.
32. Linton SJ, Shaw WS, Impact of psychological factors in the experience of pain, *Phy Ther*, **2011**, 91(5), 700-711.
33. Ropper AH, Adams and Victor's principles of neurology: McGraw-Hill Medical Pub, Division New York, **2005**.
34. Oliver J, et al. American Society for Pain Management nursing position statement: Pain management in patients with substance use disorders, *Pain Manag Nurs*, **2012**, 13(3), 169-183.
35. Olson K, et al. A phase II trial of Reiki for the management of pain in advanced cancer patients, *J Pain Symptom Manage*, 2003, 26(5), 990-997.
36. Tsang KL, et al. Pilot crossover trial of Reiki versus rest for treating cancer-related fatigue. *Integrative Cancer Therapies*, 2007, 6(1), 25-35.

37. Midilli TS, Eser I, Effects of Reiki on post-cesarean delivery pain, anxiety, and hemodynamic parameters: a randomized, controlled clinical trial. *Pain Manag Nurs*, 2015, 16(3), 388-399.
38. Friedman RS, et al. Effects of Reiki on autonomic activity early after acute coronary syndrome, *J Am Coll Cardiol*, **2010**, 56(12), 995-996.
39. Kundu A, et al. Reiki therapy for postoperative oral pain in pediatric patients: pilot data from a double-blind, randomized clinical trial, *Complement Ther Clin Pract*, **2014**, 20(1), 21-25.
40. Assefi N, et al. Reiki for the treatment of fibromyalgia: a randomized controlled trial, *J Altern Complement Med*, **2008**, 14(9),1115-1122.
41. Chang SO, Meaning of Ki related to touch in caring, *Holist Nurs Pract*, **2001**, 16(1),73-84.
42. Chang SO, The nature of touch therapy related to Ki: practitioners' perspective, *Nurs Health Sci*, **2003**, 5(2), 103-114.
43. Vandervaart S, et al. The effect of distant Reiki on pain in women after elective Caesarean section: a double-blinded randomised controlled trial. *BMJ Open*, **2011**, 1(1), e000021.
44. Wall P, The gate control theory of pain mechanisms: a re-examination and re-statement, *Pain*, **1979**, 6(3), 388.