

# Effects of Reiki Versus Physiotherapy on Relieving Lower Back Pain and Improving Activities Daily Living of Patients With Intervertebral Disc Hernia

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Farnaz Jahantigh, BSN<sup>1</sup>, Abdolghani Abdollahimohammad, PhD<sup>2</sup> ,  
Mohammadreza Firouzkouhi, PhD<sup>2</sup> , and Vahid Ebrahiminejad, MD<sup>3</sup>

## Abstract

Patients with intervertebral disc herniation (IVDH) seek complementary and conventional medical therapies to manage related problems. This study aimed to determine the effectiveness of Reiki compared with physiotherapy to relieve the lower back pain intensity and to improve the activities of daily living (ADL) in the IDVH patients. In this clinical trial study, 60 patients with IVDH were randomly assigned to one of the Reiki, physiotherapy, and drug therapy groups. The severity of pain and the ADL were measured using visual analog scale (VAS) pain and ADL-Instrumental ADL questionnaire before and after the intervention. A significant difference was found in pain intensity and ADL improvement between Reiki and the drug therapy. However, there was no significant difference between Reiki and physiotherapy groups in managing pain and improving ADL. Reiki and physiotherapy are effective methods in managing pain and improving ADL in patients with IVDH; however, Reiki is more cost-effective and faster treatment method than physiotherapy.

## Keywords

energy therapy, intervertebral disc hernia, activities of daily living, lower back pain, physical therapy

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An intervertebral disc herniation (IVDH) is one of the causes of low back pain.<sup>1,2</sup> A chronic lumbar pain may last for at least 12 weeks.<sup>3</sup> This annoying pain leads to physical and psychological disturbances as well as financial problems, which have negative effects on the family and society.<sup>4</sup> Back pain refrains people from doing their daily activities due to fear of pain recurrence, and this may increase their disabilities.<sup>5</sup>

Different methods such as drug therapy, physiotherapy, surgery, and complementary and alternative procedures are used to relieve back pain. Pharmaceutical treatments are prescribed for pain management, although some drugs may produce both dependence and tolerance.<sup>6</sup>

Physiotherapy is known as an effective method in improving the quality of life and reducing the lower back pain using heat therapy and low-frequency vibrations at the lumbar region, ultrasound, abdominal and lower back exercises based on patients' status.<sup>3,7</sup>

Surgical treatment is recommended when conventional or preservative therapies are ineffective and the root of the nerve is under pressure.<sup>8</sup> Common surgical procedures for IVDH include laminectomy, discectomy, microdiscectomy, artificial disc surgery, and spinal fusion.<sup>9</sup>

The use of complementary therapies as nonsurgical procedures for the treatment of chronic pain is increasing.<sup>10</sup> Reiki is one of the therapies, which was approved by the National Center for Complementary and Alternative Medicine for pain relieving. Reiki is categorized as a biofield treatment.<sup>11</sup> Reiki can balance and alignment the energy chakras and auras; hence, promoting health in the individuals. One of the nursing theorists, Martha E. Rogers, described the theory of energy fields, and she argued that there are energy fields in human beings and their environments and when the energy flow in humans is

<sup>1</sup> Student Research Committee, Zabol University of Medical Sciences, Zabol, Iran

<sup>2</sup> Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran

<sup>3</sup> Khatam Al-Anbia Hospital, Zahedan University of Medical Sciences, Zahedan, Iran

## Corresponding Author:

Abdolghani Abdollahimohammad, PhD, Faculty of Nursing and Midwifery, Zabol University of Medical Sciences, Zabol, Iran.

Email: abdalqani@gmail.com



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disrupted, energy therapy is used to rebuild these disrupted energy fields.<sup>12</sup> Energy therapists use direct touch or distance healing to realignment the energy fields of individuals to promote physical, emotional, mental, and spiritual recovery.<sup>13</sup> Reiki energy therapy has been applied for treating many physical, emotional, and psychological disorders such as blood pressure, pain, headache, mood disorders, anxiety, osteoarthritis, wound healing, and sleep disturbances.<sup>12</sup>

As the patients with IVDH experience severe pain, which affects their activities of daily living (ADL) and there is also a paucity of research on the effect of distance Reiki on pain management, this study aimed to determine the effectiveness of distance Reiki versus physiotherapy on lower back pain and the ADL of patients with IVDH.

## Methods

This clinical trial study was conducted to compare the effects of Reiki energy therapy with physiotherapy on the managing of low back pain and the improving daily activities in patients with IVDH in Physiotherapy Clinic of Khatam Al-Anbia Hospital, Zahedan, Iran.

The inclusion criteria were willingness to participate in the study, being literate, and having a herniated disc between the lumbar vertebra confirmed by an orthopedic surgeon using computed tomography or magnetic resonance imaging. Exclusion criteria were having other spinal diseases (lumbar stenosis, relocation of lumbosacral spine stenosis), length discrepancy in the lower extremities, acute lumbosacral muscle spasm, kidney disorders, pelvic diseases, drug addiction, pregnancy, and having experience of energy therapy.

Data were collected using a demographic questionnaire, visual analog scale (VAS) pain, and ADL-Instrumental ADL (ADL-IADL) questionnaire to assess the degree of independence and dependence on ADL. Demographic questionnaire includes age, sex, marital status, educational level, occupation, duration of illness, number of hospital admissions due to low back pain, history of other diseases, except for IVDH, and the drug addiction. The VAS was used to assess the pain before and after the intervention, and scoring was 0 (no pain) to 10 (the highest pain intensity). The ADL-IADL questionnaire has 25 items, and is rated using a 4-point scale, from 1 (no), 2 (with help), 3 (only and hardly), and to 4 (lonely).<sup>14-17</sup>

Sampling was carried out from July to October 2017. Of 63 patients, 3 were excluded due to other spinal diseases (a patient) and unwilling to fill in the check-up questionnaires (2 patients). The patients were randomly assigned to 3 groups, including Reiki (20 patients), physiotherapy (20 patients), or drug therapy (20 patients). The patients were matched based on gender and age (Figure 1).

The Reiki group received three 15-minute distance energy-healing sessions on consecutive days by a master of Reiki. The physiotherapy group underwent 7 to 10 sessions of physiotherapy for 60 to 90 minutes using heat therapy, transcutaneous electrical nerve stimulation, pelvic traction, and physical exercises under supervision a physiotherapist. Indomethacin capsule 75 mg and methocarbamol tablet 500 mg every 8 hours daily for a week was prescribed for the drug group as well as Reiki and physiotherapy groups.

The questionnaires were completed before and one week after the intervention. The data were analyzed by SPSS version 23 using chi-square, independent *t* test, analysis of variance (ANOVA), and repeated-measures ANOVA.

Ethical approval was obtained from the Zabol University of Medical Sciences, Zabol, Iran. Written consent was obtained through a cover letter before asking participants to fill in the questionnaires.

## Results

The demographic features (Table 1) show that the majority of participants (60%) were female, married (>90%), and had a higher education level ( $\geq 45\%$ ). The average age of patients in the Reiki (45.10 years), physiotherapy (42.45 years), and drug therapy (48.50 years) groups were not significantly different among the study groups ( $P = .246$ ). There was no significant difference in demographic data among the study groups (all  $P$ s > .05).

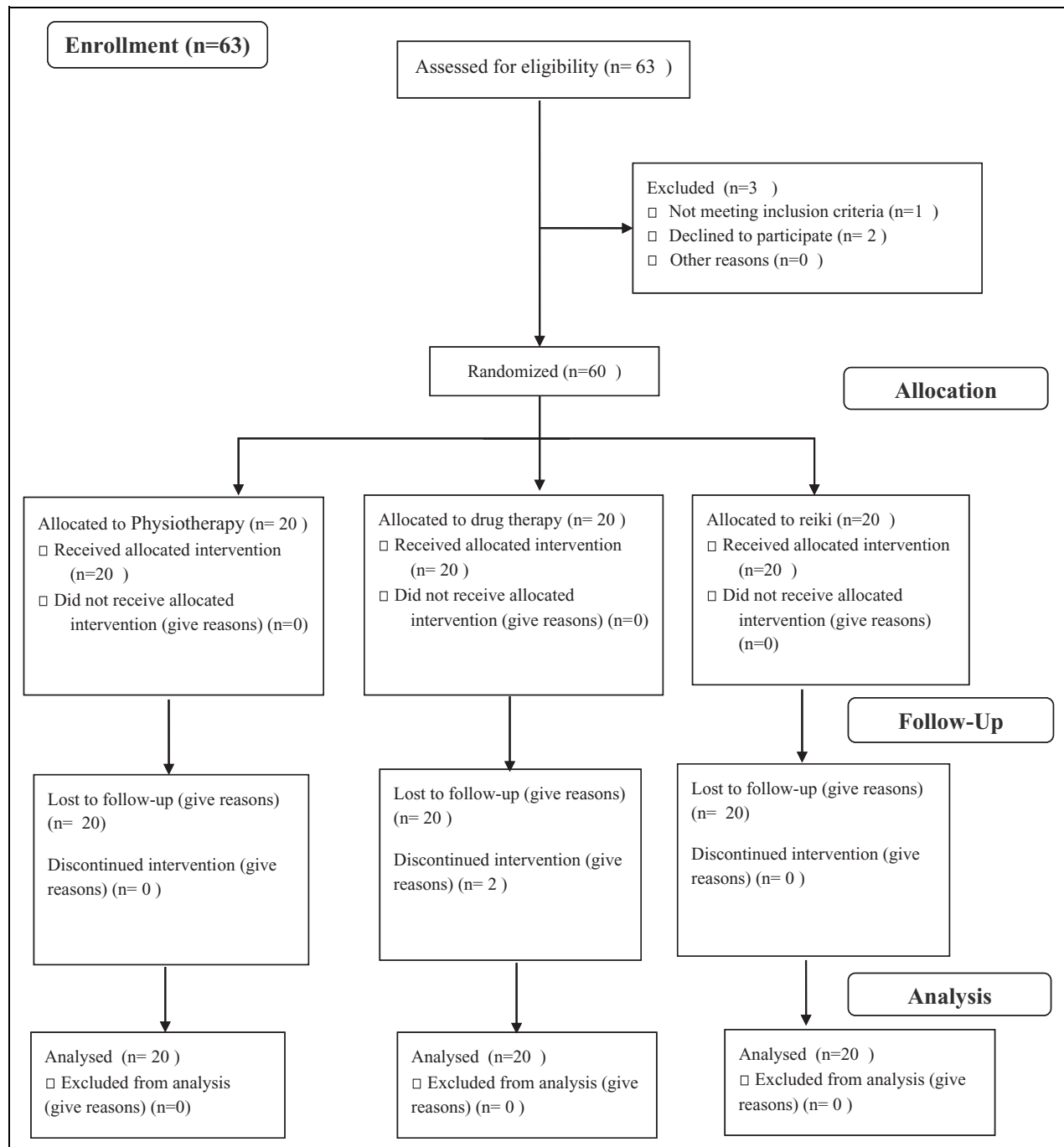
Table 2 shows the comparison of the mean scores of pain intensity and ADL in the study groups before and after interventions using ANOVA and repeated-measures ANOVA tests. Pain intensity and ADL were not significantly different among the study groups before the interventions ( $P > .05$ ). However, Pain was significantly relieved in physiotherapy and Reiki groups. Cohen's *f* showed a large effect size for Reiki versus physiotherapy as well as drug therapy for managing pain. Besides, there was no significant difference in pain intensity after treatment using physiotherapy and Reiki. However, the severity of pain was significantly different between the drug therapy and Reiki ( $P = .002$ ).

There was no significant difference in the ADL between the Reiki and the physiotherapy groups posttreatment, but a significant difference was found in the ADL improvement between the Reiki and the drug therapy groups ( $P = .011$ ). Cohen's *f* revealed a large effect size for Reiki versus drug therapy and moderate ones for Reiki versus physiotherapy as well as physiotherapy versus drug therapy (Table 2).

## Discussion

The aim of this study was to determine the effect of Reiki energy therapy compared with physiotherapy on relieving lumbar pain and on the ADL of patients with IVDH and improvement of their lives. The results showed that Reiki reduces the severity of back pain and improve the level of activities among patients with IVDH. The results showed that there was no significant difference in the improvement of daily activities in Reiki and physiotherapy groups, but in this regard, the Reiki group had a significant difference with drug therapy, so that Reiki was more effective in improving the activities compared with drug therapy. Pain relief in Reiki group was more than that of the physiotherapy and drug therapy groups, which indicates that this method is more effective in controlling pain and improving the daily activities in the patients with IVDH.

Back pain is associated with physical, psychological, emotional, social changes, and even inappropriate exercise.<sup>3,5,18</sup> Pain as an emotional state could be regulated by the artificial stimulation of autonomic nervous system. Vagus nerve plays an important role in physical and mental well-being based on polyvagal theory.<sup>19</sup> Therefore, stimulation of vagus reduces the



**Figure 1.** Samples allocation.

perception of pain and improves mood and quality of life in the patients with chronic health problems. The effectiveness of Reiki in managing pain could be explained by polyvagal theory. On the other hand, according to the Ki theory of energy therapy, Reiki opens and balances the centers and the path of energy flow in individuals and improves physical, psychological, and emotional problems.<sup>20</sup> Studies show that Reiki reduces pain<sup>21</sup> and improves the quality of life.<sup>11,13,22-24</sup>

Although studies are varying in the effectiveness of distance Reiki, the present study showed a positive effect of distance

Reiki on pain and ADL in patients with IVHD, which is consistent with the previous studies.<sup>13,21,23,24</sup>

Although the present study compared 3 different interventions and showed a significant improvement in the pain relief and ADL in patients with IVDH, it had some limitations, which were beyond the control of the researchers. The pain perception may be affected by ambient factors such as environmental noise.<sup>21</sup> Despite the recommendation of lying or sitting down in a comfortable position and quiet place during distance Reiki, some patients had not found such a place in their house. Some

**Table 1.** Frequency, Mean, and Standard Deviation of Demographic Data.

Demographics	Reiki	Physiotherapy	Drug Therapy	P
Age, years, mean (SD)	45.10 (13.07)	42.45 (9.64)	48.50 (10.95)	.426
Gender, n (%)				1.00
Female	12 (60)	12 (60)	12 (60)	
Male	8 (40)	8 (40)	8 (40)	
Marital status, n (%)				.766
Single	2 (10)	0 (0)	1 (5)	
Married	18 (90)	20 (100)	20 (100)	
Education level, n (%)				.484
Less than diploma	9 (45)	7 (35)	4 (20)	
Diploma	2 (10)	3 (15)	2 (10)	
Higher education	9 (45)	10 (50)	14 (70)	
Job, n (%)				.926
Housewife	8 (40)	9 (45)	9 (45)	
Employee	7 (35)	8 (40)	8 (40)	
Free job	5 (25)	3 (15)	3 (15)	

**Table 2.** Mean, Standard Deviation, Marginal Mean, 95% Confidence Interval, and Effect Size of the Study Groups Before and After Interventions.

Groups	Pain			Activities of Daily Living		
	Before, Mean (SD)	After, Mean (SD)	Marginal Means (95% CI)	Before, Mean (SD)	After, Mean (SD)	Marginal Means (95% CI)
<sup>a</sup> Reiki	8.20 (1.36)	3.80 (1.47)	6.00 (5.35, 6.65)	62.20 (14.24)	77.60 (9.96)	69.90 (65.16, 74.64)
<sup>b</sup> Physiotherapy	7.75 (1.48)	5.60 (1.85)	6.67 (6.02, 7.33)	55.10 (13.14)	70.45 (11.37)	62.77 (58.03, 67.52)
<sup>c</sup> Drug	8.40 (1.53)	7.00 (1.68)	7.70 (7.05, 8.35)	58.50 (12.45)	61.50 (8.75)	59.67 (54.93, 64.42)
<i>F</i> ( <i>df</i> = 2, 57)	1.04	18.33	6.94	1.67	13.67	4.90
<i>P</i>	.361	<.001	<.002	.076	<.001	<.011
		<i>c</i> > <i>b</i> > <i>a</i>	<i>c</i> > <i>a</i>		<i>c</i> < <i>a</i> , <i>b</i>	<i>c</i> < <i>a</i>
	Effect size ( <i>f</i> ):			Effect size ( <i>f</i> ):		
	Reiki vs physiotherapy = 0.44			Reiki vs physiotherapy = 0.29		
	Reiki vs drug = 0.78			Reiki vs drug = 0.65		
	Physiotherapy vs Drug = 0.34			Physiotherapy vs drug = 0.36		

Abbreviations: SD, standard deviation; CI, confidence interval; *df*, degrees of freedom.

patients refused to perform daily activities regularly due to fear of pain recurrence in the drug therapy group. The other limitation was no blindness in the involved groups.

## Conclusion

Reiki as one of the complementary methods can be used by nurses for managing pain and improving ADL. Reiki is a cost-effective, safe, and without known side effects can be used with other therapeutics. In future studies, blindness of study populations and adding a sham group as the control group is recommended.

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## Author Contributions

FJ and AA wrote the preliminary draft and contributed toward data gathering and first idea of starting this project. AA also performed the Reiki therapy. MF rewrote the draft and contributed toward writing the final version of the article. VE contributed toward data gathering, guidance, and correction of the article.


## Declaration of Conflicting Interests

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## ORCID iD

Abdolghani Abdollahimohammad, PhD  <http://orcid.org/0000-0002-7929-5539>

Mohammadreza Firouzkouhi, PhD  <http://orcid.org/0000-0002-5122-195X>

## Ethical Approval

Ethical approval (ZBMU.1.REC.1396.36) was obtained from the Ethical Committee of Zabol University of Medical Sciences, Zabol, Iran. Written consent was obtained through a cover letter before asking participants to fill in the questionnaires.

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