A Experimental Study to Evaluate the Effectiveness of Reiki Therapy on Physiological Parameters and Anxiety Among Patients with Hypertension Admitted at NMCH, Jamuhar, Rohtas, Bihar

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***Abstract*— (BACKGROUND OF THE STUDY)**
Background and Purpose of the Study: Hypertension is a major non-communicable disease and is frequently accompanied by anxiety and increased cardiovascular reactivity. Reiki is described in the source dissertation as a gentle, non-invasive complementary intervention intended to promote relaxation and support physiological and psychological well-being.
Objectives: (1) To assess and compare the pre-test and post-test levels of physiological parameters and anxiety between the study and control groups; (2) to determine the effectiveness of Reiki therapy on physiological parameters and anxiety in the study group; (3) to correlate physiological parameters with anxiety in the study and control groups; and (4) to associate the outcome variables with selected socio-demographic and clinical variables.
Methods: A true experimental pre-test post-test control group design was used. Sixty patients with hypertension were selected and randomly allocated to a study group (n=30) and control group (n=30). The study group received Reiki therapy for 20–30 minutes daily for seven days in addition to routine nursing care, while the control group received routine nursing care. Physiological parameters included systolic blood pressure, diastolic blood pressure, heart rate and respiratory rate. Anxiety was assessed using the Hamilton Anxiety Rating Scale (HAM-A).
Data Analysis: Frequency, percentage, mean, standard deviation, paired t-test, independent t-test, correlation coefficient and chi-square test were used according to the objectives.
Results: The study group demonstrated statistically significant reductions in systolic blood pressure, diastolic blood pressure, heart rate, respiratory rate and anxiety after Reiki therapy (all $p<0.001$). Post-test values were also significantly lower in the study group than in the control group (all $p<0.001$). Significant positive correlations were observed between anxiety and all four physiological parameters in the study group. No statistically significant association was reported between the outcome variables and the selected socio-demographic variables in either group.
Discussion: The findings indicate that Reiki therapy was associated with improvement in physiological parameters and anxiety among patients with hypertension. The intervention may be considered a complementary, non-invasive nursing intervention alongside routine medical care.

***Index Terms*—Hypertension, Reiki therapy, Physiological parameters, Anxiety, HAM-A.**

I. INTRODUCTION

Hypertension is a common chronic condition characterized by persistently elevated blood pressure and is a major risk factor for cardiovascular disease, stroke and kidney disease. The source dissertation identifies hypertension as a major public health concern and highlights the coexistence of anxiety with physiological instability among hospitalized patients.

Reiki is presented as a non-invasive complementary therapy involving the transfer of universal life energy through the hands of a trained practitioner. The dissertation proposes that relaxation and parasympathetic activation may contribute to reductions in blood pressure, heart rate, respiratory rate and anxiety.

The present study was conducted at Narayan Medical College and Hospital (NMCH), Jamuhar, Rohtas, Bihar, using a true experimental pre-test post-test control group design with 60 patients. The study group received Reiki therapy for 20–30 minutes daily for seven days, while the control group received routine nursing care.

II. NEED OF THE STUDY

Hypertension is associated with physiological instability and may coexist with anxiety, which can influence cardiovascular responses and overall well-being. A complementary nursing intervention that is non-invasive and simple to administer may support relaxation while patients continue conventional medical management.

The present study therefore evaluated Reiki therapy in relation to systolic blood pressure, diastolic blood pressure, heart rate, respiratory rate and anxiety among patients with hypertension admitted at NMCH, Jamuhar, Rohtas, Bihar.

TITLE OF STUDY

A study to evaluate the effectiveness of Reiki therapy on physiological parameters and anxiety among patients with hypertension admitted at NMCH, Jamuhar, Rohtas, Bihar.

III. OBJECTIVES

1. To assess and compare the pre-test and post-test level of physiological parameters and anxiety among the patients with hypertension between the study and control group.
2. To determine the effectiveness of Reiki therapy on the level of physiological parameters and anxiety among patients with hypertension in the study group.
3. To correlate the pre-test and post-test level of physiological parameters with anxiety among patients with hypertension in the study group and control group.
4. To associate the pre-test and post-test level of physiological parameters and anxiety among patients with hypertension with their socio-demographical and clinical variables in the study and control group.

HYPOTHESIS

- RH_1: There is a significant difference in the pre-test and post-test level of physiological parameters and anxiety between the study group and control group.
- RH_2: There is a significant difference between the pre-test and post-test level of physiological parameters and anxiety among patients with hypertension in the study group.
- RH_3: There is a significant correlation between the level of physiological parameters and anxiety among patients with hypertension in the study group and control group.
- RH_4: There is a significant association between the level of physiological parameters and anxiety among patients with hypertension and their socio-demographic and clinical variables in the study and control groups.

ASSUMPTION

- Reiki therapy may have a calming and healing effect that can influence physiological parameters and reduce anxiety.
- Participants respond honestly and accurately to the anxiety assessment tool.
- The selected physiological parameters are valid indicators of physical responses to Reiki therapy.
- The environment during Reiki therapy remains calm and reasonably consistent.

DELIMITATION

- The study was conducted within the specified data-collection period.
- The study was limited to patients with hypertension admitted to or attending NMCH, Jamuhar, Rohtas, Bihar.
- Only selected physiological parameters and anxiety were assessed.
- Reiki therapy was administered for a specified session duration and intervention period.

CONCEPTUAL FRAMEWORK

The study was guided by Wiedenbach's Helping Art of Clinical Nursing Theory. The framework emphasizes identifying the patient's need for help, providing purposeful nursing action and evaluating whether the desired outcome has been achieved. In the present study, the patient represented the recipient, Reiki therapy represented the purposeful

nursing intervention, and changes in physiological parameters and anxiety represented the outcomes to be evaluated.

- Agent: The researcher served as the helping agent by assessing the patients, identifying physiological and psychological needs, administering Reiki therapy and evaluating outcomes.
- Recipient: The recipients were patients diagnosed with hypertension who experienced elevated physiological parameters and anxiety.
- Goal: The goals were to reduce systolic and diastolic blood pressure, decrease heart rate and respiratory rate, reduce anxiety and promote relaxation.
- Means: Reiki therapy was used as the complementary nursing intervention in addition to routine nursing care.
- Framework: The intervention was implemented among hypertensive patients admitted at NMCH, Jamuhar, Rohtas, Bihar.
- Evaluation: Pre-test and post-test physiological parameters and anxiety scores were compared to determine whether the intended outcomes were achieved.

IV. METHODOLOGY

Research Approach: An evaluative quantitative approach was used to assess the effect of Reiki therapy on physiological parameters and anxiety.

Research Design: A true experimental pre-test post-test control group design was adopted, involving random allocation, manipulation of the independent variable and a control group.

Schematic Representation of Research Design

Group	Pre-test	Intervention	Post-test
Study group (n=30)	O_1	Reiki therapy (20–30 min daily × 7 days)	O_2
Control group (n=30)	O_1	Routine nursing care	O_2

E = Experimental/study group; C = Control group; O_1 = Pre-test; X = Administration of Reiki therapy in study group among patients with hypertension; O_2 = Post-test.

Variables

- Dependent Variables: Physiological parameters and anxiety among patients with hypertension.
- Independent Variable: Reiki therapy.
- Socio-Demographic Variables: Age, gender, education, occupation, religion, monthly family income, marital status and dietary pattern.
- Clinical Variables: Duration of hypertension, antihypertensive medication, family history of hypertension and history of hypertensive crisis.

Setting of the Study

The main study was conducted at Narayan Medical College and Hospital (NMCH), Jamuhar, Rohtas, Bihar. A pilot study was conducted at Sadar Hospital, Sasaram to assess the feasibility of the research tools and procedure.

Population

The target population consisted of patients diagnosed with hypertension. The accessible population comprised eligible hypertensive patients admitted to or attending NMCH during the data collection period.

Sample

The sample consisted of 60 patients with hypertension who fulfilled the inclusion criteria.

Sampling Technique

Random sampling using the lottery method was used for allocation of participants into the study and control groups.

Sample Size

The total sample size was 60: 30 participants in the study group and 30 participants in the control group.

Sampling Criteria

Inclusion Criteria

- Patients diagnosed with hypertension and receiving treatment.
- Patients willing to participate in the study.
- Patients available during the period of data collection.
- Patients able to understand the study instructions and provide informed consent.

Exclusion Criteria

- Patients with critical medical instability requiring immediate emergency management.
- Patients unable to participate in the assessment or intervention.
- Patients unwilling to provide informed consent.

Instrument of Data Collection

- Tool I: Structured interview schedule for socio-demographic variables.
- Tool II: Structured clinical variable proforma.
- Tool III: Physiological parameter recording sheet for systolic and diastolic blood pressure, heart rate and respiratory rate.
- Tool IV: Hamilton Anxiety Rating Scale (HAM-A) for assessment of anxiety.

Content Validity

Content validity was established by submitting the tool to ten experts, including nursing and medical professionals. Suggestions were incorporated to improve clarity, relevance and comprehensiveness.

Reliability

The dissertation report's reliability assessment of the instruments before the main study. The HAM-A reliability was reported within the range 0.74–0.96, and test-retest procedures were used for physiological measurements.

Pilot Study

A pilot study was conducted at Sadar Hospital, Sasaram. Six participants were selected and divided into study and control groups. The pilot study demonstrated the feasibility of the data collection procedure and intervention protocol.

V. DATA COLLECTION

Permission was obtained from the concerned institutional authorities.

The researcher introduced herself to the participants and explained the purpose of the study.

Written informed consent was obtained.

Pre-test assessment of physiological parameters and anxiety was conducted.

Reiki therapy was administered to the study group for 20–30 minutes daily for seven days.

The control group received routine nursing care.

Post-test assessment was conducted after seven days using the same assessment tools.

INTERVENTION

Protocol for Reiki Therapy

- Reiki therapy was administered to the study group for 20–30 minutes daily for seven days in addition to routine nursing care.
- The control group received routine nursing care without Reiki therapy.
- Pre-test measurements were obtained before intervention and post-test measurements were obtained after completion of the seven-day intervention period.
- Physiological parameters assessed were systolic blood pressure, diastolic blood pressure, heart rate and respiratory rate; anxiety was assessed using HAM-A.

DATA ANALYSIS

Frequency and percentage were used for socio-demographic and clinical variables. Mean and standard deviation were used for physiological parameters and anxiety. Paired t-test was used for pre-test and post-test comparison within groups; independent/unpaired t-test was used for between-group comparison; correlation coefficient was used to examine the relationship between physiological parameters and anxiety; and chi-square test was used to determine association with selected variables.

The level of significance was set at $p < 0.05$.

Ethical Consideration

Written permission was obtained from the concerned authorities and informed consent was obtained from all participants. Confidentiality and privacy were maintained throughout the study. Participation was voluntary and participants were informed of their right to withdraw.

VI. RESULT

Table 1: Distribution of Socio-Demographic Variables in Terms of Frequency and Percentage of Patients with Hypertension (Study and Control Group) (N = 60)

Demographic Variable	Category	Study Group f (%)	Control Group f (%)	Total f (%)
Age (years)	30–40	8 (26.7)	7 (23.3)	15 (25.0)
	41–50	10 (33.3)	8 (26.7)	18 (30.0)
	51–60	6 (20.0)	9 (30.0)	15 (25.0)
	61–70	6 (20.0)	6 (20.0)	12 (20.0)
Gender	Male	19 (63.3)	16 (53.3)	35 (58.3)
	Female	11 (36.7)	14 (46.7)	25 (41.7)
	Transgender	0 (0)	0 (0)	0 (0)
Religion	Hindu	4 (13.3)	7 (23.3)	11 (18.3)

Demographic Variable	Category	Study Group f (%)	Control Group f (%)	Total f (%)
	Muslim	6 (20.0)	5 (16.7)	11 (18.3)
	Christian	7 (23.3)	6 (20.0)	13 (21.7)
	Others	13 (43.3)	12 (40.0)	25 (41.7)
Marital Status	Single	13 (43.3)	10 (33.3)	23 (38.3)
	Married	8 (26.7)	8 (26.7)	16 (26.7)
	Divorced	9 (30.0)	12 (40.0)	21 (35.0)
Education	Professional degree	3 (10.0)	3 (10.0)	6 (10.0)
	Graduate/Postgraduate	2 (6.7)	2 (6.7)	4 (6.7)
	Intermediate	5 (16.7)	4 (13.3)	9 (15.0)
	High school	3 (10.0)	4 (13.3)	7 (11.7)
	Middle school	4 (13.3)	5 (16.7)	9 (15.0)
	Primary school	7 (23.3)	6 (20.0)	13 (21.7)
	Illiterate	6 (20.0)	6 (20.0)	12 (20.0)
Occupation	Professional	3 (10.0)	2 (6.7)	5 (8.3)
	Semi-professional	7 (23.3)	6 (20.0)	13 (21.7)
	Clerical/shop/farmer	5 (16.7)	5 (16.7)	10 (16.7)
	Skilled worker	3 (10.0)	4 (13.3)	7 (11.7)
	Semi-skilled worker	6 (20.0)	7 (23.3)	13 (21.7)
	Unskilled worker	5 (16.7)	5 (16.7)	10 (16.7)
	Unemployed	1 (3.3)	1 (3.3)	2 (3.3)
Dietary Pattern	Vegetarian	16 (53.3)	17 (56.7)	33 (55.0)
	Non-vegetarian	14 (46.7)	13 (43.3)	27 (45.0)
Family Income	≥ ₹1,59,586	4 (13.3)	4 (13.3)	8 (13.3)
	₹79,756–1,59,585	3 (10.0)	3 (10.0)	6 (10.0)
	₹59,795–79,755	6 (20.0)	6 (20.0)	12 (20.0)
	₹39,830–59,794	3 (10.0)	4 (13.3)	7 (11.7)
	₹23,870–39,829	5 (16.7)	4 (13.3)	9 (15.0)
	₹7,989–23,869	5 (16.7)	4 (13.3)	9 (15.0)
	≤ ₹7,988	4 (13.3)	5 (16.7)	9 (15.0)
Smoking	Yes	16 (53.3)	15 (50.0)	31 (51.7)
	No	14 (46.7)	15 (50.0)	29 (48.3)
Cigarettes/day	<5	6 (20.0)	5 (16.7)	11 (18.3)
	5–10	5 (16.7)	6 (20.0)	11 (18.3)
	11–20	3 (10.0)	3 (10.0)	6 (10.0)
	>20	2 (6.7)	1 (3.3)	3 (5.0)
	Non-smoker	14 (46.7)	15 (50.0)	29 (48.3)
Alcohol Consumption	Yes	11 (36.7)	19 (63.3)	22 (36.7)
	No	19 (63.3)	11 (36.7)	38 (63.3)
Alcohol Frequency	Once/month	4 (13.3)	3 (10.0)	7 (11.7)
	2–4/month	3 (10.0)	4 (13.3)	7 (11.7)
	2–3/week	2 (6.7)	2 (6.7)	4 (6.7)
	≥4/week	1 (3.3)	1 (3.3)	2 (3.3)
	Regular	1 (3.3)	1 (3.3)	2 (3.3)
	Non-alcoholic	19 (63.3)	19 (63.3)	38 (63.3)

Table 2: Distribution of Clinical Variables in Terms of Frequency and Percentage of Patients with Hypertension (Study and Control Group) (N = 60)

Clinical Variable	Category	Study Group f (%)	Control Group f (%)	Total f (%)
Duration of Hypertension	Less than 1 year	8 (26.7)	9 (30.0)	17 (28.3)
	1–3 years	9 (30.0)	8 (26.7)	17 (28.3)
	3–5 years	7 (23.3)	6 (20.0)	13 (21.7)
	More than 5 years	6 (20.0)	7 (23.3)	13 (21.7)
Taking Antihypertensive Medication	Yes	30 (100)	30 (100)	60 (100)
	No	0 (0)	0 (0)	0 (0)
Duration of Treatment	Less than 1 year	7 (23.3)	8 (26.7)	15 (25.0)
	1–3 years	10 (33.3)	9 (30.0)	19 (31.7)
	3–5 years	6 (20.0)	6 (20.0)	12 (20.0)
	More than 5 years	7 (23.3)	7 (23.3)	14 (23.3)
Frequency of Medication	Once daily	14 (46.7)	13 (43.3)	27 (45.0)
	Twice daily	9 (30.0)	10 (33.3)	19 (31.7)
	Thrice daily	4 (13.3)	3 (10.0)	7 (11.7)
	Alternate days	2 (6.7)	3 (10.0)	5 (8.3)
	As needed	1 (3.3)	1 (3.3)	2 (3.3)
Type of Drug	Diuretics	6 (20.0)	7 (23.3)	13 (21.7)
	ACE inhibitors	5 (16.7)	6 (20.0)	11 (18.3)
	ARBs	7 (23.3)	6 (20.0)	13 (21.7)
	Beta-blockers	4 (13.3)	5 (16.7)	9 (15.0)

Clinical Variable	Category	Study Group f (%)	Control Group f (%)	Total f (%)
	Calcium channel blockers	6 (20.0)	5 (16.7)	11 (18.3)
	Combination therapy	2 (6.7)	1 (3.3)	3 (5.0)

Table 3: Difference between Pre-Test and Post-Test Physiological Parameters and Anxiety between Study Group and Control Group (Independent t-test)

Physiological Parameter/Anxiety	Study Pre-test Mean ± SD	Study Post-test Mean ± SD	Control Pre-test Mean ± SD	Control Post-test Mean ± SD	Post-test Mean Difference	t-value	df	p-value	Significance
SBP (mmHg)	154.83 ± 8.12	141.00 ± 7.45	153.97 ± 8.35	152.83 ± 8.21	11.83	5.84	58	<0.001	Significant
DBP (mmHg)	95.87 ± 5.44	87.70 ± 5.12	95.63 ± 5.62	95.10 ± 5.48	7.40	5.40	58	<0.001	Significant
Heart Rate (beats/min)	109.30 ± 6.52	86.37 ± 5.87	108.87 ± 6.71	107.93 ± 6.54	21.56	13.44	58	<0.001	Significant
Respiratory Rate (breaths/min)	30.67 ± 2.88	20.07 ± 2.41	30.43 ± 2.94	29.97 ± 2.81	9.90	14.65	58	<0.001	Significant
Anxiety Score (HAM-A)	3.40 ± 0.68	1.63 ± 0.61	3.37 ± 0.66	3.17 ± 0.65	1.54	9.46	58	<0.001	Significant

Table 3 depicts that the post-test mean scores were lower in the study group than in the control group for SBP (141.00 ± 7.45 vs. 152.83 ± 8.21 mmHg), DBP (87.70 ± 5.12 vs. 95.10 ± 5.48 mmHg), HR (86.37 ± 5.87 vs. 107.93 ± 6.54 beats/min), RR (20.07 ± 2.41 vs. 29.97 ± 2.81 breaths/min), and anxiety (1.63 ± 0.61 vs. 3.17 ± 0.65). The results were statistically significant ($t = 5.40–14.65$, $df = 58$, $p < 0.001$), indicating that Reiki therapy was effective in reducing physiological parameters and anxiety among hypertensive patients. Hence research hypothesis RH1 was accepted.

Table 4: Effectiveness of Reiki Therapy on Physiological Parameters and Anxiety among Patients with Hypertension in the Study Group (n=30)

Parameter	Pre-Test Mean ± SD	Post-Test Mean ± SD	Mean Difference	Paired t-value	df	p-value	Significance
Systolic Blood Pressure (mmHg)	154.83 ± 8.12	141.00 ± 7.45	13.83	12.38	29	<0.001	Significant
Diastolic Blood Pressure (mmHg)	95.87 ± 5.44	87.70 ± 5.12	8.17	11.64	29	<0.001	Significant
Heart Rate (beats/min)	109.30 ± 6.52	86.37 ± 5.87	22.93	18.42	29	<0.001	Significant
Respiratory Rate (breaths/min)	30.67 ± 2.88	20.07 ± 2.41	10.60	21.15	29	<0.001	Significant
Anxiety Score (HAM-A)	3.40 ± 0.68	1.63 ± 0.61	1.77	13.26	29	<0.001	Significant

Table 4 depicts that the study group showed significant reductions from pre-test to post-test in SBP, DBP, HR, RR and anxiety. The paired t-values ranged from 11.64 to 21.15 ($df = 29$, $p < 0.001$), indicating that Reiki therapy was highly effective in reducing physiological parameters and anxiety among hypertensive patients. Hence research hypothesis RH2 was accepted.

Table 5: Correlation between Physiological Parameters and Anxiety in Study Group (n=30)

Physiological Parameter	Mean ± SD	Anxiety Mean ± SD	Correlation Coefficient (r)	df	p-value	Significance
Systolic Blood Pressure	154.83 ± 8.12	3.40 ± 0.68	0.62	28	<0.001	Significant

Physiological Parameter	Mean ± SD	Anxiety Mean ± SD	Correlation Coefficient (r)	df	p-value	Significance
Diastolic Blood Pressure	95.63 ± 5.40	3.40 ± 0.68	0.58	28	<0.001	Significant
Heart Rate	109.30 ± 6.52	3.40 ± 0.68	0.49	28	0.006	Significant
Respiratory Rate	30.67 ± 2.88	3.40 ± 0.68	0.53	28	0.002	Significant

Table 5 depicts a significant positive correlation between anxiety and SBP ($r = 0.62$, $p < 0.001$), DBP ($r = 0.58$, $p < 0.001$), HR ($r = 0.49$, $p = 0.006$), and RR ($r = 0.53$, $p = 0.002$) in the study group. All correlations were statistically significant at df = 28, indicating that higher physiological parameter values were associated with higher anxiety levels. Hence research hypothesis RH3 was accepted.

Table 6: Correlation between Physiological Parameters and Anxiety in Control Group (n=30)

Physiological Parameter	Mean ± SD	Anxiety Mean ± SD	Correlation Coefficient (r)	df	p-value	Significance
Systolic Blood Pressure	153.40 ± 7.98	3.50 ± 0.72	0.39	28	0.033	Significant
Diastolic Blood Pressure	95.40 ± 5.36	3.50 ± 0.72	0.36	28	0.048	Significant
Heart Rate	109.43 ± 6.41	3.50 ± 0.72	0.28	28	0.134	Not Significant
Respiratory Rate	30.13 ± 2.76	3.50 ± 0.72	0.31	28	0.094	Not Significant

Table 7: Association of Pre-test and Post-test Physiological Parameters and Anxiety with Selected Socio-demographic and Clinical Variables in Study and Control Groups

Socio-demographic / Clinical Variable	Study Pre-test	Study Post-test	Control Pre-test	Control Post-test
Age	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Gender	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Religion	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Marital status	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Education	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Occupation	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Dietary pattern	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Family income	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Smoking status	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Alcohol consumption	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Smoking frequency	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Alcohol frequency	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Duration of hypertension	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Duration of treatment	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Frequency of medication	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)
Type of drug	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)	Not significant (p>0.05)

Table 7 depicts that the chi-square analysis showed no statistically significant association between the pre-test or post-test levels of physiological parameters and anxiety with the selected socio-demographic and clinical variables in either the study or control group ($p > 0.05$ throughout). Hence research hypothesis RH4 was not accepted.

VII. MAJOR FINDINGS OF THE STUDY

- The majority of participants in both groups were 41–50 years old; males predominated in both groups.
- All participants in both groups were taking regular antihypertensive medication.

- At pre-test, the study and control groups were comparable on physiological parameters and anxiety.
- After seven days, the study group demonstrated significant reductions in systolic and diastolic blood pressure, heart rate, respiratory rate and anxiety.
- Post-test comparison showed significantly better outcomes in the study group than in the control group for all measured outcomes.
- Anxiety had a significant positive correlation with all four physiological parameters in the study group.
- No statistically significant association was reported between the outcome variables and selected socio-demographic variables in either group.

VIII. SUMMARY OF FINDINGS ACCORDING TO OBJECTIVES

Objective 1: To assess and compare the pre-test and post-test level of physiological parameters and anxiety between the study and control group.

At pre-test, the study and control groups were comparable. In the post-test, the study group had lower mean values than the control group for systolic blood pressure (141.00 ± 7.45 vs. 152.83 ± 8.21 mmHg), diastolic blood pressure (87.70 ± 5.12 vs. 95.10 ± 5.48 mmHg), heart rate (86.37 ± 5.87 vs. 107.93 ± 6.54 beats/min), respiratory rate (20.07 ± 2.41 vs. 29.97 ± 2.81 breaths/min) and anxiety (1.63 ± 0.61 vs. 3.17 ± 0.65). The obtained t-values ranged from 5.40 to 14.65 with df = 58 and $p < 0.001$, indicating a significant difference between the study and control groups. Hence RH1 was accepted.

Objective 2: To determine the effectiveness of Reiki therapy on physiological parameters and anxiety among patients with hypertension in the study group.

The study group showed significant reductions from pre-test to post-test in systolic blood pressure (154.83 ± 8.12 to 141.00 ± 7.45 mmHg; mean difference = 13.83), diastolic blood pressure (95.87 ± 5.44 to 87.70 ± 5.12 mmHg; mean difference = 8.17), heart rate (109.30 ± 6.52 to 86.37 ± 5.87 beats/min; mean difference = 22.93), respiratory rate (30.67 ± 2.88 to 20.07 ± 2.41 breaths/min; mean difference = 10.60) and anxiety (3.40 ± 0.68 to 1.63 ± 0.61; mean difference = 1.77). The paired t-values ranged from 11.64 to 21.15 with df = 29 and $p < 0.001$. Hence RH2 was accepted.

Objective 3: To correlate the pre-test and post-test level of physiological parameters with anxiety among patients with hypertension in the study and control group.

In the study group, significant positive correlations were observed between anxiety and systolic blood pressure ($r = 0.62$, $p < 0.001$), diastolic blood pressure ($r = 0.58$, $p < 0.001$), heart rate ($r = 0.49$, $p = 0.006$) and respiratory rate ($r = 0.53$, $p = 0.002$). In the control group, significant correlations were found with systolic blood pressure ($r = 0.39$, $p = 0.033$) and diastolic blood pressure ($r = 0.36$, $p = 0.048$), whereas correlations with heart rate ($r = 0.28$, $p = 0.134$) and respiratory rate ($r = 0.31$, $p = 0.094$) were not significant. Hence RH3 was accepted.

Objective 4: To associate the pre-test and post-test level of physiological parameters and anxiety among patients with hypertension with their socio-demographical and clinical variables in the study and control group.

Chi-square analysis showed no statistically significant association between the pre-test or post-test physiological parameters and anxiety and the selected socio-demographic and clinical variables in either the study or control group ($p > 0.05$ throughout). Therefore, RH4 was not accepted.

IX. DISCUSSION

The present study demonstrated that patients with hypertension who received Reiki therapy in addition to routine nursing care showed significant reductions in systolic blood pressure, diastolic blood pressure, heart rate, respiratory rate and anxiety. The post-test values in the study group were also significantly lower than those in the control group.

The findings are consistent with the complementary-therapy literature cited in the source manuscript, including studies examining Reiki in relation to pain, anxiety, physiological parameters and quality of life. The present findings support the use of Reiki as a complementary rather than replacement intervention alongside conventional medical management.

X. CONCLUSION

On the basis of the findings, Reiki therapy administered for 20–30 minutes daily over seven days was associated with significant improvement in

systolic blood pressure, diastolic blood pressure, heart rate, respiratory rate and anxiety among patients with hypertension. The study group demonstrated significantly better post-test outcomes than the control group, supporting Reiki therapy as a complementary, non-invasive nursing intervention alongside conventional treatment.

XI. SUMMARY

The study used a true experimental pre-test post-test control group design with 60 hypertensive patients, randomly allocated into study and control groups of 30 each. The study group received Reiki therapy in addition to routine nursing care and the control group received routine care. Outcomes were measured before and after the seven-day intervention. Paired and independent t-tests demonstrated significant improvement in the study group and significant post-test differences between groups. Correlation analysis showed significant positive relationships between anxiety and physiological parameters in the study group. Association analysis did not identify statistically significant relationships with the selected socio-demographic variables.

IMPLICATIONS FOR NURSING

Nursing Practice

Nurses may consider complementary relaxation-oriented interventions such as Reiki as an adjunct to routine evidence-based management, provided appropriate training, consent, patient preference and clinical safety are maintained.

Nursing Education

The findings can support inclusion of complementary and integrative nursing approaches, critical appraisal of evidence and holistic management of chronic disease in nursing education.

Nursing Administration

Nursing administrators may consider structured protocols for complementary interventions, staff training, documentation and outcome monitoring where such interventions are institutionally approved.

Nursing Research

Further studies with larger samples, multicentre settings, longer follow-up and rigorous controls are recommended to strengthen the evidence base.

XII. LIMITATIONS

- The study was conducted in a single hospital setting, limiting generalisability.
- The sample size was limited to 60 participants.
- The intervention period was limited to seven days.
- The study assessed selected physiological parameters and anxiety and did not include broader biochemical or long-term outcomes.

XIII. RECOMMENDATIONS

- Replicate the study with larger samples and multiple hospital settings.
- Conduct longer follow-up studies to determine sustainability of the observed effects.
- Compare Reiki with other structured relaxation or complementary nursing interventions.
- Use rigorous sham/placebo-controlled designs where feasible to separate specific and non-specific effects.
- Continue conventional medical management and use Reiki only as a complementary intervention.

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