

## ORIGINAL RESEARCH ARTICLE

# The impact of Reiki practice on episiotomy recovery and perineal pain: A randomized controlled study

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## Abstract

Energy therapies are complementary methods focused on revealing the existing energy and restoring the individual's (recipient's) energy. The aim of this study was to investigate the impact of Reiki practice applied to postpartum women who had spontaneous childbirth without instrumental delivery on postpartum episiotomy recovery and perineal pain. The research was randomized controlled at a hospital in pre-test post-test design. 86 postpartum women in total were included in the research, (n=40) in intervention group and (n=46) in control group. On the postpartum 1st day, 2nd day, 7th day and 14th day, episiotomy recovery of the intervention and control group was assessed with REEDA Scale and perineal pain was assessed with Short Form McGill Pain Questionnaire. The three sessions of Reiki for 35-40 minutes were applied to intervention group on the postpartum 1st day, 2nd day and 7th day. (Clinical Trial Registry and Registration Number: NCT05486624). The REEDA Scale average oedema scores of the control group postpartum women were higher than intervention group. The control group had higher pain average than the intervention group. The Reiki applied to postpartum women who had spontaneous childbirth without instrumental delivery had a positive impact on episiotomy recovery due to its impact on oedema and it reduced perineal pain. (*Afr J Reprod Health 2024; 28 [7]: 35-46*).

**Keywords:** Episiotomy; perineal pain; postpartum women; Reiki; therapeutic touch

## Résumé

Les thérapies énergétiques sont des méthodes complémentaires axées sur la révélation de l'énergie existante et la restauration de l'énergie de l'individu (du destinataire). Le but de cette étude était d'étudier l'impact de la pratique du Reiki appliquée aux femmes en post-partum ayant eu un accouchement spontané sans accouchement instrumental sur la récupération par épisiotomie post-partum et les douleurs périnéales. La recherche a été randomisée et contrôlée dans un hôpital selon une conception pré-test et post-test. Au total, 86 femmes en post-partum ont été incluses dans la recherche, (n = 40) dans le groupe d'intervention et (n = 46) dans le groupe témoin. Les 1er, 2e, 7e et 14e jours post-partum, la récupération par épisiotomie du groupe d'intervention et du groupe témoin a été évaluée avec l'échelle REEDA et la douleur périnéale a été évaluée avec le questionnaire abrégé sur la douleur de McGill. Les séances d'arbres de Reiki pendant 35 à 40 minutes ont été appliquées au groupe d'intervention les 1er, 2e et 7e jours post-partum. (Registre des essais cliniques et numéro d'enregistrement : NCT05486624). Les scores moyens d'œdème sur l'échelle REEDA des femmes en post-partum du groupe témoin étaient plus élevés que ceux du groupe d'intervention. Le groupe témoin présentait une douleur moyenne plus élevée que le groupe d'intervention. Le Reiki appliqué aux femmes en post-partum ayant eu un accouchement spontané sans accouchement instrumental a eu un impact positif sur la récupération par épisiotomie en raison de son impact sur l'œdème et de la réduction des douleurs périnéales. (*Afr J Reprod Health 2024; 28 [7]: 35-46*).

**Mots-clés:** Épisiotomie; douleur périnéale; femmes en post-partum; Reiki; toucher thérapeutique

## Introduction

Energy therapies are complementary methods focused on revealing the existing energy and restoring the individual's (recipient's) energy.<sup>1</sup> Energy therapies such as Reiki are effective in increasing overall health, state of wellbeing and

immune system functions, accelerating wound healing and reducing fatigue and pain.<sup>2-6</sup> Reiki is reported to reduce stress, anxiety, fear, fatigue and acute and chronic pain; stabilize vital signs such as blood pressure, heart rate, respiratory rate; facilitate communication and wound healing and increase satisfaction, life quality and the sense of self.<sup>3</sup>

Reiki consists of the words Rei and Ki. Rei means “universal”; Ki means “spiritual life energy”<sup>7</sup> Reiki enables the practitioner to channel with the universal energy by easily integrating with the recipient’s body as a result of touching the chakras (energy centres) on the recipient’s body by hand.<sup>8</sup> Focused on bio-psycho-spiritual healing and energy chakras, Reiki regulates and balances the harmony between the mind, body and soul.<sup>2,9,10</sup> It is used in numerous fields such as oncology, cardiac diseases, intestinal diseases, infertility, acute-chronic pain, emotional problems, anxiety and fatigue.<sup>10</sup> The most distinct impact of Reiki is that it increases immunoglobulin A levels by increasing the activity of parasympathetic system and it allows relaxation by reducing the secretion of stress hormones such as cortisol.<sup>1</sup>

Episiotomy is performed in the second phase of delivery for easy ejection of the fetal head, shortening active phase of labour, ensuring quick and problem free labour, protecting anal sphincter and preventing fetal hypoxia, lacerations and perineum related problems.<sup>11-13</sup> The fact that episiotomy incision area, which may painful after labour, may cause infection with the risk of being contaminated with urine and stool, may have longer healing period and may be more feel pain.<sup>14,15</sup> Most of the postpartum women, especially within the first 24 to 48 hours postpartum, experience perineum pain after perineum injury and repair.<sup>16</sup> There are studies showing that Reiki reduces dysmenorrhea, pain in palliative patients and oncology patients.<sup>8,17-19</sup> This study was conducted because there was no study in the literature examining the effect of Reiki on perineal pain after episiotomy. The aim of the research was to assess the impact of Reiki practice, which is a non-invasive method, on episiotomy healing and perineal pain in postpartum women who had spontaneous childbirth without instrumental delivery. We aimed to answer the following hypotheses:

For incision healing;

H<sub>0</sub>: It has no effect on the healing of the episiotomy incision after Reiki.

H<sub>1</sub>: It has an effect on the healing of episiotomy incision after Reiki.

For perineal pain;

H<sub>0</sub>: There is no positive effect on the reduction of perineal pain during Reiki periods.

H<sub>1</sub>: It has a positive effect on reducing perineal pain during Reiki periods.

## Methods

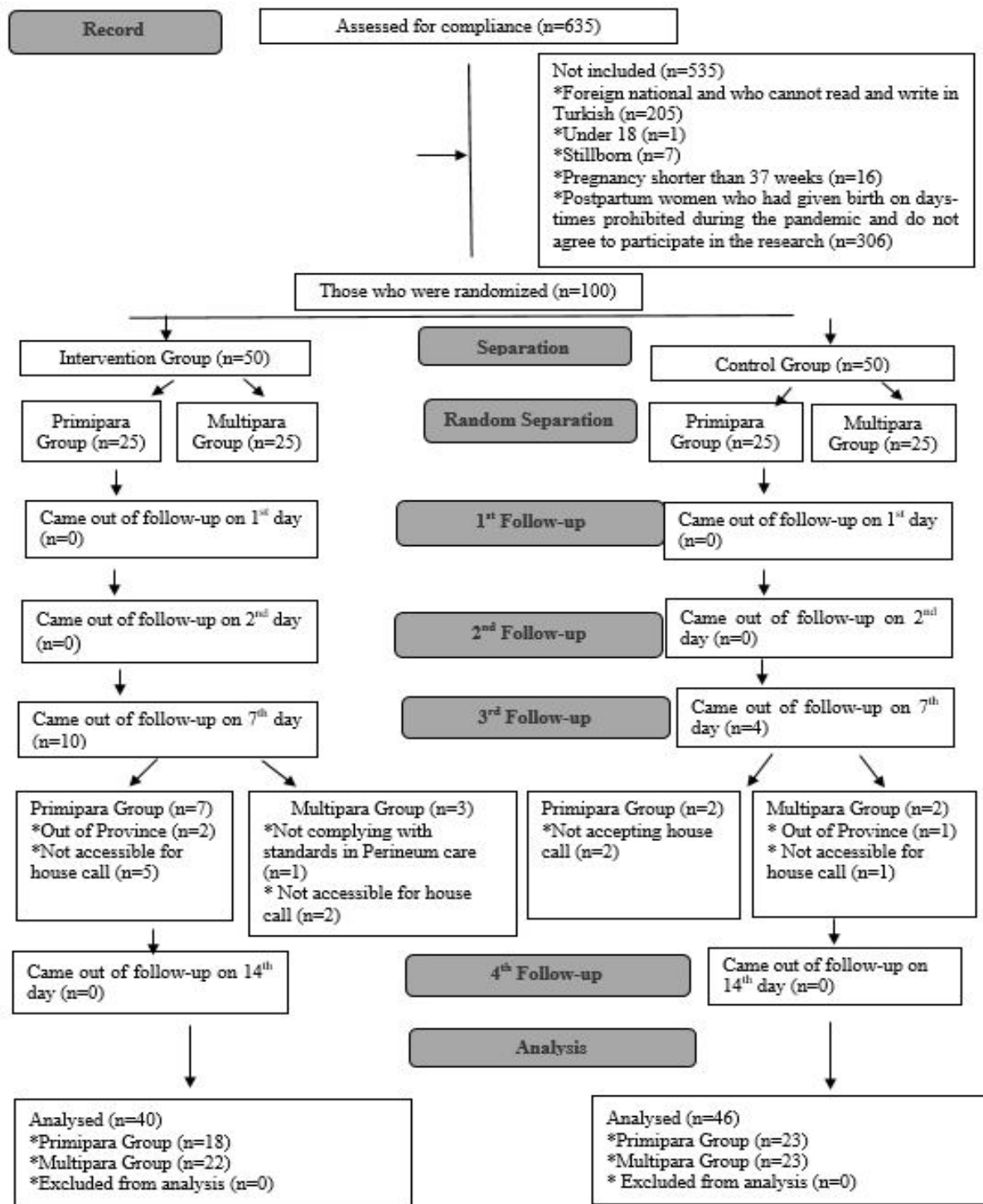
The research was randomized controlled in pre-test post-test design. This research was reported in accordance with CONSORT (Consolidated Standards of Reporting Trials) guidelines.

### Research participants

The smallest sample size that should be taken in the research was determined by making Power (Gpower) analysis under the repeated measurement variance analysis test for finding the significant difference between groups. In the analysis, 78 cases were found sufficient by taking  $\alpha=0.05$  and  $f=0.25$  (medium impact size) with 80% power. Taking follow-up loss into consideration, the number of samples was increased to 100. One hundred postpartum women were included in the research, 50 postpartum women in each group. Analysis power was checked again when the number of samples is 100 cases. The power of the study was calculated using “G. Power-3.1.9.2” software. As a result of the analysis applied to 86 people, 40 in Intervention Group (IG) and 46 in Control Group (CG), impact size was found as 0.7882 on  $\alpha= 0.05$  level and the power of the research which was calculated as post-hoc was calculated as 0.95.

Inclusion criterias were postpartum women who are 18 years old and older, not have risky pregnancy (no systemic disease, non-smoking, no complications after delivery), whose gestational weeks are 37-42 weeks, had single and alive spontaneous vaginal childbirth without instrumental, had mediolateral episiotomy, not have vaginal infection story, not use any medication, not have any laceration other than episiotomy (anal sphincter injury, 3rd degree perineum laceration), use only clean water in perineum care and make sure that it is kept dry.

Exclusion criterias: Postpartum women who had laceration other than episiotomy, do not meet the standard of using clean water for perineum care and keeping it dry (who applies different care or uses pharmacological products) and do not accept house call were excluded from the study. Out of 100 postpartum women who were included in the sample, house call could not be performed for 14 postpartum women in total in the 3rd follow-up and 4th follow-up as 8 were not accessible for house call, 3 were out of province on the day of house call,



**Figure 1:** CONSORT flow diagram

2 did not accept house call and 1 did not follow standards in perineum care. In the IG; ten postpartum women in total did not complete the research, 7 in primipara group and 3 in multipara

group. In the CG; 4 postpartum women in total did not complete the research, 2 in primipara group and 2 in multipara group. As a conclusion, the research was completed with (n=86) postpartum women in

total, (n=40) in IG and (n=46) in CG (Fig. 1). A pilot study was conducted with twelve postpartum women before the research. Postpartum women who were included in the pilot study was not included in the sample. Figure 1

### **Intervention and control group**

**The 1st Follow-up Pre-Test:** On the day when the postpartum women gave birth, by determining the time when analgesics were administered 4-6 hours after the delivery, if administered 4-6 hours after the administration, the questions in the Introductory Information Form were asked to the IG and CG by the researcher and the answers were recorded. In the assessment of REEDA Scale of the IG and CG, episiotomy area was observed and assessed by the researcher with a single-use paper measuring tape. Perineal pain of both groups was assessed with Short Form McGill Pain Questionnaire (SF-MPQ) and recorded by the researcher. IG and CG were given Episiotomy Care Training Brochure that contains information about episiotomy care and Follow-up Form that they will fill in for 14 days and that will be taken from them on the last follow-up.

**The 1st Follow-up (First Reiki Practice) Post-Test:** Right after the 1st follow-up pre-test, first practice of Reiki was applied to at IG the postpartum woman's hospital room for 35-40 minutes by the researcher who has Reiki certificate. Immediately after the Reiki practice, perineal pain of the IG and CG was assessed and recorded by the researcher with SF-MPQ.

**The 2nd Follow-up Pre-Test:** On the postpartum 2nd day (within 24 hours after labour, before discharge from the hospital), the time of analgesics administration was determined and if analgesics have had administered, 4-6 hours later, perineal pain of the IG and CG was assessed and recorded by the researcher with SF-MPQ.

**The 2nd Follow-up (Second Reiki Practice) Post-Test:** Right after the 2nd follow-up pre-test, second session of Reiki was applied to the IG at the hospital room for 35-40 minutes by the researcher. After the Reiki practice, episiotomy area was observed and assessed by the researcher using single-use paper measuring tape for measurement in assessment of REEDA Scale of the IG and CG. Perineal pain of both groups was assessed and recorded by the researcher using SF-MPQ.

**The 3rd Follow-up Pre-Test:** On the postpartum 7th day, postpartum women in IG and CG were called by the researcher on the phone one day before the assessment day and appointment was planned for house call. Postpartum women were visited at home on the assessment day and assessment was made in a suitable room considering the postpartum woman's privacy. Perineal pain of both groups was assessed and recoded by the researcher using SF-MPQ. (If the postpartum woman had analgesics, it was noted that assessment was made 4-6 hours later).

**The 3rd Follow-up (Third Reiki Practice) Post-Test:** Right after the 3rd follow-up pre-test, third session of Reiki was applied to the IG for 35-40 minutes by the researcher after assessments. Right after Reiki practice, REEDA Scale of IG and CG as well as the episiotomy area using single-use paper measuring tape and perineal pain with SF-MPQ were assessed and recorded by the researcher.

**The 4th Follow-up:** On the postpartum 14th day, postpartum women in IG and CG were called by the researcher on the phone one day before the assessment day and appointment was planned for house call. Postpartum women were visited at home on the assessment day and assessment was made in a suitable room considering the postpartum woman's privacy. Perineal pain of both groups was assessed and recoded by the researcher using SF-MPQ. REEDA Scale of the IG and CG as well as the episiotomy area using single-use paper measuring tape and perineal pain with SF-MPQ were assessed and recorded by the researcher. (If the postpartum woman had analgesics, it was noted that assessment was made 4-6 hours later). Follow-up Form that the postpartum women filled in for 14 days were taken back from the postpartum women. In total, 3 sessions of Reiki were applied to the IG by the researcher. Healing of episiotomy area of the IG and CG was assessed for 4 times and their perineal pain was assessed for 7 times in total. Privacy of the postpartum women was taken into consideration during the assessment stages of the episiotomy area.

### **Randomization**

In sample selection of the research, Simple Random Numbers Table was used as randomization method. Among the postpartum women who met the first

inclusion criteria, those who agreed to participate in the study were included in the randomization practice. Then, randomly sorted algorithm was created in total number of 100 samples in maximum allowed percentage, in 10% deviation rate.<sup>20-22</sup> In the algorithm, for both groups 50 samples in each (postpartum) group were sorted randomly up to 100 as A and B. IG was taken as A, CG was taken as B. The sample taken according to the order on the list on data collection days were accepted as group A or B. Each sample group of 50 samples were divided into two groups of 25 samples without randomization in terms of equity according to number of deliveries. 2 groups were created as 25 postpartum women in primipara group and 25 postpartum women in multipara group. As the numbers in multipara group were completed earlier than the primipara group in the research, multiparas were not taken and sampling continued when the number of primipara group was completed.

### ***Trial design***

On the 1st day of delivery, Introductory Information Form was used in the IG and CG with face-to-face interview with postpartum women at the hospital. REEDA Scale, SF-MPQ were used in both groups on postpartum 1st day, 2nd day, 7th day and 14th day. Both groups were given Episiotomy Care Training Brochure and Follow-up Form that they will fill in for 14 days and that will be taken back from them during the last follow-up on the postpartum 1st day. IG and CG were assessed at the hospital on the 1st and 2nd day and with house calls on the 7th and 14th day. Records of the forms were filled in by the researcher. Data collection period was approximately 15 minutes for CG and approximately 50-55 minutes for intervention group.

### ***Introductory information form***

Introductory Information Form, which consists of 32 questions involving information regarding socio-demographic features of the postpartum women, factors effective on wound recovery, obstetric features and hygiene features, was used for data collection.<sup>12,13,23</sup>

### ***REEDA Scale***

REEDA Scale was used by Davidson in 1974.<sup>24</sup> Turkish validity and reliability study was conducted

The impact of Reiki on episiotomy and perineal pain

by Üstünsöz (1996). The scale includes five factors that show perineal recovery; rash, oedema, ecchymosis, discharge, approximation of wound edges. Each recovery factor is assessed by giving 0, 1, 2 and 3 points. Sum of the points obtained as a result of assessment of five categories constitute the REEDA score. The lowest score on the scale is 0 and the highest score is 15. The highest score on the scale indicates severe perineal trauma.<sup>25</sup>

### ***Short form mcgill pain questionnaire (SF-MPQ)***

Developed by Melzack (1987), SF-MPQ gives information about the severity and impact of the pain<sup>26</sup>. Turkish validity and reliability done by Yakut et al. (2007), SF-MPQ has three parts. In the first part, there are expressions containing features of pain with 15 descriptive words. Descriptive words in this part are assessed on a density scale between 0 and 3 (0 = none, 1= Mild, 2= Moderate, 3= Severe). Three pain scores are obtained in the first part; emotional pain score, perceptive pain score and total pain score. Emotional pain score is between 0-33 points, perceptive pain score is between 0-12 points and total pain score is between 0-45 points. Increasing score indicates that pain increases as well. In the second part; there are five word groups varying between “mild pain” and “unbearable pain” to determine the severity of pain. In the third part; intensity of the pain is assessed using a visual comparison scale between 0-10. Cronbach's alpha of the scale is 0.705 and it is 0.713 for re-test [27]. In this research, Cronbach's alpha of SF-MPQ was found as 0.881. In the research, postpartum women were asked to mark the “current pain intensity visual comparison scale” in the third part of SF-MPQ themselves. After marking, it was measured with a ruler and pain intensity was written down.

### ***Episiotomy care training brochure***

It is the training brochure that contains information to be noted in episiotomy care and episiotomy recovery which was prepared by examining the related literature.<sup>28,29</sup> Episiotomy Care Training Brochure was given to the IG and CG during the first follow-up. IG and CG was not given any information other than those in the training brochure to ensure the standards in episiotomy care.

### **Follow-up form**

It is a form with which 14-day follow-up of postpartum women is done. The form contains information that questions analgesics use, number of analgesics taken if any, the time between analgesics, name-dose of the analgesics, breastfeeding the baby, frequency of breastfeeding, giving water/supplementary food to the baby and making any practice in episiotomy care other than water. It is given to the IG and CG during the first follow-up and taken back during the 4th follow-up.

### **Statistical analysis**

The data obtained in the research was assessed using Statistical Package for Social Sciences (SPSS) for Windows 25.0. During data assessment, descriptive statistical methods; number, percentage, average, standard deviation were used. Compliance of the data used with normal distribution was tested. Compliance for normal distribution can be examined with Q-Q Plot drawing.<sup>30</sup> The fact that the data used shows normal distribution depends on the fact that skewness and kurtosis values are between  $\pm 3$ .<sup>31</sup>

Independent t-test was conducted for the difference between two independent groups for comparison of quantitative data in the data with normal distribution; variance analysis was implemented in repeated measurements for comparison of dependent stages more than two and Bonferroni was used for finding the time that creates difference in the cases where difference is found. Variance analysis was used in repeated measurements to assess in groups (in terms of group\*time interaction). To test the significance of the difference between 2 averages obtained from two correlated samples, dependent t-test, which is the parametric test, was used. Chi-square analysis was implemented to test the correlation between categorical variables.

### **Ethics**

Before the study at the hospital, ethics committee approval (No: 99166796-050.06.04) was taken from Ege University Medicine Faculty Dean's Office Medical Research Ethics Committee and institution approval was taken from Kırsehir Governorate Provincial Directorate of Health

Kırsehir Public Hospitals Services Unit (No: 42884709-806.99). Research data was collected with postpartum women between September 2020 – June 2021 at Kırsehir Ahi Evran University Training and Research Hospital Postpartum Service. The aim and content of the research was explained to the postpartum women verbally. Also, verbal and written consent were taken from the postpartum women using Informed Volunteer Consent Form, REEDA Scale and Short Form McGill Pain Questionnaire written permission for use was obtained from the authors. Postpartum women were informed that they have the right to leave the study anytime they want (Clinical Trial Registry and Registration Number: NCT05486624).

## **Results**

### **Fundamental features of the two groups**

The research was conducted with postpartum women (n=86) who had spontaneously childbirth. In the sociodemographic and obstetric features indicated in Table 1, there was no significant difference between the IG and CG ( $p > 0.05$ ).

### **The impact of reiki practice on episiotomy recovery**

In the follow-up with the postpartum women on the postpartum 14th day, there was a significant difference between REEDA Scale oedema average scores ( $p < 0.05$ ); 3rd follow-up (7th day) post-test ( $p = 0.028$ ) and 4th follow-up (14th day) ( $p = 0.013$ ). The REEDA Scale oedema average scores of postpartum women in CG were higher than IG (Table 2). The REEDA scale oedema average score on the 3rd follow-up (7th day) in the post-test was 0.20 in IG and 0.40 in CG. While oedema average score was 0.07 in the IG on the 4th follow-up (14th day), it was 0.26 in CG. Results indicated that oedema average score was higher in CG.

Variance analysis was used in repeated measurements to assess the IG and CG (in terms of group\*time interaction) in 1st, 2nd, 3rd and 4th follow-up measurements of REEDA Scale oedema average scored. As a result of the analysis, group time interactions were not found significant ( $F = 0.618$ ) ( $p > 0.05$ ). The difference between groups was found significant ( $F = 5.462$ ) ( $p < 0.05$ ).

**Table 1:** Sociodemographic and obstetric features of the intervention and control group

Variables		Intervention Group (n=40)		Control Group (n=46)		$\chi^2 / t$	p
		n/Mean	%/SD	n/Mean	%/SD		
State	Primipara	18	45.0	23	50.0	0.214	0.643 <sup>a</sup>
	Multipara	22	55.0	23	50.0		
Age	18-24	17	42.5	20	43.5	0.098	0.952 <sup>a</sup>
	25-31	15	37.5	18	39.1		
Education Status	32 years and over	8	20.0	8	17.4	2.533	0.469 <sup>a</sup>
	Primary School	2	5.0	6	13.0		
	Elementary School	7	17.5	10	21.7		
	High School	20	50.0	17	37.0		
Spouse's Education Status	Bachelor's Degree and higher	11	27.5	13	28.3	7.038	0.071 <sup>a</sup>
	Primary School	1	2.5	7	15.2		
	Elementary School	8	20.0	14	30.4		
	High School	14	35.0	14	30.4		
Work Status	Bachelor's Degree and higher	17	42.5	11	23.8	0.039	0.843 <sup>a</sup>
	Yes	8	20.0	10	21.7		
Workplace	No	32	80.0	36	78.3	2.306	0.316 <sup>a</sup>
	Public Institution	3	37.5	6	60.0		
	Private sector	5	62.5	3	30.0		
Social Security Status	Marginal-uninsured	0	0.0	1	10.0	0.702	0.402 <sup>a</sup>
	Yes	37	92.5	40	87.0		
Monthly Income Status	No	3	7.5	6	13.0	1.644	0.440 <sup>a</sup>
	Income less than outcome	5	12.5	8	17.4		
	Income equal outcome	32	80.0	37	80.4		
Pregnancy Planned?	Income more than outcome	3	7.5	1	2.2	0.042	0.837 <sup>a</sup>
	Yes	27	67.5	32	69.6		
Newborn Gender	No	13	32.5	14	30.4	0.040	0.841 <sup>a</sup>
	Male	20	50.0	24	52.2		
Gestational Week	Female	20	50.0	22	47.8	1.538	0.128 <sup>b</sup>
		39.40	1.21	39.00	1.19		
Newborn weight (grams)		3302.60	480.16	3207.17	396.16	1.010	0.316 <sup>b</sup>
Duration of Labour	Delivery Room	120.75	101.87	94.67	57.83	1.484	0.142 <sup>b</sup>
	Obstetrical Table	32.50	11.87	36.84	14.58		

<sup>a</sup> Chi-square test. <sup>b</sup> Independent t-test

Differences between the averages within group were found significant compared to time (F=8.888) (p<0.05).

There was not a significant difference between REEDA Scale rash, oedema, ecchymosis, discharge, approximation of wound edges and total average scores in the IG and CG (p>0.05). Furthermore, it was found that there was not a significant difference between the REEDA Scale total average scores between primipara and multipara groups of both groups (p>0.05).

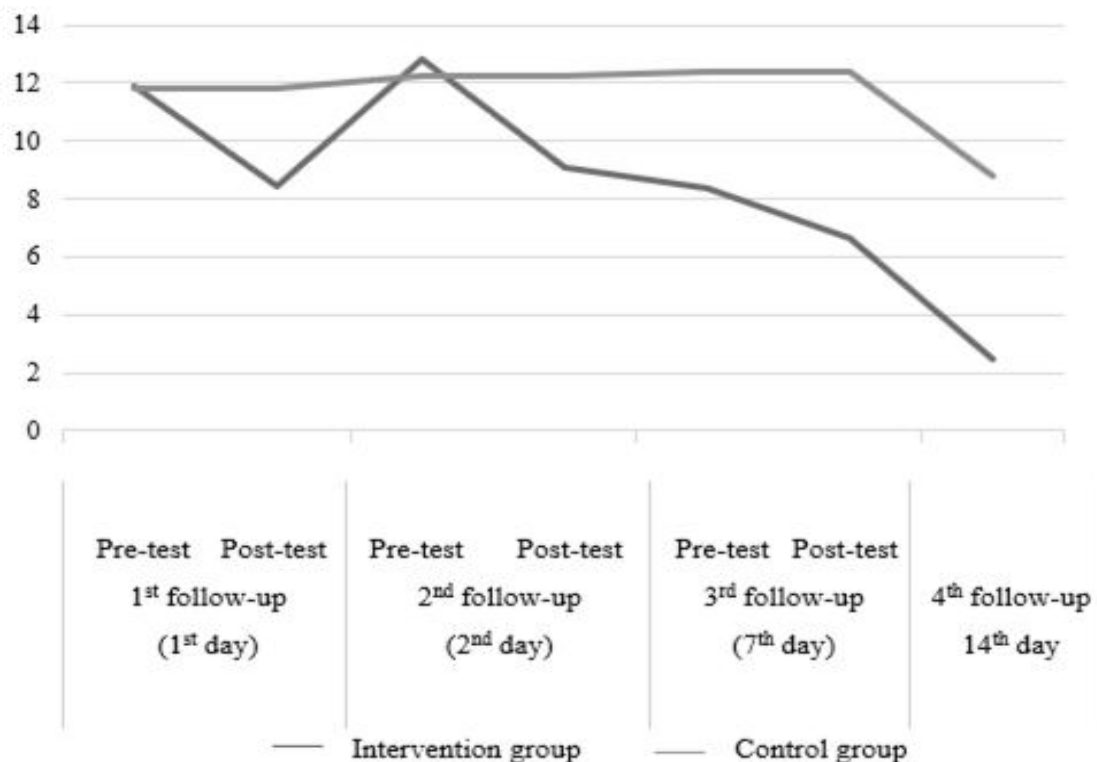
### ***The impact of reiki practice on perineal pain***

There was a significant difference between the 3rd follow-up (7th day) post-test son test (p= 0.005) and 4th follow-up (14th day) (p= 0.001) SF-MPQ total pain score average scores of the IG and CG (Table 3) (Figure 2). The 3rd follow-up (7th day) and 4th follow-up (14th day) SF-MPQ total pain score average scores of the CG were higher than the IG. It was found that there was a significant difference between SF-MPQ total pain score average scores of

**Table 2:** Comparison of episiotomy area REEDA scale oedema average scores of the intervention and control group according to follow-up frequency

Follow-up Frequency		Groups				Test Statistics Among Groups		Model Statistics		
		Intervention (n=40)		Control (n=46)		t	p	Impact Source	F	p
		Mean	SD	Mean	SD					
1 <sup>st</sup> follow-up	Pre-test	0.42	0.50	0.52	0.54	-0.850	0.397	Group	5.462	<b>0.022</b>
2 <sup>nd</sup> follow-up	Post-test	0.35	0.48	0.50	0.54	-1.338	0.185	Time	8.888	<b>0.000</b>
3 <sup>rd</sup> follow-up	Post-test	0.20	0.40	0.43	0.54	-2.242	<b>0.028</b>	Group x Time	0.618	0.604
4 <sup>th</sup> follow-up	In-group	0.07	0.26	0.30	0.51	-2.552	<b>0.013</b>			
Bonferroni		<b>F=7.827, p=0.000*</b>		<b>F=2.484, p=0.064*</b>						
		<b>1&gt;2</b>		<b>-</b>						

t: Independent t-test, F: Variance analysis in repeated measurements  
 Reiki was implemented to the intervention group in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> follow-up frequency.  
 Reiki was not implemented to the intervention group in 4<sup>th</sup> follow-up frequency.



**Figure 2:** SF-MPQ total pain score average scores



**Table 3:** Comparison of sf-mpq total pain score average scores of intervention and control group according to follow-ups

Total Pain Score		Intervention Group (n=40)		Control Group (n=46)		t*	P
Follow-up Frequency		Mean	SD	Mean	SD		
1 <sup>st</sup> follow-up	Pre-test	11.90	7.13	11.82	9.69	0.040	0.968
	Post-test	8.42	7.80	11.82	9.69	-1.774	0.080
Test value		t=4.002***	<b>p=0.000</b>	-			
2 <sup>nd</sup> follow-up	Pre-test	12.85	7.52	12.28	9.96	0.294	0.769
	Post-test	9.07	8.40	12.28	9.96	-1.599	0.113
Test value		t=3.619***	<b>p=0.001</b>	-			
3 <sup>rd</sup> follow-up	Pre-test	8.40	7.46	12.41	10.67	-1.991	0.050
	Post-test	6.65	7.13	12.41	10.67	-2.897	<b>0.005</b>
Test value		t=2.406***	<b>p=0.021</b>	-			
4 <sup>th</sup> follow-up	Pre-test	2.47	3.70	8.80	11.20	-3.412	<b>0.001</b>
	Post-test	6.65	7.13	12.41	10.67	-2.897	<b>0.005</b>
Test Value		14.075**		2.178**			
P		<b>0.000</b>		<b>0.045</b>			
Bonferroni		1.-2.-3.>4.		3.>4.			
		1 <sup>st</sup> pre-test>3 <sup>rd</sup> post-test					
		2 <sup>nd</sup> pre-test>3 <sup>rd</sup> post-test					

\*Independent t-test, \*\*Variance analysis in repeated measurements, \*\*\*Dependent t-test  
 Reiki was implemented to the intervention group in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> follow-up frequency.  
 Reiki was not implemented to the intervention group in 4<sup>th</sup> follow-up frequency.

the IG in 4 follow-ups (p=0.000). In the IG, it was found that 1st (first day), 2nd (2nd day) and 3rd follow-up (7th day) SF-MPQ total pain score average scores were higher than 4th follow-up (14th day) average score; 1st follow-up (first day) pre-test and 2nd follow-up (2nd day) pre-test SF-MPQ total pain score average scores were higher than 3rd follow-up (7th day) post-test average score. Furthermore, it was detected that there is a significant correlation between pre-test and post-test in the first 3 follow-ups before and after Reiki practice (p<0.05). While SF-MPQ total pain score average score was 11.90 in the 1st follow-up (first day) pre-test; it was 8.42 in 1st follow-up post-test (p=0.000); while it was 12.85 in the 2nd follow-up (2nd day) pre-test; it was 9.07 in the 2nd follow-up post-test (p=0.001); while it was 8.40 in the 3rd follow-up (7th day) pre-test, it was 6.65 in the 3rd follow-up post-test (p=0.021).

It was identified that there was a significant difference between SF-MPQ total pain score average scores of the CG in 4 follow-ups (p=0.045); 3rd follow-up (7th day) SF-MPQ total pain score average score was higher than 4th follow-up (14th day) average score. Furthermore, it was found that there was not significant difference between IG and CG's analgesics use, number of analgesics taken,

the time between analgesics, name of the analgesics, breastfeeding the baby, frequency of breastfeeding and giving water/supplementary food to the baby in 4 follow-ups in 14-day follow-up (p>0.05).

## Discussion

To the best of our knowledge, this research is the first randomized controlled study that assesses episiotomy recovery and perineal pain. Reiki practice enabled recovery by reducing oedema in the episiotomy area and reduced perineal pain. This study can only be generalized to the sample of women whose data were collected and who gave birth.

It is required to make perineal recovery assessment within 24 hours after delivery.<sup>32</sup> The High REEDA Scale score indicates the severity of perineal trauma. In this research, 3rd follow-up (7th day) post-test and 4th follow-up (14th day) REEDA Scale oedema average scores of the postpartum women in CG were higher than IG less oedema in the episiotomy area in IG will enable quick recovery by providing a positive impact on episiotomy recovery. There are studies on the impact of therapeutic touch on wound healing in the

literature.<sup>33</sup> In the literature review, 4 studies have been found on the impact of therapeutic touch on acute wound healing in Cochrane.<sup>34-37</sup> It was determined that therapeutic touch was effective on wound recovery in 2 studies.<sup>34,35</sup> It had negative impact in 1 study.<sup>37</sup> It was not effective in 1 study.<sup>36</sup> Lack of study was detected in the literature that investigate the impact of Reiki practice on episiotomy recovery. When the studies on episiotomy recovery in the literature are reviewed, it was seen that various practices were conducted. It was identified that lavender oil was effective on episiotomy recovery.<sup>38</sup> In a study, it was seen that 1.2% of the postpartum women had rash, 1.2% had oedema and 2.4% had discharge in the episiotomy area.<sup>13</sup> It was reported that infrared lamp practice was effective on episiotomy recovery.<sup>39</sup> It was found that lavender-thyme oil mixture was effective on episiotomy recovery.<sup>40</sup> It was reported that using a cream containing horsetail plant in episiotomy care was effective on episiotomy recovery.<sup>41</sup> It was stated that using capsules containing pineapple was effective on episiotomy recovery.<sup>42</sup> It was reported that betadine was more effective than normal saline for reducing episiotomy wound recovery.<sup>43</sup> It was detected that sitz bath was effective on episiotomy wound recovery process.<sup>44</sup> In the studies conducted, it is seen that various nonpharmacological methods were used in episiotomy recovery and they have been effective.

Perineal pain must be assessed in the 24 hours after the delivery.<sup>32</sup> SF-MPQ total pain scores of the CG on the 3rd (7th day) and 4th follow-up (14th day) was higher than IG. In the 1st (first day), 2nd (2nd day) and 3rd follow-up (7th day) SF-MPQ total pain score average scores, pre-test scores were found higher than post-test scores. According to the results, we can tell those 3 sessions of Reiki practice reduced perineal pain in the IG. It is thought that Reiki practice is an effective method for reducing perineal pain. No study was identified in the literature that investigates the impact of Reiki practice on perineal pain. However, there is a study in the literature that investigates the impacts of Reiki on any pain in the women due to antepartum, intrapartum, postpartum, gynaecological and oncological reasons. In the study in the literature, it was reported that pain was reduced in 92.0% of the women and pain score reduced from 3.24 to 1.52 with Reiki practice.<sup>8</sup>

There is study reporting that Reiki practice reduces pain levels in study carried out with different sample groups. It was reported that Reiki implemented after c-section reduces pain.<sup>45</sup> In a study investigating the effects of yoga, massage and Reiki services applied in a cancer resource centre on patients' feelings of personal well-being it was determined that while the pain score, which was assessed with 10-point Likert scale, was 4.24 in the Reiki group before Reiki practice, it was 1.62 after the practice and it reduced the pain.<sup>46</sup> In a study carried out on patients who had total knee arthroplasty, it was reported that Reiki practice reduced post-operative pain.<sup>47</sup> In a different study carried out with patients who had knee prosthesis surgery, it was found that Reiki reduces pain.<sup>48</sup> It was found that Reiki reduces saphenous vein incision pain on sensory quality.<sup>49</sup> There are results in which Reiki was also effective in various studies on pain. In a study, it was detected that Reiki reduces pain in oncology patients as well.<sup>18</sup> It was reported that Reiki implemented to adolescents with dysmenorrhea was effective on reducing pain.<sup>19</sup> Research results in the literature are similar to our research result. Reiki is a method used for reducing pain.<sup>49-50</sup> As in our study, the effects of Reiki on pain are also seen in studies in the literature.

There is study showing that Reiki is not effective on pain as well. It was found that Reiki implemented to the recipient remotely does not have a significant effect on pain after c-section.<sup>51</sup> In another study with Reiki, it was determined that there is no difference between the pain scores on 2nd, 8th, 14th and 20th hours when the postoperative pain of the women and men who had impacted wisdom teeth operation is compared.<sup>52</sup> It can also be seen that Reiki has no effects on pain. The impact of Reiki on episiotomy recovery and perineal pain in the postpartum period is assessed and it is thought that it is a complementary energy therapy that can be used for reducing eliminating perineal pain due to both episiotomy and labour in the postpartum period.

## Conclusion

As a result of the research, it was detected that Reiki implemented to the postpartum women who had spontaneous childbirth without instrumental

delivery has a positive impact on episiotomy recovery due to its effect on oedema. Furthermore, it was identified that Reiki reduces perineal pain in postpartum women. In accordance with the research result, the number of randomized controlled studies in which Reiki's impacts on women's health should be increased. It might be recommended that studies in which Reiki are combined and compared with various nonpharmacological methods are carried out.

## Author contributions

Concept-H.A., N.S.; Design-H.A., N.S.; Supervision-H.A., N.S.; Resources-H.A., N.S.; Materials-H.A., N.S.; Data Collection and/or Processing-H.A.; Analysis and/or Interpretation-H.A.; Literature Search-H.A., N.S.; Writing Manuscript-H.A., N.S.; Critical Review-H.A., N.S., M.K.; Other-H.A., N.S., M.K.

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## Conflict of interest

All authors declare no conflict of interest.

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