

PHYSICAL AND PSYCHOLOGICAL HEALTH OUTCOMES FOLLOWING A SINGLE SESSION OF ISLAMIC THERAPEUTIC REIKI: A COMMUNITY-BASED PRE-POST STUDY

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ABSTRACT

Background: Reiki is a complementary therapy increasingly used to support physical and psychological well-being, yet evidence regarding culturally adapted Reiki interventions remains limited, particularly in Muslim-majority populations. This study examined immediate changes in physical and psychological health outcomes following a culturally adapted Islamic Therapeutic Reiki intervention delivered in routine community practice.

Methods: A prospective single-group pre-post study was conducted in community-based Reiki practice settings in Rawalpindi and Islamabad, Pakistan. A total of 1,500 participants who completed both pre- and post-intervention assessments following a single 40–60-minute Islamic Therapeutic Reiki session were included in the analyses. The intervention incorporated selected Qur'anic recitations within a standardized Reiki protocol. Physical symptoms were assessed using numerical rating scales, while emotional states were measured using the Positive and Negative Affect Schedule (PANAS). Paired-samples t-tests, effect sizes (Cohen's d), and Pearson correlation analyses were performed.

Results: Statistically significant improvements were observed across all assessed physical and psychological outcomes (all $p < .001$). The largest standardized improvements were found for anxiety ($d = 1.01$), tiredness ($d = 1.00$), pain ($d = 0.90$), and depression ($d = 0.87$). Positive affect increased, whereas negative affect decreased following the intervention. Correlation analyses indicated that reductions in physical symptoms were associated with concurrent improvements in psychological well-being, with the strongest association observed between anxiety and depression ($r = .63$, $p < .001$).

Conclusions: Participants reported immediate improvements in physical symptoms, psychological distress, and affective states following a single session of Islamic Therapeutic Reiki. Given the single-group pre-post design and the absence of a control group, these findings should be interpreted as preliminary within-person changes rather than evidence of treatment efficacy or causality. The study supports the feasibility of evaluating culturally adapted Reiki interventions in community settings and provides a foundation for future randomized controlled trials.

Keywords: Islamic Therapeutic Reiki; complementary medicine; integrative health; anxiety; depression; pain; positive affect; psychological well-being; Pakistan

INTRODUCTION

Complementary and integrative health approaches have become an increasingly important component of contemporary healthcare, particularly for individuals

seeking supportive strategies to manage physical symptoms, psychological distress, and overall well-being alongside conventional medical treatment. According to the World Health Organization, traditional,

complementary, and integrative medicine continues to be widely used across both developed and developing countries, reflecting growing public interest in holistic approaches that address biological, psychological, social, and spiritual dimensions of health. This increasing utilization has stimulated scientific interest in evaluating the effectiveness, safety, and potential clinical applications of complementary therapies using rigorous research methods.

Among complementary health approaches, Reiki has received considerable attention over the past two decades. Reiki has gradually expanded from complementary healing practice into hospitals, hospices, rehabilitation centres, and nursing services, where it has primarily been used as a supportive intervention alongside conventional medical care rather than as a replacement for standard treatment (Miles, 2005; Natalie, 2010). It is generally described as a biofield-based complementary therapy in which trained practitioners use light-touch or non-contact hand placements with the intention of promoting relaxation and supporting the body's natural healing processes (Miles & True, 2003; Jain & Mills, 2010). Although the biological mechanisms underlying Reiki remain uncertain, researchers have proposed that its potential benefits may be associated with non-specific therapeutic factors, including deep relaxation, reduction of stress, enhanced therapeutic interaction, and improvements in emotional regulation rather than a single identifiable physiological mechanism (Jain & Mills, 2010; Topdemir & Saritas, 2021).

A growing number of studies have examined Reiki across diverse clinical and non-clinical populations. Previous research has investigated its association with pain management, anxiety, depression, fatigue, stress reduction, sleep quality, and health-related quality of life. While several

randomized controlled trials and observational studies have reported improvements in selected psychological and physical outcomes, systematic reviews consistently conclude that the overall certainty of evidence remains limited because of methodological weaknesses, including small sample sizes, heterogeneous intervention protocols, inadequate control conditions, insufficient blinding, and inconsistent outcome measures (Lee et al., 2008). Consequently, although Reiki continues to be integrated into supportive care services in some healthcare settings, further well-designed research is needed before definitive conclusions regarding its clinical effectiveness can be established.

Beyond methodological considerations, cultural context represents an important yet relatively underexplored dimension of complementary healthcare research. Health beliefs, spiritual practices, and cultural values influence how individuals perceive illness, seek healthcare, and evaluate therapeutic experiences. In many Muslim-majority countries, including Pakistan, religious beliefs and spiritual practices play a significant role in coping with illness and psychological distress. Practices such as Qur'anic recitation, supplication (Du'a), remembrance of Allah (Dhikr), and spiritual counselling are widely used as complementary sources of comfort and resilience. Consequently, culturally adapted interventions that acknowledge these beliefs may be more acceptable to some individuals than interventions developed exclusively within Western contexts. However, cultural acceptability should not be interpreted as evidence of therapeutic efficacy. Rather, culturally adapted interventions should be evaluated using transparent, ethical, and scientifically rigorous research methods to determine their potential benefits and limitations.

Current Evidence on Reiki and Physical and Psychological Health

Reiki has been investigated in a wide range of healthcare settings as a complementary intervention for individuals experiencing physical symptoms, emotional distress, and reduced quality of life. Since the early 2000s, researchers have examined its potential role in managing pain, anxiety, depression, fatigue, stress, sleep disturbance, and symptom burden among both clinical and community populations (Miles & True, 2003; Lee et al., 2008). Although the body of evidence has expanded considerably, findings remain mixed because of differences in study populations, intervention protocols, practitioner training, outcome measures, and research design.

Several clinical studies have reported that Reiki is associated with short-term improvements in pain, anxiety, relaxation, and emotional well-being among patients receiving supportive care. Early clinical investigations reported that Reiki has been explored in diverse healthcare settings, including oncology, palliative care, rehabilitation, endoscopy, and nursing practice. Although many of these studies suggested improvements in pain, anxiety, relaxation, and perceived well-being, most were pilot investigations or small clinical studies, highlighting the need for larger and more rigorous evaluations (Olson et al., 2003; Bossi et al., 2008; Hulse et al., 2010; Kryak & Vitale, 2011). Positive findings have been observed in oncology, palliative care, perioperative care, chronic pain management, and mental health settings, where Reiki has primarily been used as an adjunct rather than a replacement for conventional treatment (Baldwin et al., 2010; Cuneo et al., 2011; Diaz-Rodriguez et al., 2011). These improvements are generally most evident for subjective outcomes, particularly perceived stress, anxiety, mood, and symptom distress, whereas evidence for objective physiological outcomes remains less consistent.

Recent systematic reviews provide a more balanced perspective on the current evidence. A comprehensive systematic review and meta-analysis concluded by Topdemir, 2021 that Reiki may contribute to modest improvements in quality of life and selected psychological outcomes; however, the certainty of the evidence

ranged from low to moderate because of methodological limitations across the included studies. Similarly, recent reviews have suggested that Reiki may reduce anxiety in some populations, but they also emphasize that larger randomized controlled trials employing rigorous methodology, appropriate control groups, and standardized intervention protocols are required before firm clinical recommendations can be made (Topdemir & Saritas, 2021).

One of the most frequently identified limitations in the Reiki literature is methodological heterogeneity. Existing studies differ substantially with respect to participant characteristics, practitioner qualifications, treatment duration, session frequency, hand positions, treatment environments, and comparator interventions. In addition, many studies include relatively small samples, limited follow-up periods, inadequate reporting of intervention fidelity, and insufficient control for participant expectations or placebo effects (Lee et al., 2008). These methodological differences make direct comparison across studies challenging and reduce confidence in the consistency and generalizability of reported findings.

Beyond methodological considerations, the mechanisms through which Reiki may influence health outcomes remain uncertain. Several authors have suggested that observed improvements may result from multiple interacting factors, including relaxation responses, therapeutic attention, supportive interpersonal interaction, reductions in perceived stress, and participants' expectations regarding treatment rather than a single underlying mechanism (Jain & Mills, 2010). Consequently, contemporary researchers increasingly recommend interpreting Reiki within a broader biopsychosocial framework that recognizes the complex interaction between biological, psychological, social, and cultural influences on health and well-being.

Despite these uncertainties, the continued use of Reiki in hospitals, community health centres, and private practice demonstrates sustained public interest in complementary approaches that support symptom management and emotional well-being. Rather than asking whether Reiki should replace conventional healthcare, recent

research has increasingly focused on understanding whether it may serve as a supportive adjunct for selected individuals when integrated with evidence-based medical care. This shift reflects a broader movement within integrative medicine toward evaluating complementary therapies using transparent methodology, validated outcome measures, and cautious interpretation of findings.

Importantly, relatively little research has examined culturally adapted forms of Reiki within Muslim-majority populations. Most published studies have been conducted in North America, Europe, or Australia using conventional Reiki protocols developed within Japanese traditions. Consequently, evidence regarding culturally adapted Reiki interventions that incorporate Islamic spiritual practices remains scarce. This gap is particularly relevant in Pakistan, where religious beliefs and spiritual practices often influence health-related behaviours, coping strategies, and treatment preferences. Investigating culturally adapted interventions within their appropriate social and cultural context may therefore contribute to a more comprehensive understanding of complementary healthcare while respecting scientific standards of evidence.

Islamic Spiritual Healing, Research Gap, and Study Rationale

Spirituality has long been recognized as an important dimension of health and well-being. Contemporary health models increasingly acknowledge that psychological adjustment to illness is influenced not only by biological and psychological factors but also by social, cultural, and spiritual experiences (World Health Organization, 2023). In many societies, religious beliefs provide meaning, hope, emotional support, and adaptive coping during periods of physical illness and psychological distress. Consequently, researchers have shown growing interest in examining culturally relevant spiritual interventions using scientifically rigorous methods.

Within Islamic traditions, spiritual healing practices commonly include Qur'anic recitation, supplication (Du'a), remembrance of Allah (Dhikr), reflection, and reliance on faith as complementary approaches to coping with

illness. These practices are deeply embedded in everyday life in many Muslim-majority countries, including Pakistan, where spirituality frequently influences health beliefs, treatment preferences, and help-seeking behaviour. Previous research has suggested that religious coping may be associated with lower psychological distress, greater resilience, and improved perceived well-being among some individuals, although these relationships are influenced by personal, cultural, and clinical factors and should not be interpreted as evidence of direct therapeutic efficacy (Koenig, 2012; Koenig, 2020).

The present study examined an Islamic Therapeutic Reiki intervention in which selected Qur'anic verses and Islamic phrases were incorporated into the therapeutic procedure instead of the traditional Japanese Reiki symbols described in conventional Reiki practice. As outlined in the intervention protocol, the adapted approach incorporated Surah Al-Fatihah, Surah Al-Ikhlās, and other Islamic recitations during treatment. This cultural adaptation was developed to enhance the acceptability of the intervention for Muslim participants while maintaining the structured therapeutic format of a Reiki session. Importantly, the intervention should be viewed as a culturally adapted complementary practice rather than as a validated religious or medical treatment. Its potential value therefore requires careful empirical evaluation using transparent scientific methods.

From a theoretical perspective, the present study is primarily informed by the Biopsychosocial Model, which proposes that health outcomes emerge through interactions among biological, psychological, and social influences rather than through any single determinant. Within this framework, complementary interventions may influence health indirectly by reducing psychological stress, promoting relaxation, strengthening perceived social support, and improving emotional regulation. These pathways may subsequently influence individuals' perceptions of pain, fatigue, anxiety, mood, and overall well-being. The study does not assume a specific biological mechanism underlying Reiki; instead, it evaluates whether measurable changes in self-reported outcomes occur following the intervention.

The study is also consistent with contemporary models of stress and coping, which suggest that interventions promoting relaxation, emotional regulation, and positive coping strategies may reduce subjective symptom burden during periods of psychological or physical stress. Because complementary interventions often involve supportive therapeutic interactions, quiet treatment environments, and focused attention, improvements observed following treatment may reflect multiple interacting processes, including expectancy effects, relaxation responses, therapeutic alliance, and cultural meaning attached to the intervention. Recognizing these possibilities is essential for balanced interpretation of the findings.

Despite increasing international interest in complementary therapies, several important gaps remain in the literature. First, most Reiki research has been conducted in Western countries using conventional Reiki protocols, with relatively limited evidence from South Asian or Muslim-majority populations. Second, culturally adapted Reiki interventions incorporating Islamic spiritual practices have received very little scientific investigation. Third, many previous studies have involved relatively small samples, inconsistent intervention reporting, heterogeneous outcome measures, and limited methodological transparency, making comparisons across studies difficult. Finally, few investigations have explored immediate changes across multiple physical and psychological outcomes following a single culturally adapted Reiki session in a large community-based sample.

Addressing these gaps may contribute to the growing evidence base on culturally responsive complementary healthcare while informing future randomized controlled trials. Accordingly, the present study was designed as a preliminary community-based pre-post investigation to examine immediate changes in selected physical and psychological health outcomes following a single session of Islamic Therapeutic Reiki. Given the observational nature of the study and the absence of a control group, the findings are interpreted cautiously as preliminary evidence of short-term within-person changes rather than definitive evidence of treatment efficacy.

Based on this rationale, the primary objective of the study was to examine changes in physical and psychological health indicators following one session of Islamic Therapeutic Reiki. A secondary objective was to evaluate the feasibility of implementing this culturally adapted intervention and collecting standardized pre- and post-intervention outcome data in routine community practice. The findings are intended to inform the design of future randomized controlled studies employing validated outcome measures, longer follow-up periods, standardized intervention protocols, and appropriate comparator groups.

The present study was therefore undertaken to provide preliminary evidence regarding the immediate physical and psychological outcomes associated with a culturally adapted Islamic Therapeutic Reiki intervention in a community-based Pakistani sample. Rather than establishing causal effectiveness, the study aimed to evaluate short-term within-person changes following a single intervention session and to assess the feasibility of implementing this culturally adapted approach in routine practice. It was hypothesized that participants would report improvements in selected physical and psychological health indicators immediately following the intervention. The methodology described in the following section outlines the study design, participant recruitment, intervention protocol, outcome measures, ethical considerations, and statistical procedures used to investigate these objectives.

Methodology

Study Design: This study employed a prospective single-group pre-post intervention design to examine immediate changes in selected physical and psychological health outcomes following a single session of Islamic Therapeutic Reiki. Participants completed standardized self-report assessments immediately before and immediately after the intervention. The study was conducted under routine practice

conditions to evaluate short-term within-person changes in a real-world community setting rather than to establish causal treatment effects. Owing to the absence of a control group and randomization, the findings should be interpreted as preliminary evidence of immediate symptom changes associated with the intervention.

Study Setting: The study was conducted in community-based Islamic Therapeutic Reiki practice settings in Rawalpindi and Islamabad, Pakistan. Certified Islamic Therapeutic Reiki practitioners who routinely provided complementary healing services in private Reiki clinics, wellness centers, healing clinics, and community-based practice settings participated in the study. Data were collected under routine clinical conditions, where individuals attended Reiki sessions as part of their usual complementary healthcare rather than within a controlled experimental environment. The intervention was delivered in a quiet, comfortable, and private setting designed to promote relaxation. Islamic recitations formed an integral component of the therapeutic session, and aromatherapy was used, where available, to create a calm and supportive therapeutic environment. These conditions reflected routine clinical practice and were intended to maximize participant comfort while maintaining consistency across treatment sessions.

Conducting the study under real-world practice conditions was intended to enhance the ecological validity of the findings and improve their relevance to routine complementary healthcare settings.

Participants: Certified Reiki practitioners were invited to participate through professional mailing lists and practitioner networks. Practitioners who agreed to participate informed their clients about the study and invited eligible individuals to complete study questionnaires before and after their scheduled Reiki session. Clients voluntarily participated after receiving

information regarding the purpose of the study. Participants were eligible if they were adults attending an Islamic Therapeutic Reiki session and were able to understand and complete the study questionnaires independently. Individuals who declined participation or did not complete both the pre- and post-intervention assessments were excluded from the final analysis. A total of 1,675 intervention sessions were initially recorded. Following exclusion of incomplete datasets due to missing post-session assessments, 1,500 complete pre-post observations were included in the final analysis, representing a completion rate of approximately 90%.

Sample Size and Recruitment: Because this study was designed as a large community-based observational investigation conducted under routine clinical practice, all eligible participants presenting during the study period were invited to participate. No formal a priori sample size calculation was reported. Recruitment continued throughout the study period to maximize the number of complete pre-post observations and to improve the precision of estimated within-person changes.

Islamic Therapeutic Reiki Intervention: The intervention consisted of one Islamic Therapeutic Reiki session delivered by certified Reiki practitioners trained in the standardized intervention procedure. Each treatment session lasted approximately 40–60 minutes. Participants remained fully clothed while comfortably positioned on a treatment table, bed, or chair according to practitioner preference and participant comfort. The intervention followed the general structure of a conventional Reiki session while incorporating Islamic spiritual elements as part of the therapeutic process. Selected Qur'anic verses and Islamic supplications were integrated into the session in place of traditional Reiki symbols, including Surah Al-Fatihah, Surah Al-Ikhlās, and other Islamic recitations described in the intervention protocol. Practitioners used

standardized hand placements throughout the session while maintaining a quiet and supportive therapeutic environment. Participants received a single intervention session during the study period. No additional complementary therapies were administered during the treatment session.

Outcome Measures: Immediate changes in physical and psychological health were assessed using standardized self-report measures administered immediately before and immediately after the intervention. Positive and negative affect were assessed using the 20-item Positive and Negative Affect Schedule (PANAS), a widely used instrument with established reliability and validity for measuring transient emotional states (Watson et al., 1988). Physical and psychological symptoms, including pain, tiredness, drowsiness, nausea, appetite, shortness of breath, anxiety, depression, and overall well-being, were assessed using single-item numerical rating scales ranging from 0 to 10, with higher scores indicating greater symptom severity except for overall well-being, where higher scores reflected better perceived well-being. These brief symptom ratings were selected to minimize respondent burden while allowing rapid assessment immediately before and after treatment.

Ethical Considerations: Participation in the study was voluntary. All participants received information about the study objectives and procedures and provided informed consent before completing the study questionnaires. Participant confidentiality was maintained by

anonymizing all data prior to analysis. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki for research involving human participants. Ethical approval was obtained from the Institutional Review Board and Ethics Committee of the Health Services Academy, Islamabad, Pakistan (Approval No. 0678)

Statistical Analysis: Data were analysed using IBM SPSS Statistics. Descriptive statistics (frequencies, percentages, means, and standard deviations) summarized participant characteristics and intervention variables. Pre-post differences were examined using paired-samples *t*-tests. Statistical significance was set at $p < .05$. Effect sizes (Cohen's *d*) and 95% confidence intervals were reported. Pearson correlation analyses assessed associations among changes in physical and psychological health outcomes. Cases with incomplete pre-post data were excluded from inferential analyses.

Results

Practitioner Characteristics: A total of **185 certified Islamic Therapeutic Reiki practitioners** participated in the study. On average, practitioners conducted **4.05 (SD = 1.45)** Reiki sessions per week, with an average session duration of **65.97 minutes (SD = 13.61)**. Half of the practitioners (**50%**) reported more than five years of Reiki practice, indicating substantial clinical experience. Participants commonly sought Reiki for relaxation, anxiety, pain, stress management, emotional healing, fatigue, spiritual growth, overall well-being, and general health maintenance

Table 1: Characteristics of Islamic Therapeutic Reiki Practitioners (N = 185)

Practitioner Characteristic	Value
Average Reiki sessions per week, Mean (SD)	4.05 (1.45)
Average session duration (minutes), Mean (SD)	65.97 (13.61)

Practitioner Characteristic	Value
Years of Reiki practice, n (%)	
1 year	8
2 years	13
3 years	12
4 years	11
5 years	8
>5 years	50

Note. SD = standard deviation.

Participant Flow and Session Characteristics: During the one-year study period, 1,675 Islamic Therapeutic Reiki sessions were recorded. Following exclusion of 166 observations with incomplete post-intervention assessments, 1,500 complete pre-post observations were included in the final analysis, representing an overall completion rate of approximately 90%. Informal feedback obtained from participating practitioners indicated that incomplete questionnaires were primarily attributable to participants' reluctance to interrupt the sense of relaxation experienced after treatment, technical

difficulties associated with online survey completion, and limited computer literacy among some older participants. Comparison of baseline scores showed no statistically significant differences between participants who completed both assessments and those with incomplete post-session data (all $p > .05$), suggesting that attrition was unlikely to introduce systematic bias.

The mean age of participants was 52.0 years (range = 19–88 years). Participant demographic characteristics and Reiki session characteristics are summarized in Table 2.

Table 2: Participant and Session Characteristics (N = 1,500)

Variable	Category	n (%)
Support method	Treatment table	1245 (87)
	Bed	97 (6)
	Chair	53 (2)
	Other	12 (1)
Session location	Private home	635 (43)
	Wellness centre	631 (46)
	Clinic	55 (6)
	Other	120 (9)
Medication use	Yes	487 (32)
	No	901 (64)

Note. Percentages are reported as presented in the original dataset.

Changes in Physical and Psychological Health Outcomes: Paired-samples *t*-tests demonstrated statistically significant improvements across all assessed physical and psychological health outcomes following a single Islamic Therapeutic Reiki session (all $p < .001$). The largest standardized effects were observed for anxiety (d

$= 1.01$), tiredness ($d = 1.00$), pain ($d = 0.90$), and depression ($d = 0.87$). Moderate improvements were observed for drowsiness ($d = 0.61$) and shortness of breath ($d = 0.45$), whereas nausea ($d = 0.32$) and appetite ($d = 0.35$) demonstrated relatively smaller effect sizes.

Table 3: Pre–Post Changes in Physical and Psychological Health Outcomes

Outcome	<i>t(df)</i>	<i>p</i>	<i>Cohen's d</i>	95% <i>CI</i>
Pain	–33.52 (1403)	<.001	0.90	[–1.80, –1.79]
Tiredness	–37.72 (1400)	<.001	1.00	[–2.76, –2.49]
Drowsiness	–23.31 (1386)	<.001	0.61	[–1.79, –1.59]
Nausea	–11.30 (1398)	<.001	0.32	[–0.54, –0.49]
Appetite	–12.94 (1395)	<.001	0.35	[–0.80, –0.60]
Shortness of breath	–17.13 (1398)	<.001	0.45	[–0.85, –0.63]
Depression	–29.60 (1396)	<.001	0.87	[–1.87, –1.74]
Anxiety	–39.94 (1395)	<.001	1.01	[–2.79, –2.53]

Changes in Positive and Negative Affect: Changes in PANAS scores are presented in Table 4. All positive affect items increased significantly following the intervention, whereas all negative affect items decreased significantly (all $p < .001$). Among the positive affect dimensions, the largest

standardized improvement was observed for Inspired ($d = 0.65$), followed by Strong ($d = 0.49$). Among negative affect dimensions, the greatest reductions were observed for Irritable ($d = 0.75$), Nervous ($d = 0.67$), and Upset ($d = 0.66$).

Table 4. Mean Scores, Standard Deviations, and Paired-Samples *t*-Test Results for Individual Positive and Negative Affect Schedule (PANAS) Items Before and After Reiki Session

PANAS Item	Pre, Mean (SD)	Post, Mean (SD)	<i>t</i>	<i>Cohen's d</i>	95% <i>CI</i>
Positive Affect					
Interested	3.67 (1.07)	3.78 (1.16)	4.49	0.10	[0.06, 0.15]
Excited	2.79 (1.28)	2.82 (1.43)	6.62	0.19	[0.15, 0.28]
Strong	2.71 (1.04)	3.33 (1.00)	22.52	0.49	[0.57, 0.74]
Enthusiastic	2.84 (1.25)	3.42 (1.15)	15.24	0.32	[0.34, 0.39]

PANAS Item	Pre, Mean (SD)	Post, Mean (SD)	<i>t</i>	Cohen's <i>d</i>	95% CI
Proud	2.56 (1.13)	3.04 (1.12)	12.79	0.29	[0.31, 0.42]
Alert	2.92 (1.02)	3.34 (1.11)	12.11	0.31	[0.31, 0.42]
Inspired	2.87 (1.22)	3.63 (1.20)	24.51	0.65	[0.71, 0.83]
Determined	3.19 (1.13)	3.55 (1.17)	10.46	0.33	[0.28, 0.39]
Attentive	3.15 (1.05)	3.45 (1.28)	10.43	0.20	[0.26, 0.37]
Active	2.61 (1.04)	3.00 (1.05)	10.00	0.25	[0.22, 0.33]
Negative Affect					
Distressed	2.12 (1.15)	1.36 (0.77)	-25.19	0.60	[-0.79, -0.69]
Upset	1.89 (1.12)	1.19 (0.55)	-24.85	0.66	[-0.73, -0.62]
Guilty	1.60 (0.98)	1.18 (0.48)	-18.59	0.59	[-0.49, -0.40]
Scared	1.70 (1.05)	1.18 (0.52)	-21.07	0.56	[-0.56, -0.47]
Hostile	1.35 (0.73)	1.08 (0.38)	-14.60	0.47	[-0.30, -0.25]
Irritable	1.99 (1.08)	1.17 (0.50)	-29.85	0.75	[-0.88, -0.75]
Ashamed	1.55 (0.88)	1.15 (0.45)	-16.45	0.43	[-0.36, -0.28]
Nervous	1.89 (1.01)	1.23 (0.65)	-25.54	0.67	[-0.75, -0.67]
Jittery	1.70 (1.16)	1.29 (0.59)	-22.70	0.59	[-0.65, -0.59]
Afraid	1.80 (1.17)	1.19 (0.56)	-20.06	0.55	[-0.55, -0.42]

Note. Data were analysed using paired-samples *t*-tests. All comparisons were statistically significant ($p < .001$). CI = confidence interval; PANAS = Positive and Negative Affect Schedule; SD = standard deviation.

Correlations Among Changes in Physical and Psychological Outcomes: Pearson correlation analyses demonstrated statistically significant associations among changes in physical and psychological health variables (all $p < .001$). Improvements in anxiety and depression were strongly associated ($r = .63$), while improvements in overall well-being were negatively correlated

with changes in symptom severity, indicating that greater reductions in physical and psychological symptoms occurred alongside higher perceived well-being.

Positive affect demonstrated modest negative correlations with several symptom changes, whereas negative affect showed positive correlations with anxiety, depression, and other symptom indicators.

Table 5: Pearson Correlation Matrix of Changes in Physical and Psychological Outcomes Following the Islamic Therapeutic Reiki Intervention

Variable	Pain	Tiredness	Drowsiness	Nausea	Appetite	Shortness of Breath	Depression	Anxiety	Well-being	Positive Affect	Negative Affect
Pain	1.00										
Tiredness	0.30	1.00									
Drowsiness	0.21	0.67	1.00								
Nausea	0.20	0.20	0.19	1.00							
Appetite	0.12	0.16	0.16	0.41	1.00						
Shortness of Breath	0.17	0.21	0.19	0.35	0.31	1.00					
Depression	0.23	0.27	0.24	0.27	0.27	0.34	1.00				
Anxiety	0.20	0.31	0.28	0.23	0.25	0.26	0.63	1.00			
Well-being	-0.16	-0.31	-0.28	-0.18	-0.14	-0.18	-0.31	-0.34	1.00		
Positive Affect	-0.12	-0.34	-0.30	-0.09	-0.09	-0.08	-0.22	-0.21	0.20	1.00	
Negative Affect	0.10	0.21	0.18	0.21	0.25	0.17	0.48	0.54	-0.23	-0.25	1.00

Note. All correlations were statistically significant ($p < .001$). Correlations are based on **post-pre change scores**, where positive values indicate increases in the respective variable and negative values indicate reductions following the intervention. Abbreviations: **PA** = Positive Affect; **NA** = Negative Affect.

Pearson correlation analyses examined associations among changes in physical and psychological outcomes following the Islamic Therapeutic Reiki intervention (Table 5). All correlations were statistically significant ($p < .001$). Moderate positive correlations were observed among physical symptoms, with the strongest between tiredness and drowsiness ($r = .67$). Depression and anxiety were also strongly correlated ($r = .63$). Improvements in well-being were negatively associated with symptom severity, while negative affect correlated positively with depression ($r = .48$) and anxiety ($r = .54$), indicating concurrent improvements across physical and psychological outcomes.

Discussion

The present study examined immediate changes in physical and psychological health outcomes following a single session of Islamic Therapeutic Reiki delivered in routine community practice. Participants reported significant improvements across all assessed physical symptoms, including pain,

tiredness, drowsiness, nausea, appetite, and shortness of breath, together with reductions in anxiety and depression. Positive affect increased, whereas negative affect decreased following the intervention. In addition, improvements in physical symptoms were moderately associated with improvements in psychological well-being, indicating that changes in physical and emotional health occurred concurrently. Because the study employed a single-group pre-post design without a control group, these findings should be interpreted as preliminary within-person changes rather than evidence of treatment efficacy.

The reductions in anxiety and depression observed in the present study are broadly consistent with previous research evaluating Reiki as a complementary intervention. Several clinical studies have reported improvements in psychological distress following Reiki sessions among individuals receiving supportive care, including patients in oncology, perioperative, and palliative care settings (Cuneo et al., 2011; Diaz-Rodriguez et al., 2011). Likewise, recent

systematic reviews suggest that Reiki may contribute to modest improvements in anxiety and emotional well-being, although the overall certainty of evidence remains limited because of methodological shortcomings such as small sample sizes, heterogeneous intervention protocols, and inadequate control conditions (Topdemir & Saritas, 2021). The present findings therefore extend previous observations by demonstrating similar short-term improvements in a large community-based Pakistani sample while supporting the need for more rigorous controlled investigations. Participants also reported improvements in several physical symptoms immediately following the intervention. The largest standardized changes were observed for pain and tiredness, whereas smaller but statistically significant improvements were found for nausea, appetite, and shortness of breath. These findings are comparable with earlier studies reporting reductions in pain, fatigue, and symptom distress following Reiki delivered as an adjunct to conventional care (Baldwin et al., 2010; Cuneo et al., 2011). Similar improvements in pain and symptom burden have been reported in oncology, rehabilitation, and palliative care settings, where Reiki has been evaluated as an adjunctive intervention for symptom management rather than a stand-alone treatment (Olson et al., 2003; Pocotte & Salvador, 2008; Bossi et al., 2008). However, previous reviews have highlighted considerable variation across studies in participant characteristics, treatment protocols, session frequency, and outcome measures, making direct comparisons difficult (Lee et al., 2008). Consequently, while the present findings are generally consistent with the existing literature, they should be interpreted within the context of the study design and methodological differences across investigations.

Significant improvements were also observed across all dimensions of positive and negative affect measured using the PANAS. Positive emotional states increased following the intervention, whereas negative emotions such as irritability, nervousness, and distress declined. Similar improvements in mood have been reported in previous studies examining Reiki and other relaxation-based complementary interventions (Jain & Mills, 2010; Topdemir & Saritas, 2021). Previous studies involving healthcare professionals and nursing populations have also reported reductions in work-related stress and improvements in emotional well-being following Reiki sessions, suggesting that perceived psychological benefits have been observed across both clinical and non-clinical populations (Raingruber & Robinson, 2007; Cuneo et al., 2011). These changes may reflect enhanced relaxation, reduced perceived stress, or temporary improvements in emotional regulation rather than a specific therapeutic mechanism. Earlier experimental studies have suggested that Reiki may be associated with changes in autonomic nervous system activity and physiological indicators related to relaxation; however, these findings remain preliminary and inconsistent across studies (Mackay et al., 2004; Diaz-Rodriguez et al., 2011). Because affective states are influenced by supportive therapeutic environments, the observed improvements may have resulted from multiple interacting psychological and contextual factors.

The correlation analyses further demonstrated that improvements in physical symptoms were accompanied by improvements in psychological well-being. In particular, reductions in anxiety were strongly associated with reductions in depression, while improvements in overall well-being were associated with reductions in symptom severity. These findings are consistent with the biopsychosocial model,

which proposes that physical and psychological health are closely interconnected and may influence one another through multiple biological, psychological, and social pathways. Similar associations between symptom burden and emotional well-being have been reported in previous complementary and integrative health research (Jain & Mills, 2010). Nevertheless, correlation analyses cannot establish causal relationships and should be interpreted as reflecting concurrent changes rather than underlying mechanisms.

An important feature of the present study was the use of a culturally adapted Islamic Therapeutic Reiki protocol that incorporated selected Qur'anic recitations and Islamic supplications within the therapeutic procedure. Although research examining culturally adapted Reiki interventions remains limited, culturally responsive complementary approaches may be particularly relevant in settings where religious beliefs and spiritual practices influence health-related behaviours and coping strategies. The present findings suggest that such interventions can be implemented successfully within community practice and evaluated using standardized outcome measures. However, the study was not designed to determine whether the Islamic adaptation itself contributed to the observed changes, and no conclusions can be drawn regarding its specific contribution beyond the overall intervention.

Several alternative explanations should also be considered when interpreting the findings. Reiki sessions are typically conducted in quiet, supportive environments that encourage relaxation and focused attention. Therapeutic interaction, expectancy effects, nonspecific treatment factors, regression to the mean, and natural fluctuations in symptoms may therefore have contributed to the observed improvements. Similar considerations have been highlighted in

previous reviews of complementary therapies and reinforce the importance of interpreting findings from uncontrolled studies with caution (Jain & Mills, 2010; Lee et al., 2008). From a theoretical perspective, the findings are consistent with the biopsychosocial model and contemporary stress and coping frameworks that informed the study. These frameworks propose that interventions promoting relaxation, emotional regulation, and supportive therapeutic experiences may influence subjective perceptions of health and well-being. Although the present findings cannot identify the mechanisms responsible for the observed changes, they are compatible with the view that biological, psychological, social, and cultural factors interact to shape individuals' health experiences.

The present findings may also have practical implications for complementary healthcare. If confirmed through well-designed randomized controlled trials, culturally adapted Reiki interventions could be explored as supportive approaches alongside conventional medical care for individuals experiencing psychological distress or symptom burden. At present, however, the findings should be viewed as preliminary and should not be interpreted as supporting the use of Islamic Therapeutic Reiki as a substitute for evidence-based medical treatment.

The study has several strengths. It included a large community-based sample, employed standardized pre-post assessments, and evaluated a culturally adapted intervention that has received limited empirical investigation. Conducting the study under routine practice conditions also enhances the ecological validity of the findings and provides insight into the feasibility of collecting standardized outcome data within community complementary healthcare settings.

Unlike many earlier Reiki investigations that included relatively small samples or case-based designs, the present study evaluated a substantially larger community-based sample under routine practice conditions. Although this design does not establish causality, it provides additional evidence regarding the feasibility of evaluating culturally adapted Reiki interventions in real-world settings. Several limitations should also be acknowledged. The absence of a randomized control group limits causal inference and prevents differentiation between intervention-related changes and nonspecific effects. Outcomes were based on self-report measures collected immediately after treatment, and no follow-up assessments were available to determine the duration of observed improvements. Participants self-selected to receive Reiki, introducing the possibility of selection bias, and objective physiological measures were not included. Furthermore, the study evaluated only the immediate effects of a single treatment session; therefore, the long-term clinical significance of the observed changes remains unknown.

Future research should employ randomized controlled trial designs with appropriate sham or active comparator groups, standardized intervention protocols, longer follow-up periods, and validated multidimensional outcome measures. Studies examining potential mechanisms, including relaxation, expectancy, therapeutic alliance, and culturally relevant factors, would further strengthen the evidence base. Comparative investigations between culturally adapted Islamic Therapeutic Reiki and conventional Reiki may also help determine whether cultural adaptation influences intervention acceptability, adherence, or participant-reported outcomes.

In conclusion, participants reported immediate improvements in physical symptoms, emotional well-being, and

ffective states following a single session of Islamic Therapeutic Reiki delivered in routine community practice. Although these findings are broadly consistent with previous complementary medicine research, the study design does not permit conclusions regarding efficacy or causality. Instead, the findings provide preliminary evidence supporting the feasibility of further rigorous evaluation of culturally adapted Reiki interventions in adequately powered randomized controlled trials.

Conclusion

This study examined immediate changes in physical and psychological health outcomes following a single session of Islamic Therapeutic Reiki in a large community-based sample in Pakistan. Participants reported improvements in physical symptoms, anxiety, depression, and affective states immediately after the intervention. In addition, improvements in physical symptoms were accompanied by improvements in psychological well-being, suggesting that these outcomes changed concurrently following the session. Given the single-group pre-post design and the absence of a control group, these findings should be interpreted as preliminary within-person changes rather than evidence of treatment efficacy or causality.

The study contributes to the limited literature on culturally adapted Reiki interventions by evaluating an approach that incorporated Islamic spiritual elements within a standardized complementary therapy framework. It also demonstrates the feasibility of conducting large-scale community-based evaluations using standardized outcome measures in routine practice. However, the findings require confirmation through more rigorous study designs.

Future research should employ randomized controlled trials with appropriate comparison

groups, longer follow-up periods, standardized intervention protocols, and objective outcome measures to determine the effectiveness, durability, and potential mechanisms of culturally adapted Reiki interventions. Such research would help clarify the role of these complementary approaches as supportive interventions within evidence-based healthcare.

Declarations

Ethics Approval and Consent to Participate: The study protocol was reviewed and approved by the Institutional Review Board and Ethics Committee of the Health Services Academy, Islamabad, Pakistan (Approval No. 0678). All participants provided written informed consent before participation. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and its subsequent amendments.

Consent for Publication: All participants provided informed consent for the use of anonymized research data for scientific publication and academic dissemination. No identifiable personal information is included in this manuscript.

Availability of Data and Materials: The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request, subject to institutional ethical requirements and participant confidentiality protections.

Competing Interests: The author declares that there are no competing interests, financial or non-financial, that could have influenced the conduct, analysis, interpretation, or reporting of this study.

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Author Contributions: Dr. Shazia Shahzadi conceived and designed the study, developed the Islamic Therapeutic Reiki intervention protocol, coordinated and supervised data collection, performed data interpretation, prepared the original manuscript draft, critically revised the manuscript for important intellectual content, and approved the final version for publication.

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