THE EFFICACY OF SKT MEDITATION HEALING EXERCISE TECHNIQUES 1 AND 2 IN IMPROVING VITAL FUNCTIONS IN COVID-19 PATIENTS

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by

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The Efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in Improving Vital Functions in COVID-19 Patients

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I hereby declare that this dissertation has not been submitted

as an exercise for a degree at any other institution,

and that it is entirely my own work.

Signed ______________________

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ABSTRACT

The Efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in Improving Vital Functions in COVID-19 Patients

By

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The COVID-19 pandemic has posed significant challenges to global health, necessitating the exploration of alternative therapeutic interventions to support recovery. This study examines the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients. A quantitative quasi-experimental design with a two-group pre-posttest approach was employed. Thirty COVID-19 patients with mild symptoms were recruited using nonprobability sampling and divided into an experimental group, which practiced SKT Meditation Healing Exercise Techniques 1 and 2 for 14 days, and a control group that did not receive the intervention. Data collection included self-reported symptom assessments and vital sign measurements before and after the intervention. The results, analyzed using descriptive and inferential statistics, indicate a significant improvement in vital functions among participants in the experimental group compared to the control group. These findings suggest that SKT Meditation Healing Exercise Techniques 1 and 2 may serve as a complementary approach to enhance the recovery process in COVID-19 patients. The study highlights the potential benefits of mind-body interventions in managing viral infections and underscores the need for further research with larger sample sizes.

Keywords: COVID-19, SKT Meditation Healing Exercises, Vital functions

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CHAPTER ONE: INTRODUCTION

The COVID-19 pandemic has profoundly impacted global health, affecting millions of individuals worldwide.[1] With the pandemic posing unprecedented challenges to global healthcare systems, the need for accessible and cost-effective interventions has become more evident. While most patients experience mild to moderate symptoms, there is growing interest in complementary and alternative interventions that may support recovery and improve vital functions. Mental health issues have been particularly prevalent during the COVID-19 pandemic due to factors like isolation, uncertainty, and fear of illness. Meditation and mind-body exercises have gained attention for their potential benefits in enhancing physical and mental well-being. Among these, SKT Meditation Healing Exercise Techniques are promising to improve physiological functions in COVID-19 patients.

SKT Meditation Healing Exercise is an innovative healing meditation emphasizes the integration of physical positioning and mental focus to enhance therapeutic outcomes which developed by Professor Dr. Somporn Kantharadussadee Triamchaisri PhD. (Neuroscience), Mahidol University, Thailand since 1978.[2] It is a mixed method of meditation, moving, and controlling six sensory receptors. SKT techniques focus on concentration, self-discipline, mental and physical exercise, stretching, and relaxation to enhance therapeutic outcomes. It aligns with Complementary and Alternative Medicine's

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[1] David De Ridder et al., "SARS-CoV-2 Infection and the Risk of New Chronic Conditions: Insights from a Longitudinal Population-Based Study," *International Journal of Environmental Research and Public Health* 22, no. 2 (2025): 2, https://doi.org/10.3390/ijerph22020166.

[2] Somporn Kantharadussadee Triamchaisri, *SKT Meditation Healing Exercise 1-8* (Bangkok: Public Health Mahidol, 2024).

mind-body approach (CAM), emphasizing controlled breathing, mindfulness, and movement to improve physiological functions (e.g., respiratory efficiency, vital signs) and psychological well-being (e.g., anxiety and stress management).[3]

The global economic, social, and societal impacts of the COVID-19 pandemic such as job loss, financial insecurity, isolation, stress, and strain on healthcare systems have significantly affected individuals' mental and physical well-being. SKT Meditation Healing Exercise Techniques offer a low-cost, accessible, and holistic approach to managing stress, promoting relaxation, and improving vital functions. As a complementary intervention, SKT meditation addresses the emotional and physiological burdens caused by the pandemic, thereby supporting individual resilience, community health, and sustainable self-care practices in both recovery and prevention.

A model of SKT Meditation Healing Exercise includes eight distinct postures e.g. SKT1: Sitting, breathing, Meditation, SKT2: Standing deep breathing meditation exercise, SKT 3: Sitting Stretching-Strengthening Meditation Exercise, SKT4: Standing, moving, deep breathing meditation exercise, SKT5: Standing Stretching-Strengthening meditation Exercise, SKT6: Lying down, imagining meditation, SKT7: Thai Qigong Meditation Exercise, and SKT8: Neuronal healing touch.[4] Although there are eight SKT Meditation Healing Exercise Techniques available, this study specifically selected SKT1 and SKT2 for targeted evaluation. SKT1 is designed to reduce stress, regulate blood pressure, alleviate fever, and promote overall relaxation. By activating the parasympathetic nervous system and encouraging self-regulation, SKT1 supports

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[3] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[4] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

stabilization of autonomic functions, which is highly relevant for individuals recovering from COVID-19, where stress and elevated blood pressure can exacerbate illness severity. SKT2, on the other hand, focuses on reducing systemic inflammation, improving lung function, and supporting the respiratory system. Its emphasis on controlled breathing, mindful movements, and energy balancing is intended to promote better oxygen exchange, enhance pulmonary capacity, and potentially mitigate inflammatory responses. Given that COVID-19 frequently impacts the respiratory system and triggers inflammatory cascades, SKT2 offers an intervention aligned with these pathophysiological challenges. Together, SKT1 and SKT2 were selected to address both the psychological (stress, anxiety, autonomic dysregulation) and physiological (inflammation, respiratory compromise) dimensions commonly observed in patients with mild COVID-19 symptoms. Their complementary mechanisms provide a holistic yet practical intervention strategy, maximizing the potential to improve vital functions and support recovery during the post-acute illness phase.

Despite extensive research on medical treatments and pharmaceutical interventions, there remains a gap in understanding the role of non-pharmacological approaches in symptom management and recovery. Many COVID-19 patients with mild symptoms rely on self-care strategies during home isolation, yet limited studies have evaluated the efficacy of meditation-based interventions in this context. To addresses this gap, the primary aim of this study is to evaluate the effectiveness of SKT Meditation Healing Exercise Techniques 1 and 2 in enhancing the vital functions of COVID-19 patients with mild symptoms. This research seeks to provide empirical evidence on the potential benefits of these meditation techniques by conducting a quantitative quasi-experimental study with a two-group pre-posttest design. This study ensures a structured evaluation of the intervention's effectiveness.

The findings may contribute to alternative treatment options for symptom management and inform future clinical and wellness practices. This study contributes to the growing body of evidence supporting non-pharmacological approaches for managing COVID-19 symptoms by evaluating the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2. The findings highlight the potential of these techniques as accessible, low-risk complementary interventions that can enhance symptom management, support vital functions, and promote patient's well-being. By offering an alternative treatment option suitable for home-based care, this research informs future clinical and wellness practices and encourages the integration of mind-body modalities into holistic health strategies during and beyond the pandemic.

This chapter is structured as follows: Section 1.1 provides the background for the study. Section 1.2 outlines the research problem. Section 1.3 states the research aims, objectives, and questions. Section 1.4 presents the research significance. Section 1.5 presents the research methodology, including study design and participant selection. Section 1.6 discusses study limitations, and Section 1.7 outlines the structure of the dissertation.

1.1 Background of the Study:

Overview of the COVID-19 Pandemic

The COVID-19 pandemic, caused by the SARS-CoV-2 virus (Severe Acute Respiratory Syndrome Coronavirus 2), emerged in late 2019 in Wuhan, China, and quickly spread worldwide.[5] The World Health Organization (WHO) declared it a global pandemic on March 11, 2020.[6] The virus is thought to have emerged from a zoonotic source.[7] It spreads primarily through respiratory droplets, direct contact, and airborne transmission in certain conditions.[8] The virus can initially target respiratory epithelial cells and spread in humans.[9] Infections can range from mild cold to severe respiratory distress syndrome.[10] SARS-CoV-2 infection can lead to life-threatening complications, and the virus has the potential to infect the upper respiratory tract, leading to severe acute respiratory syndrome in humans.[11] Symptoms range from mild, i.e., fever, cough, fatigue, and loss of taste or smell, to severe, i.e., pneumonia and acute respiratory distress syndrome.[12] While vaccines and treatments have significantly reduced mortality rates, the virus continues to evolve, with new variants emerging.

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[5] Hellas Cena et al., "COVID-19 Pandemic as Risk Factors for Excessive Weight Gain in Pediatrics: The Role of Changes in Nutrition Behavior. A Narrative Review," *Nutrients* 13, no. 12 (2021): 4255, https://doi.org/10.3390/nu13124255.

[6] Domenico Cucinotta and Maurizio Vanelli, "WHO Declares COVID-19 a Pandemic," *Acta Bio Medica : Atenei Parmensis* 91, no. 1 (2020): 157–60, https://doi.org/10.23750/abm.v91i1.9397.

[7] Magan Solomon and Chen Liang, "Human Coronaviruses: The Emergence of SARS-CoV-2 and Management of COVID-19," *Virus Research* 319 (October 2022): 198882, https://doi.org/10.1016/j.virusres.2022.198882.

[8] Srikanth Umakanthan et al., "Origin, Transmission, Diagnosis and Management of Coronavirus Disease 2019 (COVID-19)," *Postgraduate Medical Journal* 96, no. 1142 (2020): 753–58, https://doi.org/10.1136/postgradmedj-2020-138234.

[9] Stephanie Bertram et al., "TMPRSS2 Activates the Human Coronavirus 229E for Cathepsin-Independent Host Cell Entry and Is Expressed in Viral Target Cells in the Respiratory Epithelium," *Journal of Virology* 87, no. 11 (2013): 6150–60, https://doi.org/10.1128/JVI.03372-12.

[10] Umakanthan et al., "Origin, Transmission, Diagnosis."

[11] Besharat Rahimi et al., "Coronavirus and Its Effect on the Respiratory System: Is There Any Association between Pneumonia and Immune Cells," *Journal of Family Medicine and Primary Care* 9, no. 9 (2020): 4729–35, https://doi.org/10.4103/jfmpc.jfmpc_763_20.

[12] Umakanthan et al., "Origin, Transmission, Diagnosis."

Impact on Global Health

The COVID-19 pandemic has profoundly impacted global health, the economy, and society since its emergence in late 2019. The rapid spread of the virus worldwide led the World Health Organization to declare it a pandemic on March 11, 2020.[13] The pandemic has resulted in over 7.1 million deaths worldwide as of March 2025. There have been over 778 million confirmed cases in 231 countries and territories.[14] In the United States of America, from January 2020 to March 2025, there have been over 103 million confirmed cases of COVID-19, with over 1.2 million deaths reported to the WHO.[15] In my country, Thailand, from January 2020 to February 2025, there have been over 4.8 million confirmed cases of COVID-19, with 34.7k deaths reported to the WHO.[16] Healthcare systems in many countries faced overwhelming strain, with shortages of hospital beds, ventilators, and medical staff. Lockdowns, isolation, and uncertainty led to an increase in anxiety, depression, and stress-related disorders. Some individuals experience prolonged symptoms, i.e., chest/throat pain, abnormal breathing, abdominal symptoms, fatigue, anxiety/depression, headache, cognitive dysfunction, and respiratory issues, posing long-term health concerns.[17] Routine medical services, including

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[13] World Health Organization, "Virtual Press Conference on COVID-19," March 11, 2020, https://www.who.int/docs/default-source/coronaviruse/transcripts/who-audio-emergencies-coronavirus-press-conference-full-and-final-11mar2020.pdf?sfvrsn=cb432bb3_2.

[14] "WHO COVID-19 Dashboard: Deaths," World Health Organization, accessed March 1, 2025, https://data.who.int/dashboards/covid19/cases.

[15] "WHO COVID-19 Dashboard: Cases."

[16] "WHO COVID-19 Dashboard: Deaths."

[17] Maxime Taquet et al., "Incidence, Co-Occurrence, and Evolution of Long-COVID Features: A 6-Month Retrospective Cohort Study of 273,618 Survivors of COVID-19," *PLoS Medicine* 18, no. 9 (2021): e1003773, https://doi.org/10.1371/journal.pmed.1003773.

vaccinations, cancer screenings, and elective surgeries, were delayed or canceled, impacting overall health outcomes. Rapidly developing vaccines such as Moderna, Novavax, Pfizer-BioNTech,[18] Johnson & Johnson,[19] AstraZeneca,[20] Sinovac-CoronaVac,[21] and Sinopharm[22] helped curb COVID-19. Still, disparities in distribution and vaccine hesitancy slowed progress.

Economic Impact

Many countries experienced economic downturns due to lockdowns, reduced consumer spending, and supply chain disruptions. Millions of workers lost their jobs, especially in tourism, retail, and manufacturing. Small businesses were hit hardest. Shortages of raw materials and essential goods (including medical supplies) affected global trade. Governments introduced relief packages, unemployment benefits, and

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[18] CDC, "Interim Clinical Considerations for Use of COVID-19 Vaccines in the United States," May 1, 2025, https://www.cdc.gov/covid/hcp/vaccine-considerations/index.html.

[19] Johnson & Johnson, "Johnson & Johnson COVID-19 Vaccine Authorized by U.S. FDA For Emergency Use - First Single-Shot Vaccine in Fight Against Global Pandemic," February 27, 2021, https://www.jnj.com/media-center/press-releases/johnson-johnson-covid-19-vaccine-authorized-by-u-s-fda-for-emergency-usefirst-single-shot-vaccine-in-fight-against-global-pandemic.

[20] Maria Deloria Knoll and Chizoba Wonodi, "Oxford–AstraZeneca COVID-19 Vaccine Efficacy," *The Lancet* 397, no. 10269 (2021): 72–74, https://doi.org/10.1016/S0140-6736(20)32623-4.

[21] World Health Organization, "Interim Recommendations for Use of the Inactivated COVID-19 Vaccine, CoronaVac, Developed by Sinovac: Interim Guidance," *World Health Organization*, May 24, 2021, 30.

[22] Alireza Mohebbi et al., "Adverse Effects Reported and Insights Following Sinopharm COVID-19 Vaccination," *Current Microbiology* 80, no. 12 (2023): 377, https://doi.org/10.1007/s00284-023-03432-8.

stimulus checks, increasing national debts.[23] Many businesses adapted to remote work, accelerating digital transformation in various industries.

Social and Societal Impact

Restrictions on movement and gatherings disrupted daily life, education, and social interactions. Schools and universities transitioned to online learning, widening the digital divide, especially in low-income regions. The pandemic fueled the spread of misinformation, leading to vaccine hesitancy and public distrust in health authorities. Due to lockdown enforcement and voluntary social distancing, the services sector, travel, tourism, catering, and leisure were critically affected.[24] Border closures and travel restrictions led to a sharp decline in tourism, affecting economies dependent on the industry.[25] The pandemic exposed and worsened economic and healthcare inequalities, disproportionately affecting marginalized communities.

The Physiological and Psychological challenges faced by COVID-19 Patients.

Even mild COVID-19 cases can cause fever, dry cough, and shortness of breath due to lung inflammation.[26] Fever, cough, and myalgia are common symptoms.[27] Persistent tiredness and muscle weakness can linger, affecting daily activities. This can

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[23] Maria Nicola et al., “The Socio-Economic Implications of the Coronavirus Pandemic (COVID-19): A Review,” *International Journal of Surgery (London, England)* 78 (June 2020): 185–93, https://doi.org/10.1016/j.ijsu.2020.04.018.

[24] Rahmiye Figen Ceylan et al., “Historical Evidence for Economic Effects of COVID-19,” *The European Journal of Health Economics* 21, no. 6 (2020): 817–23, https://doi.org/10.1007/s10198-020-01206-8.

[25] Nicola et al., “Socio-Economic Implications of the Coronavirus.”

[26] Rahimi et al., “Coronavirus and Its Effect.”

[27] Umakanthan et al., “Origin, Transmission, Diagnosis and Management.”

reduce appetite and impact nutrition. Generalized pain can affect comfort and mobility.[28] Some patients experience constipation, diarrhea, or stomach pain. Some may develop shortness of breath, coughing, chest pain, and palpitations. Some may experience brain fog, Headaches, dizziness, Pins-and-needles feelings, diabetes, blood clot risks, post-COVID heart issues, and difficulty concentrating (sometimes called "long COVID" symptoms).[29]

Some patients worry about health deterioration or spreading the virus to others. Isolation and reduced social interaction can contribute to emotional distress, insomnia, or disrupted sleep patterns due to stress or symptoms. Some patients, especially those hospitalized, may experience PTSD-like symptoms, difficulty concentrating, forgetfulness, and reduced mental clarity. Uncertainty about recovery and potential long-term effects can cause significant stress.[30]

The concept of Complementary and Alternative medicine (CAM) as Potential Supportive Interventions.

Complementary and Alternative Medicine (CAM) is a diverse medical and health care practice outside conventional medicine. These approaches promote holistic well-being by addressing physical, mental, and spiritual health. CAM is often categorized into

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[28] CDC, "Signs and Symptoms of Long COVID," July 11, 2024, https://www.cdc.gov/covid/long-term-effects/long-covid-signs-symptoms.html.

[29] CDC, "Signs and Symptoms of Long COVID."

[30] CDC, "Signs and Symptoms of Long COVID."

complementary therapies, which are used alongside conventional treatments, and alternative therapies, which are used in place of mainstream medical interventions.[31]

In COVID-19 recovery, CAM has gained attention as a potential supportive intervention for managing symptoms and improving overall health outcomes. Many CAM approaches focus on enhancing immune function, reducing inflammation, improving respiratory health, and supporting psychological symptoms and well-being, making them particularly relevant for COVID-19 symptoms.[32] Since CAM therapies, including SKT meditation, can complement conventional treatments, my study contributes to the growing evidence supporting integrative approaches for COVID-19 recovery.

1.2 Statement of the Problem:

COVID-19 affects physiological (e.g., respiratory issues, fatigue, loss of taste/smell) and psychological (e.g., anxiety, depression, stress) well-being. Conventional treatments focus primarily on medical management, including symptom relief through medications, hydration, and rest. CAM, particularly meditation and breathing exercises, has shown potential in improving stress regulation, respiratory function, and immune response in various health conditions. Some studies suggest that mind-body interventions

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[31] NIH, "Complementary and Alternative Medicine (CAM) - NCI," October 31, 2024, nciglobal,ncienterprise, https://www.cancer.gov/about-cancer/treatment/cam.

[32] Mahin Badakhsh et al., "Complementary and Alternative Medicine Therapies and COVID-19: A Systematic Review," *Reviews on Environmental Health* 36, no. 3 (2021): 443–50, https://doi.org/10.1515/reveh-2021-0012.

like yoga, Tai Chi, and meditation may enhance vital functions, mental health, and recovery outcomes in patients with respiratory illnesses.[33]

There is limited scientific evidence on the specific efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients. Most existing studies focus on general meditation practices, but few have examined structured SKT techniques for COVID-19 symptom management. Research on nonpharmacological interventions for mild COVID-19 cases who are advised to isolate at home is particularly scarce, leaving a gap in understanding how such techniques can aid recovery outside hospital settings.

Without empirical data, healthcare practitioners lack evidence-based guidelines for recommending SKT Meditation Healing Exercise Techniques 1 and 2 as supportive interventions for COVID-19 recovery. Patients with mild COVID-19 cases lack accessible, structured, and non-drug-based strategies to improve their respiratory health, energy levels, and psychological well-being during home isolation. Addressing this gap is essential because integrating evidence-based CAM approaches into COVID-19 recovery plans may enhance patient outcomes, reduce reliance on medications, and support holistic well-being.

My study provides quantitative evidence on the impact of SKT Meditation Healing Exercise Techniques 1 and 2 on vital functions in COVID-19 patients. It offers new insights into its effectiveness as a complementary, non-invasive intervention. This

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[33] Danilo F. Santaella et al., "Yoga Respiratory Training Improves Respiratory Function and Cardiac Sympathovagal Balance in Elderly Subjects: A Randomised Controlled Trial," *BMJ Open* 1, no. 1 (2011): e000085, https://doi.org/10.1136/bmjopen-2011-000085.

can inform health policies, clinical recommendations, and patient self-care strategies in COVID-19 responses.

1.3 Aims, Objectives, and Questions of the Study:

My research aims to evaluate the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients with mild symptoms, providing empirical evidence in the absence evidence for its potential use as a complementary and alternative intervention in COVID-19 recovery.

Research Objectives:

1. To assess the impact of SKT Meditation Healing Exercise Techniques 1 and 2 on vital signs (e.g., body temperature, heart rate, respiratory rate, oxygen saturation, and blood pressure) in COVID-19 patients.
2. To determine its efficacy, compare the pre- and post-intervention data of the experimental group (practicing SKT techniques 1 and 2) and the control group (receiving standard care).
3. To contribute to the existing knowledge on nonpharmacological interventions for COVID-19 recovery and their potential integration into public health strategies.

Research Questions and Hypotheses:

Research Question #1: To what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improving vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients?

Hypothesis 1 (H1): SKT Meditation Healing Exercise Techniques 1 and 2 will significantly improve vital functions (body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation) in COVID-19 patients.

Research Question # 2: Is there a statistically significant difference in vital functions between the experimental and control groups following the SKT Meditation Healing Exercise Techniques 1 and 2 implementations in COVID-19 patients?

Hypothesis 2 (H2): There is a statistically significant difference in vital functions (body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation) between the experimental and control groups after the implementation of SKT Meditation Healing Exercise Techniques 1 and 2.

1.4 Significance of the Study:

My study has the potential to significantly contribute to the field of medicine and healthcare, particularly in integrative medicine and COVID-19 treatment strategies by offering evidence-based support for SKT meditation as a complementary therapy, potentially enhancing recovery, reducing symptoms, and improving vital functions in COVID-19 patients. It advances integrative medicine by bridging traditional healing with modern care, promoting holistic, low-cost, and accessible treatment options.

My research adds to the growing body of scientific evidence supporting Complementary and Alternative Medicine (CAM) by evaluating SKT Meditation Healing Exercise Techniques 1 and 2 in a controlled setting. It highlights the role of mind-body interventions in improving physiological functions (e.g., vital signs) and psychological well-being in COVID-19 patients. This study can help bridge the gap between traditional meditation practices and modern medical research, promoting their integration into mainstream healthcare.

My findings could support nonpharmacological interventions as a beneficial option for mild COVID-19 cases, especially those recovering at home. By providing quantitative evidence of SKT techniques 1 and 2 improving respiratory function, heart rate, and stress levels, this study may influence clinical guidelines for COVID-19 rehabilitation. It offers an accessible, low-cost, and non-invasive strategy that could reduce dependence on medications and medical resources.

If SKT Meditation Healing Exercise Techniques 1 and 2 prove effective in improving vital functions and reducing COVID-19 symptoms, they could be incorporated into public health programs as preventive and supportive intervention to enhance community resilience against respiratory illnesses. This study aligns with preventive medicine by encouraging self-care practices that strengthen the body's ability to recover from viral infections. It may serve as a model for meditation-based interventions in future pandemic preparedness plans by demonstrating how structured, evidence-based mind-body practices like SKT1 and SKT2 can support immune function, reduce stress, and improve recovery, offering a scalable, low-cost, and non-invasive approach to enhance public health resilience during widespread health crises.

Psychological distress, including anxiety, depression, and post-COVID cognitive issues, is a significant concern for patients. My study contributes to mental health research by exploring how SKT meditation techniques 1 and 2 can reduce stress and improve emotional well-being during recovery. This can encourage healthcare providers to incorporate mindfulness and meditation therapy into holistic treatment plans to enhance patient outcomes, support mental and physical well-being, reduce reliance on medication, and promote self-regulation and resilience in managing illness and recovery.

My study sets a precedent for future research using meditation, breathwork, and movement-based therapies to treat viral illnesses and chronic conditions by demonstrating the potential of meditation, breathwork, and movement-based therapies in treating viral illnesses. It may inspire further clinical trials exploring SKT meditation's impact on the immune system, autonomic nervous system, and inflammation levels. This study strengthens the case for multidisciplinary approaches that integrates conventional and complementary medicine in infectious disease care.

1.5 Research methodology:

Research Design

This study employs a quantitative quasi-experimental design with a two-group pre-posttest structure. This approach allows me to compare the impact of SKT Meditation Healing Exercise Techniques 1 and 2 (SKT1 and SKT2) on vital functions in COVID-19 patients. Participants were divided into two groups: an experimental group, which practiced SKT Meditation Healing Exercise Techniques 1 and 2 (SKT1 and SKT2) for 14 days, and a control group, which did not receive the intervention. Vital signs and symptom data were collected on the intervention's 1st, 7th, and 14th day to assess improvements. This design enables a structured analysis of changes in vital functions while maintaining a controlled comparison.

Methodology

Thus, study used nonprobability sampling, meaning participants were selected based on specific criteria (Inclusion Criteria: COVID-19 patients aged 18-65 with mild symptoms who were advised to isolate at home. Exclusion Criteria: Patients with severe COVID-19 symptoms or complications, such as pneumonia or acute respiratory distress syndrome (ARDS) and Presence of underlying health conditions e.g., diabetes, heart disease, lung disease, obesity, weakened immune system) rather than random selection. This approach ensured the recruitment of suitable participants within the constraints of time, budget, and ethical considerations. Under guided instruction, the experimental group engaged in SKT1 and SKT2 meditation healing exercises for 14 days. The control group did not participate in the meditation exercises. Participants' vital functions and symptom progression were monitored throughout the study.

Data Collection includes demographics (e.g., Age, gender, and other relevant participant characteristics), COVID-19 symptoms, and complications for tracking of mild symptoms like fever, cough, fatigue, and loss of taste/smell, vital signs data such as body temperature, heart rate, respiratory rate, oxygen saturation, and blood pressure, and self-reported symptom questionnaire used to measure participants' subjective symptom relief before and after the intervention.

Descriptive Statistics summarized participant demographics and baseline health conditions. Inferential Statistics determined whether SKT1 and SKT2 statistically affected participants' vital functions. Pre-post test Comparison assessed the difference in vital signs before and after the intervention.

Approach

My research follows a positivist philosophy based on objective measurement and statistical analysis to evaluate the effectiveness of SKT1 and SKT2. Positivism emphasizes empirical data and quantifiable evidence to conclude the relationship between the intervention and health outcomes.

Participants and Setting

The participants were 30 COVID-19 patients with mild symptoms aged 18 to 65. Individuals with underlying health conditions (e.g., diabetes, heart disease, lung disease, obesity) or severe complications (e.g., pneumonia, acute respiratory distress syndrome) were not included in the study. This group provided a practical and ethically sound foundation for evaluating the effectiveness of SKT techniques in a real-world, at-home recovery context. This study was conducted at Phrae Hospital in Phrae Province, Thailand. Ethical approval was obtained from the University of the West and Phrae Hospital IRB committees to ensure research ethics and participant safety compliance.

1.6 Study Limitations:

This study includes 30 COVID-19 patients aged 18–65 who exhibit mild symptoms (e.g., fever, cough, fatigue, loss of taste or smell, sore throat, nasal congestion, or body aches). Participants are divided into two groups: 1. Experimental group (practicing SKT Meditation Healing Exercise Techniques 1 and 2). Control group (receiving standard care without the intervention). Individuals with underlying health conditions (e.g., diabetes, heart disease, lung disease, obesity, weakened immune systems) or severe COVID-19 symptoms (e.g., pneumonia, ARDS) are excluded from the study.

The intervention period spans 14 days, during which participants in the experimental group practice SKT Meditation Healing Exercise Techniques 1 and 2 daily. Data collection occurs at three points: 1. Pre-intervention (baseline measurements before

SKT meditation healing exercise practice begins). 2. During the intervention (the 7th day of SKT meditation healing exercise practice) 3. Post-intervention (the 14th day of SKT meditation healing exercise practice).

The study was conducted in Phrae Province, Northern Thailand. Participants are recruited from Phrae Hospital, a local healthcare facility, and data collection follows ethical guidelines approved by the University of the West and Phrae Hospital IRB committees.

With only 30 participants, the study may not have sufficient statistical power to generalize findings to a larger population. A larger, more diverse sample would be needed to confirm the effectiveness of SKT Meditation Healing Exercise Techniques 1 and 2 across different demographics and health conditions. Nonprobability sampling means that participants are not randomly selected, which may introduce selection bias. The findings may not represent all COVID-19 patients, particularly those with different socioeconomic, cultural, or health backgrounds. The intervention period of 14 days may not be long enough to fully assess the long-term effects of SKT Meditation Healing Exercise Techniques 1 and 2 on vital functions and symptom improvement. The study does not track whether benefits persist beyond the intervention period, limiting insights into sustained efficacy. The study focuses only on mild COVID-19 cases and excludes patients with comorbidities or severe symptoms. This means the findings may not apply to patients with pre-existing conditions (e.g., diabetes, heart disease, lung disease) and patients with moderate to severe COVID-19 who may require hospitalization. This study was conducted in one province (Phrae Province, Northern Thailand), limiting the results' external validity. Cultural, environmental, and healthcare system differences may mean the results are not directly applicable to other regions or countries. While vital signs are objectively measured, symptom improvement (e.g., fatigue, anxiety, and breathlessness) is based on self-reported data, which is subject to bias (e.g., the placebo effect and subjective perception). Participants may overestimate or underestimate their improvement, affecting the accuracy of symptom-related findings. The study does not assess whether improvements in vital signs and symptoms persist after the 14-day intervention. A longitudinal study would be needed to determine if the benefits of SKT1 and SKT2 are temporary or lasting, strengthening the case for their role in sustainable, integrative healthcare.

1.7 Chapter Outlines:

Chapter One: Introduces the structure of this dissertation. The purpose is to provide background information, define the research problem, aims, objectives, questions, establish the study's significance, scope, limitations and give a brief overview of the chapters**.** Chapter Two: Literature Review critically examine existing research related to the study. Key sections include the theoretical framework, meditation and healing practices as a therapeutic modality, SKT meditation healing exercise techniques, meditation and COVID-19, gaps in the literature, and a literature summary. Chapter Three: Methodology describes the study design, data collection, and analysis methods. Key sections include the research team, study aims, objectives and questions, research design, participants and setting, intervention protocol, data collection, data analysis, ethical considerations, study limitations, contributions, and concluding summary.

Chapter Four: Research results present the analyzed data objectively. Key sections include descriptive statistics (i.e., participants' demographic, COVID-19 symptoms, vaccination, recovery, and descriptive statistics for each variable of vital functions), inferential statistics for the improvements in vital functions (i.e., the improvement of vital functions on day 1, day 7, and day 14 within each group and comparison of the vital functions of the experimental group and the control group), and summary of findings. Chapter Five: Discussion to interpret the findings and relate them to existing literature. Key sections include an overview of key findings, interpretation, and explanation of the meaning of the analysis results, the potential mechanisms through which SKT Meditation Healing Exercise techniques 1 and 2 may impact vital functions in COVID-19 patients, a comparison with existing literature, and a summary. Chapter Six: Conclusion to summarize the research and highlight its contributions. Key Sections include a restatement of the research aim and objectives, a summary of findings, study implications, limitations, recommendations, future research directions, and final thoughts.

CHAPTER TWO: LITERATURE REVIEW

This chapter provides a comprehensive literature review, situating SKT Meditation Healing Exercise Techniques 1 and 2 within the context of COVID-19 research. It also highlights the need for further studies to support its use in medical contexts.

This literature review chapter is divided into six sections. The first section is theoretical frameworks; the second section is Meditation and Healing Practices; the third section is SKT Meditation Healing Exercise Techniques; the fourth section is Meditation and COVID-19; the fifth section is gaps in the literature; and the last section is the literature review summary.

The first section of this literature review chapter outlines the theoretical Framework. First, this section introduces theories that support the use of meditation in health care. Second, it explores theories on the interconnection between mind and body. The second section outlines meditation and healing Practices. First, it introduces the concept of meditation and its role in healing; then, it traces the types of meditation and their health benefits, including stress reduction, improved mental health, and physical well-being. The third section of this literature review chapter outlines SKT Meditation Healing Exercise Techniques. First, it provides an overview and theories of SKT Meditation Healing Exercise Techniques; then, it explains SKT meditation's fundamental principles and practices of SKT Meditation Healing Exercise 8 Techniques; then, it reviews existing research and evidence supporting SKT Meditation Healing Exercise Techniques 1 and 2. The fourth section outlines Meditation and COVID-19. First, it reviews studies on meditation’s benefits for COVID-19 patients. Then, it focuses on research linking meditation to mental health benefits. Then, it examines research on meditation's impact on the immune system, respiratory outcomes, feasibility and accessibility of online meditation, and impact on overall well-being. The fifth section of this literature review chapter identifies where this study fills gaps in the literature by first identifying where current research is lacking, second noting the absence of specific studies on SKT Meditation Healing Exercise Techniques for COVID-19 and the need for more extensive research, and finally, discussing how my research can fill some of these gaps for furthering understanding and practice. The last section provides the literature summary. First, it recaps the key points addressed in Chapter Two: Literature Review; second, it discusses the connection between the literature and the current research focus; finally, it sets the stage for the research methodology in the following chapter.

2.1 The Theoretical Framework:

Theoretical perspectives supporting the use of meditation in medical contexts as part of complementary healthcare. These theories explain how the mind, body, behavior, and environment interact in health and healing, particularly when conventional (allopathic) and alternative modalities converge:

1. Biopsychosocial Model (BPS) and Biopsychosocial-Spiritual Model (BPS-S)

This model integrates biological, psychological, and social factors in understanding health and illness.[34] Meditation can support each of these dimensions: biologically by reducing stress hormones and enhancing immune function,

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[34] Aneeta Saxena et al., "Using the Biopsychosocial Model to Guide Patient-Centered Neurological Treatments," *Seminars in Neurology* 42, no. 2 (2022): 80–87, https://doi.org/10.1055/s-0041-1742145.

psychologically by improving mood and resilience, and socially by fostering a sense of connection and support.[35]

The Biopsychosocial-Spiritual (BPS-S) model is an extension of the traditional biopsychosocial model, incorporating spiritual aspects to provide a more holistic approach to health and well-being. This model recognizes the interconnectedness of biological, psychological, social, and spiritual dimensions in understanding and treating individuals. Spirituality involves the exploration of meaning, purpose, and connection to something greater, which can include religious beliefs or personal spirituality. [36] Biopsychosocial and Biopsychosocial-Spiritual Models provide a foundation for mind-body interventions like meditation, yoga, and SKT, emphasizing the interconnectedness of physical and mental health.

2. Mind-Body Connection and Mind-Body Medicine (MBM)

Mind-body connection Theory refers to the idea that mental, emotional, and psychological states can influence physical health. This theory suggests that thoughts,

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[35] Michaela C. Pascoe et al., "Mindfulness Mediates the Physiological Markers of Stress: Systematic Review and Meta-Analysis," *Journal of Psychiatric Research* 95 (December 2017): 156–78, https://doi.org/10.1016/j.jpsychires.2017.08.004; Rohan Arora and Reshu Gupta, "Effectiveness of Meditation Programs in Empirically Reducing Stress and Amplifying Cognitive Function, Thus Boosting Individual Health Status: A Narrative Overview," *Indian Journal of Health Sciences and Biomedical Research (KLEU)* 14, no. 2 (2021): 181, https://doi.org/10.4103/kleuhsj.kleuhsj_108_20; Julia C. Basso et al., "Brief, Daily Meditation Enhances Attention, Memory, Mood, and Emotional Regulation in Non-Experienced Meditators," *Behavioural Brain Research* 356 (January 2019): 208–20, https://doi.org/10.1016/j.bbr.2018.08.023; Hristina Telefonska, "Influence of Meditation Practices over Social Connectedness," *Diogenes* 27, no. 1 (2019): 230-7, https://journals.uni-vt.bg/diogen/eng/vol27/iss1/art24; Paul Condon et al., "Meditation Increases Compassionate Responses to Suffering," *Psychological Science* 24, no. 10 (2013): 2125–27, https://doi.org/10.1177/0956797613485603.

[36] Daniel P. Sulmasy, "A Biopsychosocial-Spiritual Model for the Care of Patients at the End of Life," *The Gerontologist* 42, no. suppl_3 (2002): 24–33, https://doi.org/10.1093/geront/42.suppl_3.24; S. Post et al., "Physicians and Patient Spirituality: Professional Boundaries, Competency, and Ethics," *Annals of Internal Medicine* 132 (2000): 578–83, https://doi.org/10.7326/0003-4819-132-7-200004040-00010.

emotions, stress levels, and attitudes impact bodily functions, such as immune response, heart rate, brain function, and hormone production. It is a broad theoretical framework that underpins various disciplines, including psychology, neuroscience, and integrative medicine.[37]

Mind-body medicine is a field of healthcare that applies the principles of the mind-body connection to medical treatment. It includes techniques like meditation, yoga, tai chi, guided imagery, and biofeedback to improve health outcomes by harnessing the mind's influence on the body. Meditation practices like mindfulness and relaxation techniques are central to mind-body medicine. They help reduce stress and promote physical healing through the mind-body connection. Mind-body medicine is an evidence-based practice that integrates conventional medicine with holistic approaches to address both mental and physical health issues.[38] Mind-Body Connection and Mind-Body Medicine form the core of practices like SKT, which use breathing, movement, and mindfulness to affect autonomic and immune function.

3. Self-Regulation Theory

This self-regulation theory encompasses various models and frameworks integrating cognitive, emotional, behavioral, and cultural components to explain and

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[37] David Muehsam et al., "The Embodied Mind: A Review on Functional Genomic and Neurological Correlates of Mind-Body Therapies," *Neuroscience & Biobehavioral Reviews* 73 (February 2017): 165–81, https://doi.org/10.1016/j.neubiorev.2016.12.027; Nani Morgan et al., "The Effects of Mind-Body Therapies on the Immune System: Meta-Analysis," *PLoS ONE* 9, no. 7 (2014): e100903, https://doi.org/10.1371/journal.pone.0100903; Lekha L, "The Mind and Body Are Connected with Each Other Through Psychoneuroendocrine and Reticuloendothelial System," *Indian Journal Of Clinical Practice* 31, no. 2 (2020): 2.

[38] Suzanne Little, "Mind-Body Medicine Analysis," *Integrative Cancer Therapies* 1, no. 1 (2002): 60–63, https://doi.org/10.1177/153473540200100114; Peter M Wolsko et al., "Use of Mind–Body Medical Therapies," *Journal of General Internal Medicine* 19, no. 1 (2004): 43–50, https://doi.org/10.1111/j.1525-1497.2004.21019.x.

improve goal-directed behavior.[39] Meditation enhances self-regulation by improving attention control, emotional regulation, body awareness, and a change in perspective on the self, leading to healthier behaviors and better health outcomes.[40] Meditation and breathwork help individuals regulate stress, heart rate, and mood—key elements in techniques like SKT.

4. Homeostasis Theory of Well-Being

Homeostasis is a dynamic, self-regulating process essential for maintaining internal stability and optimizing physiological and behavioral functions, with implications for health, disease, and well-being.[41] CAM techniques aim to restore homeostasis through gentle stimulation of the nervous system and energy flow.

5. Autonomic Balance Theory

The autonomic balance theory emphasizes the critical role of the autonomic nervous system in maintaining physiological stability through complex interactions between sympathetic and parasympathetic activities. This theory has implications for health, disease, and behavioral regulation.[42] Practices like SKT help shift dominance toward the parasympathetic system, promoting recovery and healing.

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[39] Michael Inzlicht et al., "Integrating Models of Self-Regulation," *Annual Review of Psychology* 72 (January 2021): 319–45, https://doi.org/10.1146/annurev-psych-061020-105721.

[40] Britta K. Hölzel et al., "How Does Mindfulness Meditation Work? Proposing Mechanisms of Action From a Conceptual and Neural Perspective," *Perspectives on Psychological Science* 6, no. 6 (2011): 537–59, https://doi.org/10.1177/1745691611419671.

[41] David F. Marks, "Homeostasis Theory of Well-Being," *Journal of Health Psychology* 29, no. 7 (2024): 721–33, https://doi.org/10.1177/13591053231216014.

[42] David S. Goldstein, "Linking the Extended Autonomic System with the Homeostat Theory: New Perspectives about Dysautonomias.," *Journal of Personalized Medicine* 14, no. 1 (2024): NA-NA.

6. Relaxation Response Theory

The relaxation response is an integrated hypothalamic response that decreases sympathetic nervous system activity, providing therapeutic benefits for stress-related conditions and promoting restorative processes.[43] Relaxation Response Theory core to meditation-based healing, this theory supports how SKT exercises reduce blood pressure, pulse, and anxiety.

7. Psychoneuroimmunology (PNI)

PNI studies the interaction between psychological processes, the nervous, and the immune system, showing that stress and emotions can modulate immune function and influence health outcomes.[44] Meditation influences PNI pathways by reducing stress and inflammation, promoting relaxation, and enhancing immune response, thereby improving overall health.[45] Psychoneuroimmunology explains how practices like meditation enhance immunity, reduce inflammation, and improve recovery—especially relevant in COVID-19 research.

8. Health Belief Model (HBM)

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[43] H. Benson et al., "The Relaxation Response: Psychophysiologic Aspects and Clinical Applications," *International Journal of Psychiatry in Medicine* 6, nos. 1–2 (1975): 87–98, https://doi.org/10.2190/376W-E4MT-QM6Q-H0UM.

[44] Robert Zachariae, "Psychoneuroimmunology: A Bio-Psycho-Social Approach to Health and Disease," *Scandinavian Journal of Psychology* 50, no. 6 (2009): 645–51, https://doi.org/10.1111/j.1467-9450.2009.00779.x.

[45] Lucam J. Moraes et al., "A Systematic Review of Psychoneuroimmunology-Based Interventions," *Psychology, Health & Medicine* 23, no. 6 (2018): 635–52, https://doi.org/10.1080/13548506.2017.1417607; Thaddeus W. W. Pace et al., "Effect of Compassion Meditation on Neuroendocrine, Innate Immune and Behavioral Responses to Psychosocial Stress," *Psychoneuroendocrinology* 34, no. 1 (2009): 87–98, https://doi.org/10.1016/j.psyneuen.2008.08.011.

The Health Belief Model is a widely recognized framework for understanding and predicting health behaviors by focusing on perceived susceptibility, severity, benefits, barriers, and self-efficacy. It can be used to guide health promotion and disease prevention programs. It is used to explain and predict individual changes in health behaviors.[46] Understanding patients' beliefs about alternative therapies helps explain CAM usage and adherence to practices like SKT Meditation Healing Exercises.

9. The transtheoretical Model (TTM)

The transtheoretical model effectively understands and facilitates health behavior change through its stages, processes of change, and constructs like self-efficacy and decisional balance. However, there are criticisms and inconsistencies, particularly regarding the stages of change and their application across different behaviors.[47] The transtheoretical Model helps guide interventions and evaluate readiness to engage in lifestyle changes like daily SKT Meditation Healing exercises practice.

10. Humanistic Theory

The humanistic theory emphasizes personal growth, self-actualization, and a holistic understanding of individuals. It focuses on intrinsic values and personal development in various contexts, such as education, psychology, and health care. Meditation supports personal growth and self-awareness, promoting a sense of purpose, fulfillment, and overall well-being, which are central to the humanistic approach to

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[46] Anees Alyafei and Raul Easton-Carr, "The Health Belief Model of Behavior Change," in *StatPearls* (StatPearls Publishing, 2025), http://www.ncbi.nlm.nih.gov/books/NBK606120/.

[47] J. O. Prochaska and W. F. Velicer, "The Transtheoretical Model of Health Behavior Change," *American Journal of Health Promotion: AJHP* 12, no. 1 (1997): 38–48, https://doi.org/10.4278/0890-1171-12.1.38.

health.[48] Humanistic Theory aligns with meditation and holistic healing methods that empower individuals to take active roles in their health journey.

Theoretical perspectives such as the biopsychosocial model, mind-body medicine, self-regulation theory, and others provide a robust framework for understanding the benefits of meditation in medical contexts. These perspectives highlight how meditation can influence biological, psychological, and social factors to promote health and well-being. Incorporating meditation into medical practice can offer a holistic approach to patient care, addressing mental and physical health needs.

2.2 Meditation and Healing Practices as a Therapeutic Modality:

Meditation is a family of mental training practices designed to improve attentional and emotional self-regulation. It often involves techniques like focused attention, open monitoring, and mantra recitation, which can lead to various health benefits and changes in brain activity. Meditation has roots in different religious traditions, including Buddhism, Hinduism, Judaism, and Christianity, but it is also practiced in secular contexts for its mental and physical health benefits.[49]

Meditation is a technique for resting the mind and attaining a state of consciousness that is different from the normal waking state, sleeping state, or dreaming state. It is a transcendental state of consciousness.[50] The term 'meditation' refers to

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[48] Sonja Ann Miller et al., *Humanistic Theory*, Iowa State University Digital Press, August 1, 2022, https://iastate.pressbooks.pub/individualfamilydevelopment/chapter/humanistic-theory/.

[49] Samuel D. Landau and Fergal W. Jones, "Finding the Spiritual in the Secular: A Meta-Analysis of Changes in Spirituality Following Secular Mindfulness-Based Programs," *Mindfulness* 12, no. 7 (2021): 1567–81, https://doi.org/10.1007/s12671-021-01600-0.

[50] Jai Paul Dudeja, "Scientific Analysis of Mantra-Based Meditation and Its Beneficial Effects: An Overview," *International Journal of Advanced Scientific Technologies in Engineering and Management*

various practices, ranging from techniques designed to promote relaxation and improved concentration to exercises performed with a more far-reaching goal, such as a heightened sense of well-being, cultivating altruistic behaviors, and, for some, attaining enlightenment.[51]

Meditation is a complementary and integrative technique that promotes health and self-regulation, offering benefits when combined with conventional medical treatments. It is often used to reduce stress,[52] enhance concentration, increase self-awareness,[53] and promote well-being.[54] Meditation can take various forms, including seated meditation,[55] walking meditation,[56] and meditative practices incorporated into daily activities.[57] It is

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Sciences 3, no. 6 (2017), https://www.scribd.com/document/586599213/PublishedPaperbyDr-DudejaonScientificAnalysisofMantra-BasedMeditation.

[51] Antoine Lutz et al., "Attention Regulation and Monitoring in Meditation," *Trends in Cognitive Sciences* 12, no. 4 (2008): 163–69, https://doi.org/10.1016/j.tics.2008.01.005; Craig Mehrmann and Rakesh Karmacharya, "Principles and Neurobiological Correlates of Concentrative, Diffuse, and Insight Meditation," *Harvard Review of Psychiatry* 21, no. 4 (2013).

[52] Gandhar V. Mandlik et al., "Effect of a Single Session of Yoga and Meditation on Stress Reactivity: A Systematic Review," *Stress and Health* 40, no. 3 (2024): e3324, https://doi.org/10.1002/smi.3324.

[53] Xin Qi et al., "Comparing the Psychological Effects of Meditation- and Breathing-Focused Yoga Practice in Undergraduate Students," *Frontiers in Psychology* 11 (November 2020): 560152, https://doi.org/10.3389/fpsyg.2020.560152.

[54] Karin Matko et al., "Differential Effects of Ethical Education, Physical Hatha Yoga, and Mantra Meditation on Well-Being and Stress in Healthy Participants—An Experimental Single-Case Study," *Frontiers in Psychology* 12 (2021), https://doi.org/10.3389/fpsyg.2021.672301.

[55] Camila Ferreira-Vorkapic et al., "The Impact of Yoga Nidra and Seated Meditation on the Mental Health of College Professors," *International Journal of Yoga* 11, no. 3 (2018): 215–23, https://doi.org/10.4103/ijoy.IJOY_57_17.

[56] Sudha Banth and Maryam Didehdar Ardebil, "Effectiveness of Mindfulness Meditation on Pain and Quality of Life of Patients with Chronic Low Back Pain," *International Journal of Yoga* 8, no. 2 (2015): 128–33, https://doi.org/10.4103/0973-6131.158476.

[57] "Meditative Movement for Depression and Anxiety - PMC," accessed February 19, 2025, https://pmc.ncbi.nlm.nih.gov/articles/PMC3721087/.

practiced worldwide in many cultures and spiritual traditions with diverse methods and goals. In early Buddhism, the Buddha divided the meditation method into two categories: Concentration (Samatha), which keeps attention focused on a chosen object, and Insight (Vipassana) Meditation, which keeps attention involved in the monitoring process to see things as they really are and involves self-purification by introspection.[58] Ospina and her group of researchers grouped over 30 meditation methods into "five broad categories" using an empirical taxonomic approach: Mantra, Mindfulness, Tai Chi, Qigong, and Yoga.[59] There are various forms of meditation, including:

1. Mindfulness Meditation and Mindfulness-Based Practices:

Mindfulness is a practice rooted in Buddhist meditation. Mindfulness is a modern word for the Pali word sati and the Sanskrit word smrti, which initially meant memory or remembrance. Still, it mainly refers to 'the present' and carries the general psychological meaning of 'attention' or 'awareness.'[60] Mindfulness has two main parts: attention and acceptance. Attention is about being intensely aware of what you're sensing and feeling in the moment. It typically involves directing awareness to breathing, physical sensations, thoughts, and feelings. Acceptance involves observing those feelings and sensations without interpretation or judgment. Instead of responding or reacting to those thoughts or

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[58] Lutz et al., "Attention Regulation and Monitoring."

[59] Jonathan D. Nash and Andrew B. Newberg, "An Updated Classification of Meditation Methods Using Principles of Taxonomy and Systematics," *Frontiers in Psychology* 13 (February 2023): 1062535, https://doi.org/10.3389/fpsyg.2022.1062535.

[60] Nyanaponika Himi, *The Haert of Buddhist Meditation* (Buddhist Publication Society, 2005), https://www.bps.lk/olib/bp/bp509s_Nyanaponika_Heart-of-Buddhist-Meditation.pdf.

feelings, note them and let them go.[61] Mindfulness Meditation combines concentration (Samatha) and Insight (Vipassana) Meditation in early Buddhism. Mindfulness serves as a general guideline or a fundamental principle to be applied to various practices, including concentration (Samatha) and Insight (Vipassana) meditation, and daily activities.[62]

Mindfulness Meditation focuses on the present moment without judgment, often by paying attention to the breath. It can improve mental health, reduce stress and anxiety,[63] enhance cognitive functions,[64] and potentially benefit brain and immune function in positive ways.[65] Mindfulness meditation may affect inflammation, cell-mediated immunity, and biological aging.[66] However, further research is needed to understand its mechanisms and effects fully.

Mindfulness-Based Stress Reduction (MBSR):

MBSR, developed by American professor Jon Kabat-Zinn in the 1970s at the University of Massachusetts Medical School, is an effective treatment for reducing the

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[61] APA, "Mindfulness Meditation: A Research-Proven Way to Reduce Stress," October 30, 2019, https://www.apa.org/topics/mindfulness/meditation.

[62] Tse-fu Kuan, *Mindfulness in Early Buddhism*.

[63] Yi-Yuan Tang et al., "The Neuroscience of Mindfulness Meditation," *Nature Reviews. Neuroscience* 16, no. 4 (2015): 213–25, https://doi.org/10.1038/nrn3916.

[64] Alberto Chiesa et al., "Does Mindfulness Training Improve Cognitive Abilities? A Systematic Review of Neuropsychological Findings," *Clinical Psychology Review* 31, no. 3 (2011): 449–64, https://doi.org/10.1016/j.cpr.2010.11.003.

[65] Richard J. Davidson et al., "Alterations in Brain and Immune Function Produced by Mindfulness Meditation," *Psychosomatic Medicine* 65, no. 4 (2003): 564–70, https://doi.org/10.1097/01.psy.0000077505.67574.e3.

[66] David S. Black and George M. Slavich, "Mindfulness Meditation and the Immune System: A Systematic Review of Randomized Controlled Trials," *Annals of the New York Academy of Sciences* 1373, no. 1 (2016): 13–24, https://doi.org/10.1111/nyas.12998.

stress, anxiety, and depression accompanying daily life and chronic illness. It is also therapeutic for healthcare providers, enhancing their interactions with patients.[67] MBSR, including body scan, sitting, and walking meditation, effectively reduces pain severity and improves physical and mental quality of life.[68] MBSR may improve psychological functioning in both clinical and non-clinical populations.[69]

Mindfulness-Based Cognitive Therapy (MBCT):

MBCT is a manualized group therapy program developed by Zindel Segal, John Teasdale, and Mark Williams. It combines cognitive behavioral therapy (CBT) with mindfulness strategies to prevent depression relapse.[70] Mindfulness-based cognitive Therapy (MBCT) is effective in preventing relapse in recurrent depression, reducing anxiety and mood symptoms, and improving psychological health and well-being, with its effects mediated by enhanced mindfulness, self-compassion, and reduced cognitive reactivity.[71]

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[67] Sharon Praissman, "Mindfulness-Based Stress Reduction: A Literature Review and Clinician's Guide," *Journal of the American Academy of Nurse Practitioners* 20, no. 4 (2008): 212–16, https://doi.org/10.1111/j.1745-7599.2008.00306.x.

[68] Banth and Ardebil, "Effectiveness of Mindfulness Meditation."

[69] Remziye Semerci et al., "The Effect of Mindfulness-Based Stress Reduction on Pediatric Oncology Nurses' Stress Level, and Pediatric Oncology Patients' Psychosocial Symptoms and Care Satisfaction: A Prospective Non-Randomized Trial," *Holistic Nursing Practice*, ahead of print, October 16, 2024, https://doi.org/10.1097/HNP.0000000000000706.

[70] Meagan B. MacKenzie and Nancy L. Kocovski, "Mindfulness-Based Cognitive Therapy for Depression: Trends and Developments," *Psychology Research and Behavior Management* 9 (May 2016): 125–32, https://doi.org/10.2147/PRBM.S63949.

[71] Willem Kuyken et al., "How Does Mindfulness-Based Cognitive Therapy Work?" *Behaviour Research and Therapy* 48, no. 11 (2010): 1105–12, https://doi.org/10.1016/j.brat.2010.08.003; Rongrong Xuan et al., "Mindfulness-Based Cognitive Therapy for Bipolar Disorder: A Systematic Review and Meta-Analysis," *Psychiatry Research* 290 (August 2020): 113116, https://doi.org/10.1016/j.psychres.2020.113116; Dawn Querstret et al., "Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy for Psychological Health and Well-Being in

2. Loving-Kindness (LKM) and Compassion Meditations (CM):

Loving-kindness is a Buddhist meditation technique that focuses on developing an attitude of love and kindness toward oneself and others. It involves silently repeating a series of mantras to extend kindness and compassion. The process of developing loving-kindness (metta) is a type of mindfulness.[72] Loving-kindness meditation can enhance positive emotions,[73] social connection,[74] self-compassion, and life satisfaction[75] while also reducing symptoms of post-traumatic stress disorder (PTSD), depression,[76] pain, anger, and psychological distress.[77]

Loving-kindness and compassion meditation, when combined with cognitive-behavioral therapy, may provide valuable strategies for targeting interpersonal

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Nonclinical Samples: A Systematic Review and Meta-Analysis," *International Journal of Stress Management* (US) 27, no. 4 (2020): 394–411, https://doi.org/10.1037/str0000165.

[72] Kuan, *Mindfulness in Early Buddhism*.

[73] Xianglong Zeng et al., "The Effect of Loving-Kindness Meditation on Positive Emotions: A Meta-Analytic Review," *Frontiers in Psychology* 6 (November 2015): 1693, https://doi.org/10.3389/fpsyg.2015.01693.

[74] Cendri A. Hutcherson et al., "Loving-Kindness Meditation Increases Social Connectedness," *American Psychological Association* 8, no. 5 (2008): 720–24, https://doi.org/10.1037/a0013237.

[75] X. Gu et al., "The Effects of Loving-kindness and Compassion Meditation on Life Satisfaction: A Systematic Review and Meta-analysis," *Applied Psychology: Health and Well-Being* 14, no. 3 (2022): 1081–101, https://doi.org/10.1111/aphw.12367.

[76] David J. Kearney et al., "Loving-Kindness Meditation for Posttraumatic Stress Disorder: A Pilot Study," *Journal of Traumatic Stress* 26, no. 4 (2013): 426–34, https://doi.org/10.1002/jts.21832.

[77] James W. Carson et al., "Loving-Kindness Meditation for Chronic Low Back Pain: Results From a Pilot Trial," *Journal of Holistic Nursing* 23, no. 3 (2005): 287–304, https://doi.org/10.1177/0898010105277651.

psychological problems like depression, social anxiety, marital conflict, anger, and long-term caregiving.[78]

Compassion meditation is a practice derived from Buddhist philosophy that involves empathy and compassion toward oneself and others through meditative techniques. It can enhance self-compassion, empathy, and positive emotions and improve well-being while reducing psychological distress, negative affect, and symptoms of disorders such as PTSD and depression.[79]

3. Zen Meditation (Zazen):

Zen meditation, or zazen, as deployed by Rinzai Zen, is a spiritual exercise in the Zen sect of Buddhism that involves seated meditation. It emphasizes the body's postural form, gravity sensing, and breathing from the hara (lower belly) to awaken the somatic body by transforming the weight of suffering into nondual, vital energy.[80] Zen meditation can reduce stress, anxiety, and blood pressure[81], improve cognitive function and

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[78] Stefan G. Hofmann et al., "Loving-Kindness and Compassion Meditation: Potential for Psychological Interventions," *Clinical Psychology Review* 31, no. 7 (2011): 1126–32, https://doi.org/10.1016/j.cpr.2011.07.003.

[79] Pablo Roca et al., "The Impact of Compassion Meditation Training on Psychological Variables: A Network Perspective," *Mindfulness* 12, no. 4 (2021): 873–88, https://doi.org/10.1007/s12671-020-01552-x; Pablo Roca et al., "Not All Types of Meditation Are the Same: Mediators of Change in Mindfulness and Compassion Meditation Interventions," *Journal of Affective Disorders* 283 (March 2021): 354–62, https://doi.org/10.1016/j.jad.2021.01.070; Jennifer S. Mascaro et al., "Compassion Meditation Enhances Empathic Accuracy and Related Neural Activity," *Social Cognitive and Affective Neuroscience* 8, no. 1 (2013): 48–55, https://doi.org/10.1093/scan/nss095.

[80] Geoffrey Ashton, "The Somaesthetics of Heaviness and Hara in Zen Buddhist Meditation," *Poligrafi* 28, no. 111/112 (2023): 143–72, https://doi.org/10.35469/poligrafi.2023.397.

[81] Alberto Chiesa, "Zen Meditation: An Integration of Current Evidence," *Journal of Alternative and Complementary Medicine (New York, N.Y.)* 15, no. 5 (2009): 585–92, https://doi.org/10.1089/acm.2008.0416.

emotional regulation, enhance creative thinking, and provide neuroprotective effects against age-related cognitive decline.[82]

4. Transcendental Meditation (TM):

Transcendental Meditation is a mental technique from the Vedic tradition that involves silently repeating a mantra for 15-20 minutes twice per day to transcend ordinary thinking and achieve a state of pure consciousness and restful alertness, which can reduce stress, anxiety,[83] and blood pressure[84], improve mental and physical health, and enhance cognitive performance and emotional stability.[85]

5. Guided Meditation (GM):

Guided Meditation, also known as guided imagery or visualization, involves forming mental images of places or situations that you find relaxing. It can reduce

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[82] Giuseppe Pagnoni and Milos Cekic, "Age Effects on Gray Matter Volume and Attentional Performance in Zen Meditation," *Neurobiology of Aging* 28, no. 10 (2007): 1623–27, https://doi.org/10.1016/j.neurobiolaging.2007.06.008; Chenye Shu et al., "The Effect of ZEN on Creative Thinking," *Advances in Psychological Science* 26, no. 10 (2018): 1807, https://doi.org/10.3724/SP.J.1042.2018.01807.

[83] C. R. MacLean et al., "Effects of the Transcendental Meditation Program on Adaptive Mechanisms: Changes in Hormone Levels and Responses to Stress after 4 Months of Practice," *Psychoneuroendocrinology* 22, no. 4 (1997): 277–95, https://doi.org/10.1016/s0306-4530(97)00003-6.

[84] Soo Liang Ooi et al., "Transcendental Meditation for Lowering Blood Pressure: An Overview of Systematic Reviews and Meta-Analyses," *Complementary Therapies in Medicine* 34 (October 2017): 26–34, https://doi.org/10.1016/j.ctim.2017.07.008.

[85] Giulia Avvenuti et al., "Reductions in Perceived Stress Following Transcendental Meditation Practice Are Associated with Increased Brain Regional Connectivity at Rest," *Brain and Cognition* 139 (March 2020): 105517, https://doi.org/10.1016/j.bandc.2020.105517; Sangeeta Trama and Navreet Cheema, "Transcendental Meditation: Nature and Perspectives," *Indian Journal of Health and Wellbeing* 7, no. 9 (2016): 9.

psychological distress, anxiety, depression, and insomnia; improve social connectedness, mood, and well-being;[86] and aid in weight management and pain reduction.[87]

6. Mantra Meditation and Mantra-Based Meditation (MBM):

Mantra meditation is the quieting and focusing of the mind using a sound, word, or phrase, as simple as "Om" or more complex (called a mantra), recited aloud or silently. The purpose of mantra meditation is spiritual growth or the relaxation of the mind.[88] Mantra-based meditation, which involves the repetition of a mantra, sound, word, or phrase to aid concentration in meditation, can provide small-to-moderate benefits for mental health, including reductions in anxiety, stress, and depression and improvements in well-being, although the quality of evidence varies.[89] Mantra Meditation has been helpful in significantly reducing blood pressure and lowering cholesterol and blood sugar.[90]

7. Chakra Meditation (Kundalini):

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[86] Simon B. Goldberg et al., "Testing the Efficacy of a Multicomponent, Self-Guided, Smartphone-Based Meditation App: Three-Armed Randomized Controlled Trial," *JMIR Mental Health* 7, no. 11 (2020): e23825, https://doi.org/10.2196/23825.

[87] Karen Roddy et al., "Guided-Imagery Meditation as an Adjunct to Weight Management," *Pacific Journal of Health* 7, no. 1 (2024), https://doi.org/10.56031/2576-215X.1059; Natalie A. Krane et al., "Guided Mindfulness Meditation for Pain Control After Septorhinoplasty: A Randomized-Controlled Pilot Study," *Facial Plastic Surgery & Aesthetic Medicine* 24, no. 2 (2022): 111–16, https://doi.org/10.1089/fpsam.2021.0184.

[88] Jai Paul Dudeja, "Scientific Analysis of Mantra-Based Meditation and Its Beneficial Effects: An Overview," *International Journal of Advanced Scientific Technologies in Engineering and Management Sciences* 3, no. 6 (2017): 21, https://doi.org/10.22413/ijastems/2017/v3/i6/49101.

[89] Yolanda Álvarez-Pérez et al., "Effectiveness of Mantra-Based Meditation on Mental Health: A Systematic Review and Meta-Analysis," *International Journal of Environmental Research and Public Health* 19, no. 6 (2022): 3380, https://doi.org/10.3390/ijerph19063380.

[90] Dudeja, "Scientific Analysis of Mantra-Based Meditation."

Chakra Meditation is a mindfulness practice that focuses on the body's seven main energy centers, known as chakras, and aims to balance and align chakras to promote physical, emotional, and spiritual well-being. Kundalini is a Sanskrit word that means "coiled one." It refers to a form of primal energy said to be located at the base of the spine.[91] Chakras can be simulated to the spinning discs that feed energy into specific physical body parts. Chakras are the energetic wheels of light that transduce subtle energy into the body. Our body has seven chakras: 1. Root chakra (Muladhara) 2. Sacral chakra (Swadhisthana) 3. Solar plexus chakra (Manipura) 4. Heart chakra (Anahata) 5. Throat chakra (Vishuddha) 6. Third eye chakra (Ajna) 7. Crown chakra (Sahasrara), each chakra is located at a specific point such as 1. base of the spine 2. lower abdomen 3. upper abdomen 4. center of the chest 5. throat area, 6. center of the forehead, 7. top of the head. [92] Chakra meditation can improve mental and physical health by reducing anxiety and stress,[93] enhancing sleep quality,[94] and increasing energy levels in the chakras.[95]

8. Yoga Meditation:

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[91] Dudeja, "Scientific Analysis of Mantra-Based Meditation."

[92] Dudeja, "Scientific Analysis of Mantra-Based Meditation."

[93] Himanshi Verma and Bharat Verma, "Effect of Chakra Meditation on Anxiety Among Working Females (Non-Sedentary)," *International Journal for Multidisciplinary Research* 6, no. 4 (2024): 23815, https://doi.org/10.36948/ijfmr.2024.v06i04.23815.

[94] M. C. Rajalakshmi, "Efficacy of Ajna Chakra Meditation in Primary Insomnia" (PhD diss., M.R.G. Medical University, 2019), 80, https://www.semanticscholar.org/paper/Efficacy-of-Ajna-Chakra-Meditation-in-Primary-Rajalakshmi/3fafe8e64b9179b77db2e5fb9eece00de2cff317.

[95] Rajashekar Veerabrahmachar et al., "Immediate Effect of Nada Yoga Meditation on Energy Levels and Alignment of Seven Chakras as Assessed by Electro-Photonic Imaging: A Randomized Controlled Crossover Pilot Study," *Advances in Mind-Body Medicine* 37, no. 1 (2023): 11–16.

Yoga originated in ancient India as a group of physical, mental, and spiritual practices or disciplines. The origins of Yoga have been speculated to date back to pre-Vedic Indian traditions (1500–600 BC).[96] Yoga principles based on the eight limbs include Yama (ethical principles), Niyama (self-discipline), Asana (postures), Pranayama (breath regulation), Pratyahara (withdrawal of senses), Dharana (concentration), Dhyana (meditation), and Samadhi (union).[97] Yoga breathing benefits cardiovascular and pulmonary functions, is effective for persistent pain, and reduces anxiety.[98] Yoga improves lymphatic circulation and detoxification, bolstering immunity.[99] Yoga combines breath control with physical movement, enhancing respiratory efficiency over time.[100]

9. Qigong:

Qigong is a Chinese word. Qi means the life energy that is believed to flow through the body. Gong means work or benefits acquired through perseverance and practice.[101] Qigong is a traditional Chinese practice involving breathing exercises,

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[96] Masaru Tobe and Shigeru Saito, "Analogy between Classical Yoga/Zen Breathing and Modern Clinical Respiratory Therapy," *Journal of Anesthesia* 34, no. 6 (2020): 944–49, https://doi.org/10.1007/s00540-020-02840-5.

[97] William Bushell et al., "Meditation and Yoga Practices as Potential Adjunctive Treatment of SARS-CoV-2 Infection and COVID-19: A Brief Overview of Key Subjects," *Journal of Alternative and Complementary Medicine (New York, N.Y.)* 26, no. 7 (2020): 547–56, https://doi.org/10.1089/acm.2020.0177.

[98] Tobe and Saito, "Analogy between Classical Yoga."

[99] SR Narahari et al., "Yoga Protocol for Treatment of Breast Cancer-Related Lymphedema," *International Journal of Yoga* 9, no. 2 (2016): 145–55, https://doi.org/10.4103/0973-6131.183713.

[100] Santaella et al., "Yoga Respiratory Training."

[101] Karen van Dam, "Individual Stress Prevention through Qigong," *International Journal of Environmental Research and Public Health* 17, no. 19 (2020): 7342, https://doi.org/10.3390/ijerph17197342.

meditation, and gentle movements to promote health, healing, and energy flow, with potential benefits for mental and physical well-being, stress reduction, sleep quality, hypertension, cardiovascular and respiratory systems, immune function, cognitive function,[102] and disease prevention. Qigong is also part of traditional Chinese Medicine, a holistic health promotion system that includes other therapies such as acupuncture, herbs, massage, and nutrition.[103] Qigong can play a role in preventing, treating, and rehabilitating respiratory infections, such as COVID-19.[104]

10. Body Scan Meditation (BSM):

Body scan meditation is paying attention to different parts of the body in a progressive sequence. It involves progressively tensing and relaxing each muscle group in the body to reduce stress and promote relaxation. The body scan meditation in mindfulness-based stress reduction (MBSR) is derived from mindfulness of breathing, a widespread meditation practice in ancient and modern Buddhist traditions.[105] Body scan meditation can enhance happiness,[106] concentration, mindfulness, and emotional

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[102] Van Dam, "Individual Stress Prevention through Qigong."

[103] Van Dam, "Individual Stress Prevention through Qigong."

[104] Fan Feng et al., "Qigong for the Prevention, Treatment, and Rehabilitation of COVID-19 Infection in Older Adults," *The American Journal of Geriatric Psychiatry* 28, no. 8 (2020): 812–19, https://doi.org/10.1016/j.jagp.2020.05.012.

[105] Anālayo, "Buddhist Antecedents to the Body Scan Meditation," *Mindfulness* 11, no. 1 (2020): 194–202, https://doi.org/10.1007/s12671-019-01259-8.

[106] Michaël Dambrun et al., "Unified Consciousness and the Effect of Body Scan Meditation on Happiness: Alteration of Inner-Body Experience and Feeling of Harmony as Central Processes," *Mindfulness* 10, no. 8 (2019): 1530–44, https://doi.org/10.1007/s12671-019-01104-y.

regulation,[107] reduce anxiety and distress, improve sleep,[108] and alter self-perception.[109] However, its effects on health-related outcomes may be limited when practiced alone.[110]

Each type of meditation has unique techniques and benefits, allowing individuals to choose the practice that best suits their needs and goals.

2.3 SKT Meditation Healing Exercise Techniques:

Origins and Development

SKT Meditation Healing Exercise is an innovative healing meditation emphasizes the integration of physical positioning and mental focus to enhance therapeutic outcomes developed from SMAEM Economy Philosophy (S=Sufficiency, Sustainability, Sympathy, M=Moderately, Middle pathway, Maintenance, A = Appropriately, Autonomy, Archetype, Anytime, Anywhere, Anyone, Anyhow, Anyway, E=Economy, Ecology, Efficiency, M=Merit, Master, Morality) by Professor Doctor Somporn Kantharadussadee Triamchaisri, Department of Public Health Nursing Mahidol University, Bangkok, Thailand (2009) since 1978.[111]

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[107] Alexander Kropp and Peter Sedlmeier, "What Makes Mindfulness-Based Interventions Effective? An Examination of Common Components," *Mindfulness* 10, no. 10 (2019): 2060–72, https://doi.org/10.1007/s12671-019-01167-x.

[108] Eduard J. de Bruin et al., "The Contribution of a Body Scan Mindfulness Meditation to Effectiveness of Internet-Delivered CBT for Insomnia in Adolescents," *Mindfulness* 11, no. 4 (2020): 872–82, https://doi.org/10.1007/s12671-019-01290-9.

[109] Rui M. Costa et al., "Altered States of Consciousness Are Related to Higher Sexual Responsiveness," *Consciousness and Cognition* 42 (May 2016): 135–41, https://doi.org/10.1016/j.concog.2016.03.013.

[110] Ruochen Gan et al., "The Effects of Body Scan Meditation: A Systematic Review and Meta-Analysis," *Applied Psychology: Health and Well-Being* 14, no. 3 (2022): 1062–80, https://doi.org/10.1111/aphw.12366.

[111] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

The SKT Meditation Healing Exercise reflects the guiding principles of the Sufficiency Economy Philosophy—sufficiency, sustainability, and sympathy (compassion)—offering a holistic, practical approach to health and well-being. As a form of sufficiency, SKT meditation promotes moderation, self-reliance, and balance. It is a low-cost, accessible practice that empowers individuals to care for their physical and mental health without dependence on expensive medical interventions. By fostering inner resilience and encouraging self-discipline, it aligns with the principle of living within one's means and maintaining well-being through mindful self-management. In terms of sustainability, SKT meditation supports long-term health outcomes by improving emotional stability, respiratory efficiency, and immune strength—reducing the need for prolonged medical treatment. Its simplicity and adaptability make it suitable for lifelong practice, contributing to sustainable healthcare at both individual and community levels. Furthermore, SKT meditation cultivates sympathy (compassion) by enhancing mindfulness, empathy, and emotional awareness. Practitioners develop a deeper sense of care toward themselves and others, which can translate into supportive behaviors, community healing, and collective well-being. By integrating these three pillars, SKT Meditation Healing Exercise serves not only as a therapeutic tool but also as a model for ethical, balanced, and compassionate living.[112]

The SKT Meditation Healing Exercise aligns well with the principles of moderation, the middle pathway, and maintenance, which are central to both Buddhist philosophy and the Sufficiency Economy Philosophy. These values emphasize balanced

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[112] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

living, practical well-being, and sustained health—making SKT meditation not only a therapeutic technique but also a lifestyle approach grounded in ethical and sustainable living.[113]

Moderation refers to engaging in actions that are appropriate in scale, avoiding extremes of excess or deficiency. SKT Meditation Healing Exercise embodies moderation through its gentle, accessible practices that require no expensive equipment, intensive effort, or specialized environment. The meditation sessions are brief and structured—typically practiced for 15 to 30 minutes twice daily—allowing participants to maintain their health without overwhelming their daily schedules. This moderate approach promotes both physical vitality and mental clarity without strain, making it especially suitable for individuals recovering from illness, such as COVID-19, who need careful, balanced support.[114]

Rooted in Buddhist teaching, the middle pathway refers to a lifestyle that avoids the extremes of indulgence and austerity. SKT Meditation Healing Exercise reflects this principle by offering a harmonious blend of mindfulness, breathing techniques, and physical movements. Unlike practices that focus solely on meditation or purely on physical fitness, SKT meditation integrates the body and mind in a way that is both therapeutic and attainable. It avoids the extremes of passive inaction or overexertion,

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[113] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[114] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

encouraging practitioners to cultivate wellness while remaining engaged in their daily lives and responsibilities.[115]

Maintenance involves the consistent care and support of one's health and well-being over time. SKT Meditation is not designed as a quick-fix solution but rather as a sustainable practice that can be incorporated into everyday routines. It helps maintain vital functions such as respiratory rate, heart rate, and emotional balance, which are especially important in post-illness recovery or in managing stress and fatigue. Its simplicity and adaptability make it suitable for individuals of various ages and conditions, promoting a sense of self-efficacy and long-term resilience. Through regular practice, SKT meditation becomes a tool for ongoing self-care and health preservation.[116]

The SKT Meditation Healing Exercise exemplifies a highly adaptive and inclusive healing method, guided by principles of appropriateness, autonomy, archetype, and universal accessibility—anytime, anywhere, anyone, anyhow, and anyway. It is appropriate in its design, accommodating diverse health conditions and cultural contexts with gentle, mindful practices. The method supports autonomy, enabling individuals to take control of their health through self-practice, reflection, and awareness. As an archetype, SKT meditation reflects a universal model of healing that harmonizes body, breath, and mind, drawing on both ancient wisdom and modern relevance. Its simplicity and flexibility mean it can be practiced anytime, fitting into daily routines without disruption. Being location-independent, it is effective anywhere, whether at home, in healthcare settings, or in natural environments. Moreover, it welcomes anyone, regardless

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[115] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[116] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

of age, background, or belief system. With the ability to adapt to one's condition and preferences—anyhow and anyway—SKT meditation stands as a sustainable, empowering practice for individual and collective well-being.[117]

SKT Meditation Healing Exercise aligns strongly with the principles of economy, ecology, and efficiency, making it a sustainable and impactful health intervention. From an economic standpoint, it is a low-cost, self-managed practice that reduces reliance on pharmaceuticals and formal medical services, thus supporting both individual affordability and public health system relief. Ecologically, SKT meditation is non-invasive and environmentally neutral, requiring no consumable resources and producing no waste—thereby fostering a harmonious relationship between human well-being and nature. In terms of efficiency, the technique delivers broad health benefits—including physical vitality, emotional balance, and mental clarity—through a simple, time-effective routine. By addressing multiple dimensions of wellness in a sustainable, low-impact manner, SKT meditation stands as a practical model of health promotion that respects economic constraints, environmental preservation, and resource optimization.[118]

The SKT Meditation Healing Exercise embodies the spiritual values of merit, mastery, and morality, making it not only a therapeutic method but also a path of ethical and personal development. As a form of merit-making, it cultivates inner peace and compassion while reducing suffering—benefitting both the practitioner and the broader community. Through consistent practice, it fosters mastery of the body, breath, and mind,

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[117] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[118] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

enabling individuals to develop resilience, concentration, and emotional regulation. In terms of morality, SKT meditation strengthens mindfulness and ethical awareness, encouraging behavior that is gentle, respectful, and aligned with well-being. These dimensions elevate SKT meditation beyond physical exercise, positioning it as a meaningful spiritual practice that nurtures virtuous living and holistic health.[119]

SKT Meditation Healing Exercise was developed from mindfulness of breathing (Ãnãpãnasati) and the first foundation of mindfulness (contemplation of the body, kãyãnupassanã satipatthãna) in Buddhism, yoga, and Thai qigong. SKT is derived from her name; S refers to Somporn, K refers to Kantharadussadi, and T refers to Triamchaisri and Technique.[120]

The SKT meditation healing exercise involves the summits (of Sciences, Synthesis, Synergy, Sustainability, Sufficiency, Safe Self-Care, etc.), Knowledge, and transfers (of Taciturnity, Tactileness, Tangibleness, Tautology, Temperament, Tenacity, Tenuousness, Threshold, and Therapeutics).[121] SKT Meditation Healing Exercise embodies a multidimensional integration of summits, knowledge, and transfers that reflect its holistic depth and healing potential. It reaches the summits of Sciences through its alignment with physiological regulation and health research; of Synthesis, by blending Eastern meditative traditions with modern therapeutic goals; of Synergy, by harmonizing body, mind, and spirit; of Sustainability, through daily practice that fosters long-term

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[119] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[120] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[121] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

wellness; of Sufficiency, by promoting inner balance without dependence on external interventions; and of Safe Self-care, by empowering individuals to take charge of their health through non-invasive, accessible methods. Its knowledge base includes both explicit medical understanding and tacit wisdom derived from centuries of contemplative practice. SKT meditation also facilitates the transfers of subtle capacities such as Taciturnity (inner quietude), Tactileness (body awareness), Tangibleness (grounded presence), Tautology (repetition for internalization), Temperament (emotional regulation), Tenacity (discipline and resilience), Tenuousness (mindful lightness), Threshold (transformation through practice), and Therapeutics (healing outcomes). Together, these elements illustrate how SKT meditation is not only a technique, but a transformative pathway grounded in evidence, ethics, and empathy.[122]

According to Prof. Dr. Somporn, practicing SKT meditation healing exercise modifies organ functions by exhaling deeply through the mouth, closing the eyes, and inhaling deeply through the nose:

> Exhale deeply through the mouth for 15 seconds can modify the function of cranial nerve I (olfactory), which is connected to the other 11 cranial nerves, 31 pairs of spinal nerves, and 10^{24}. In other words, exhaling deeply through the mouth for 15 seconds is a function of cellular respiration through the function of 8 skin receptors to modify the mechanism of the respiratory system and the function of the 10th pair of cranial nerves to function properly and appropriately of the autonomic nervous system and the four respiratory centers at the brainstem and four stress hormones: Cortisol, Adrenaline, Noradrenaline, and Dopamine.[123]

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[122] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[123] Triamchaisri, *SKT Medtation Healing Exerccise 1-8*: 21-22.

SKT Meditation Healing Exercise Techniques 1 and 2

SKT techniques focus on concentration, self-discipline, mental and physical exercise, stretching, and relaxation to enhance therapeutic outcomes. It can be practiced at home, promoting accessibility and consistency in therapeutic routines.

SKT1: Sitting Breathing Meditation is practiced by taking a deep breath through the nose, holding the breath, and counting from 1 to 3. Then, slowly breathe out through the mouth.

SKT1 is a meditation healing practice that involves sitting, standing, and lying down, changing the functioning of the respiratory system at the cellular level in the digestive system through the four respiratory centers at the brainstem by breathing in through the nose, through mechanoreceptors, special receptors of the nervous system of the brain, through special olfactory nerve fibers in the walls of the nasal cavity and taste receptors in the mouth, by breathing out gently and slowly through the mouth according to the behavior of the brain. In theory, SKT1 meditation practice works through the nervous system and brain.[124]

SKT2: A standing deep breathing meditation exercise involves raising arms and putting hands together above the head, with arms touching ears. Inhale and exhale as indicated. Then, slowly lower your hands and count from 1 to 30.

SKT2 is a meditation therapy practice that involves sitting, standing, or lying down. It changes the functioning of the body's energy metabolism system in the citric acid system or Krebs cycle by exercising with low oxygen consumption through the respiratory, digestive, and four respiratory centers at the brainstem by breathing in

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[124] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

through the nose, through mechanoreceptors, special receptors of the brain nervous system, through special olfactory nerve fibers in the walls of the nasal cavity and taste receptors in the mouth by slowly exhaling through the mouth according to the behavior of the brain. Therefore, SKT 2 Meditation Therapy is an innovative exercise combined with the SKT1 breathing technique to modify the citric acid or Krebs cycle. Stretching and resistance exercises consist of static stretches, slow-lowering stretches, and arm extensions combined with moderate resistance, effectively reducing inflammation. So, SKT 2 burns more than 500 calories per minute because it combines resistance and movement and the art of cellular breathing, Including helping to adjust the main stressors and hormones that cause the risk of acute stress in various organs of the body, such as hormones: cortisol, adrenaline, noradrenaline, dopamine, primary neurotransmitters such as glutamate, acetylcholine, beta-endorphins, GABA, serotonin, melatonin to be appropriate, suitable, and moderate. In theory, SKT2 meditation works through the nervous system and brain".[125]

Previous studies and evidence supporting the health effects of SKT Meditation Healing Exercise Techniques 1 and 2

A quasi-experimental study conducted at Saimoon Hospital by Ruksamerwong and Vongpon demonstrated that SKT meditation therapy, specifically using SKT1 and SKT3, significantly reduced HbA1c levels in type 2 diabetes patients. The experimental group showed an average HbA1c level of 7.9%, compared to 9% in the control group, with a mean difference of 1.1% ($p < 0.012$). Within the experimental group, HbA1c

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[125] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

levels decreased by 1.3% ($p < 0.001$), indicating the therapy's effectiveness in improving glycemic control.[126]

Patcharee evaluated the hypoglycemic effect of SKT1 on type 2 diabetic patients using quasi-experimental research with descriptive statistics and paired t-tests to analyze the study data and found that SKT1 practice in type 2 diabetic patients found that their health literacy in the post-experimental phase was significantly higher ($p < 0.001$). The study of the Meditation Therapy Program (SKT) can be applied to take care of inpatients with type 2 diabetes to reduce blood sugar levels and improve their quality of life.[127]

Chaiopanont studied the hypoglycemic effect of sitting breathing meditation exercise on type 2 diabetes found that SKT1 practice significantly reduced postprandial plasma glucose levels by 19.26 mg/dl ($p < 0.001$) in the second week and 17.64 mg/dl ($p < 0.001$) in the third week.[128] The consistent reduction in glucose levels suggests that SKT1 can be a valuable adjunct therapy for managing postprandial spikes in type 2 diabetes. The same study Chaiopanont showed a significant decrease in systolic blood pressure by 6.49 mmHg ($p < 0.001$) in the second week and diastolic blood pressure by 3.04 mmHg ($p < 0.05$) in the third week.[129]

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[126] Riamrat Ruksamerwong and Pitsamai Vongpon, "SKT Meditation Therapy 1,3 postures toward HbA1c in DM patients type 2 in Saimoon Hospital, Yasothon Province," *The Office of Disease Prevention and Control 10th Journal* 17, no. 2 (2019): 28–36.

[127] Patcharee Maneewong, "Effectiveness of Meditation (SKT) Therapy to Reduce Blood Sugar Level in Type 2 Diabetes Mellitus in Chiang Saen Hospital," *Science and Technology Northern Journal* 5, no. 3 (2024): 109-20.

[128] Sompong Chaiopanont, "Hypoglycemic Effect of Sitting Breathing Meditation Exercise on Type 2 Diabetes at Wat Khae Nok Primary Health Center in Nonthaburi Province," *Journal of the Medical Association of Thailand = Chotmaihet Thangphaet* 91, no. 1 (2008): 93–98.

[129] Chaiopanont, "Hypoglycemic Effect."

Wattarachartsupakul studied the Effects of SKT1, SKT2, and SKT3 Meditation Therapy on Blood Sugar Levels among insulin-dependent diabetes mellitus patients at the Non-communicable Diseases Clinic, Nong Sue District, Pathum Thani Province. It found that practicing SKT techniques 1, 2, and 3 meditation therapy can reduce blood sugar levels. This therapy can complement current treatments for diabetic patients and may be an alternative approach to caring for other groups of diabetes patients.[130]

Boonniteewanich examined the effects of SKT1 on the reduction of blood pressure in pregnant women found that a comparison of mean blood pressure before and after exercise with SKT1 in the experimental group showed that the mean, systolic, and diastolic pressure in the experimental group decreased significantly ($p < .001$) in all evaluation periods. A comparison of mean blood pressure between the experimental and control groups showed that the mean systolic and diastolic pressure was significantly lower than that of the control group ($p < .001$) at all evaluation times.[131]

Prasawang et al examined the effects of sitting breathing meditation (SKT 1) combined with usual care on blood pressure levels among patients with essential hypertension found that at the end of the program, the mean reduction of blood pressure was more significant in the experimental group comparing with the control groups ($p < .01$). The primary study findings suggest that nurses can apply SKT1 as a complementary

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[130] Supimon Wattarachartsupakul, "The Effects of SKT1 SKT2 and SKT3 Meditation Therapy on Blood Sugar Levels among Non-Insulin Dependent Diabetes Mellitus Patients at Non-communicable Diseases Clinic, Nong Sue District, Pathum Thani Province," *NU Journal of Nursing and Health Sciences* 16, no. 2 (August 23, 2022): 66–80.

[131] Yupin Boonniteewanich, "Effects of SKT1 on the reduction of blood pressure in pregnant women," *The office of Disease Prevention and Control 10th Journal* 16, no. 2 (2018): 69–80.

approach to promote blood pressure control among patients with essential hypertension.[132]

The practice of SKT1 likely enhances insulin sensitivity and reduces stress, contributing to better blood sugar regulation. This aligns with findings from other mindfulness practices by Chaiopanont that show improved metabolic outcomes.[133]

Another study by Jibsmanboon and Sutthiniam using SKT2 supports these findings. It demonstrated reductions in systolic and diastolic blood pressure in hypertensive patients, suggesting the effect of SKT techniques on cardiovascular health.[134]

A study by Tanupabrungsun and Lertsakornsiri examined the Effects of Meditation Practice Approaches by integrating four foundations of mindfulness (four Satipattanas) and SKT1 and found that the mediation practice technique—an integration of four Satipattanas and SKT1—is efficacious in improving students' emotions and self-confidence.[135]

A study by Prachumporn et al examined the effects of the SKT Meditation Therapy Model (SKT1,2,3,7) by SKT trainers to control blood pressure in patients with

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[132] Prasawang et al., "Effects of the Sitting Breathing Meditation Combined with Usual Care on Blood Pressure among Patients with," *Journal of Nursing and Health Care* 36, no. 1 (June 1, 2018): 33–42.

[133] Chaiopanont, "Hypoglycemic Effect of Sitting Breathing Meditation Exercise on Type 2 Diabetes at Wat Khae Nok Primary Health Center in Nonthaburi Province," 2008.

[134] Prapas Chibsamanboon and Ubol Suttineam, "Effects of the Somporn Kantaradusdi-Triamchaisri Technique 2 (SKT 2) on Blood Pressure Levels and Biochemical Markers," *Journal of Boromarajonani College of Nursing* 29, no. 2 (2013): 2.

[135] Supawan Tanupabrungsun and Maleewan Lertsakornsiri, "The Effects of Meditation Practice Approaches by Integrating Satipatthana 4 and SKT1 on Mental Ability, Self-Awareness and Academic Achievement of Nursing Students," *Journal of Research in Nursing-Midwifery and Health Sciences* 36, no. 4 (2016): 4.

hypertension to compare levels of blood pressure, BMI, Cholesterol, LDL Triglyceride, and Creatinine before and after SKT Meditation Model using standard descriptive statistics and statistical pair t-test found that the average of blood pressure Systolic and Diastolic, BMI, Cholesterol, LDL, Triglyceride and Creatinine after doing SKT decreased from before practicing SKT.[136]

Studies by Jibsmanboon and Sutthiniam have shown that practicing SKT2 significantly lowers both systolic and diastolic blood pressure in patients with uncontrolled hypertension. The average systolic pressure decreased by 6.49 mmHg and diastolic pressure by 3.04 mmHg, statistically significant at $p < 0.001$ and $p < 0.05$, respectively.[137] Over 8 weeks, consistent practice of SKT Posture 2 led to sustained reductions in blood pressure, highlighting its potential as a complementary therapy for hypertension management.[138] While SKT Posture 2 effectively lowers blood pressure, it did not significantly change biochemical markers such as FBS, HbA1c, BUN, creatinine, or lipid profiles. This suggests that its primary benefit lies in blood pressure regulation rather than broader metabolic changes.[139]

The literature shows that researchers have examined the role of SKT Meditation Healing Exercise techniques 1 and 2 as a modality of CAM and its efficacy as a protocol in healing other diseases, such as high blood pressure, high cholesterol, and diabetes.

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136 Prachumporn et al., "SKT Meditation Therapy Model by SKT Trainers for Controlling Blood Pressure in Hypertensive Patients, Yasothon Province," *Journal of Preventive Medicine Association of Thailand* 6, no. 3 (2016): 231–39.

137 Chibsamanboon and Suttineam, "Effects of Somporn Kantaradusdi."

138 Chibsamanboon and Suttineam, "Effects of Somporn Kantaradusdi."

139 Chibsamanboon and Suttineam, "Effects of Somporn Kantaradusdi."

Still, no research has been conducted on the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in healing COVID-19 as a supplemental and integrative treatment.

2.4 Meditation and COVID-19:

Existing research on the use of meditation for healing COVID-19 patients

C. Pierce Salguero (2020) described the responses of Buddhist organizations worldwide to the COVID-19 pandemic. He described many of these diverse Buddhist responses to COVID-19 as grounded in Buddhist doctrine and history, such as healing meditation, medical charity, and protection rituals.[140]

Healing meditation in Buddhism has been thought to heal physical illness directly as a secondary purpose besides enlightenment. For example, it involves meditating on the factors of awakening, such as mindfulness (sati), investigation of dharmas (vicaya), energy (viriya), rapture (pīti), tranquility (passaddhi), concentration (samādhi), and equanimity (upekkhā).[141] When the Buddha or his disciples faced pain and disease, awakening factors, particularly mindfulness and energy, were employed to handle pain and overcome disease.[142]

In the early Buddhist and Theravada traditions, specific texts, for example, the Bojjhaṅgaparitta-sutta(the teaching of factors of awakening), have been chanted as parittas (the protection against danger or disaster) to have the power to overcome disease

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[140] C. Pierce Salguero, "Buddhist Responses to the COVID-19 Pandemic in Historical Perspective," *Buddhistdoor Global*, August 20, 2020, https://www.buddhistdoor.net/features/buddhist-responses-to-the-covid-19-pandemic-in-historical-perspective/.

[141] Piyadassi Thera, "The Seven Factors of Enlightenment," Access to Insight, 2006, https://www.accesstoinsight.org/lib/authors/piyadassi/wheel001.html.

[142] Anālayo, "Healing in Early Buddhism," *Buddhist Studies Review* 32, no. 1 (2015): 19–33, https://doi.org/10.1558/bsrv.v32i1.28962.

and maintain health by the magical power of the source text.[143] In the Mahayana tradition, the popular sutras and mantras associated with healing deities include the Medicine Buddha Sutra[144] and the Great Compassion Mantra associated with Avalokitesvara.[145] In the Vajrayana tradition, the Dalai Lama recommends the Green Tara mantra.[146] Here are meditation's benefits for COVID-19 patients:

Meditation practices, including mindfulness, guided meditation, and yoga, have been shown to reduce stress, anxiety, and depression. A study in the Indian Journal of Palliative Care by Mahendru et al stated that meditation and breathing exercises in the form of pranayama yoga have positive effects on depression, anxiety, stress levels, and quality of sleep in mildly symptomatic COVID-19-infected patients kept under strict institutional isolation.[147] In a study by Parizad et al. (2021), guided imagery can effectively reduce anxiety and muscle pain and improve vital signs, such as heart rate, blood pressure, and oxygen saturation, in patients with COVID-19.[148] Ghorashi et al. (2022) also showed that yoga-based breathing techniques and meditation could

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143 Anālayo, "Healing in Early Buddhism"; Salguero, "Buddhist Responses."

144 Fo Guang Shan International Translation Center, *Medicine Buddha Sutra* (Fo Guang Shan International Translation Center, 2015), https://www.fgsitc.org/wp-content/uploads/2024/04/Medicine-Buddha-Sutra-2015.pdf.

145 Quant Trí, "Great Compassion Dharani," *The Buddha Journey*, August 23, 2013, https://buddhajourney.net/great-compassion-dharani/.

146 Quant Trí, "Om Tare Tuttare Ture Soha," *The Buddha Journey*, April 2013, https://buddhajourney.net/om-tare-tuttare-ture-soha/.

147 Kiran Mahendru et al., "Effect of Meditation and Breathing Exercises on the Well-Being of Patients with SARS-CoV-2 Infection under Institutional Isolation: A Randomized Control Trial," *Indian Journal of Palliative Care* 27, no. 4 (2021): 490–94, https://doi.org/10.25259/IJPC_40_21.

148 Naser Parizad et al., "Effect of Guided Imagery on Anxiety, Muscle Pain, and Vital Signs in Patients with COVID-19: A Randomized Controlled Trial," *Complementary Therapies in Clinical Practice* 43 (May 2021): 101335, https://doi.org/10.1016/j.ctcp.2021.101335.

effectively reduce symptom severity and anxiety levels in COVID-19 patients.[149] Research in Plos One highlighted the beneficial effects of online mindfulness-based interventions (MBIs) on mental health, particularly depression, anxiety, and stress, during the COVID-19 pandemic.[150]

Some studies suggest that meditation can influence immune system functioning. Regular meditation may increase antibody responses and improve immune cell activity, potentially offering some benefit to COVID-19 patients. A review in "Yoga Therapy for Immunomodulation (Prevent & Cure) of COVID-19" suggested that yoga therapy, particularly Jala Nethi and Pranayama, can enhance overall immunity and help prevent and cure COVID-19.[151] In a study by Bushell et al. (2020), meditation and yoga asana (postures) and pranayama (breathing) practices may potentially be effective adjunctive treatments for treating and preventing SARS-CoV-2 infection.[152] A study in the Proceedings of the National Academy of Sciences has shown that Sayama meditation (the binding of dharana, dhyana, and samadhi yoga) enhances immune function without activating inflammatory signals, making it an effective behavioral intervention for

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[149] Z. Ghorashi et al., "The Effects of Yoga-Based Breathing Techniques and Meditation on Outpatients' Symptoms of COVID-19 and Anxiety Scores," *Journal of Nursing and Midwifery* 9, no. 3 (2022): 173–79, https://doi.org/10.4103/jnms.jnms_173_21.

[150] Bendix Samarta Witarto et al., "Effectiveness of Online Mindfulness-Based Interventions in Improving Mental Health during the COVID-19 Pandemic: A Systematic Review and Meta-Analysis of Randomized Controlled Trials," *PloS One* 17, no. 9 (2022): e0274177, https://doi.org/10.1371/journal.pone.0274177.

[151] Herath Kumara et al., "Yoga Therapy for Immunomodulation (Prevent & Cure) of COVID-19," *International Journal of Health Sciences and Research* 11, no. 2 (2021): 130–41.

[152] Bushell et al., "Meditation and Yoga Practices."

treating various conditions associated with a weakened immune system, including COVID-19.[153]

Meditation often includes breathing exercises to improve lung function and respiratory health. These techniques might be beneficial for COVID-19 patients experiencing respiratory symptoms. Pranayama (yogic breathing exercises) has been explored for its potential to improve respiratory health. A study in the International Journal of Ayurvedic Medicine indicated that these exercises might enhance respiratory muscle strength, reduce inflammation, and improve autonomic regulation.[154]

The pandemic has accelerated the use of telehealth, including online meditation sessions, which can be easily accessible for patients in quarantine or with mobility restrictions. Research in Plos One highlighted the feasibility and effectiveness of online mindfulness-based interventions (MBIs) during the COVID-19 pandemic, showing positive outcomes in improving mental health, mainly depression, anxiety, and stress.[155]

Meditation is part of a holistic approach to health, addressing physical, emotional, and mental well-being. So, integrating meditation into the care plan for COVID-19 patients can support overall health and recovery. In a study by Feng et al. (2020), Qigong regulates breath rhythm and pattern, body movement and posture, and meditation. Qigong exercises, such as abdominal breathing, Ba Duan Jin, and Liu Zi Jue, may help

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[153] Vijayendran Chandran et al., "Large-Scale Genomic Study Reveals Robust Activation of the Immune System Following Advanced Inner Engineering Meditation Retreat," *Proceedings of the National Academy of Sciences* 118, no. 51 (2021): e2110455118, https://doi.org/10.1073/pnas.2110455118.

[154] Sparsh Kakkar et al., "The Impact of Yoga Practice on Pulmonary Function: A Comprehensive Review," *International Journal of Ayurvedic Medicine* 15, no. S1 (2024): S1, https://doi.org/10.47552/ijam.v15iS1.5595.

[155] Witarto et al., "Effectiveness of Online Mindfulness-Based Interventions."

prevent, treat, and rehabilitate COVID-19 in elderly individuals by reducing stress, regulating emotions, strengthening respiratory muscles, and enhancing immune function.[156] Tyagi et al. (2024) found that yoga (which combines Asana (physical postures), Pranayama (breath regulation), Dhyana (meditation)), ayurveda, and homeopathy, along with conventional medicine, effectively manage COVID-19 complications.[157] Denise Capela Santos et al. (2023) stated that yoga, comprising asana, pranayama, and meditation, is especially adequate for COVID-19 recovery by improving mental health status, immunity against viral infections, systemic health parameters, and quality of life.[158]

2.5 Gaps in the Literature:

Many meditation studies i.e., comparing the psychological effects of meditation- and breathing-focused yoga practice in undergraduate students[159] use observational designs, self-reported surveys, or qualitative methods, which limit causal conclusions. More structured experimental research is needed to determine the effectiveness of specific meditation techniques. Using a quasi-experimental two-group pre-posttest design, my study strengthens the scientific evidence on meditation's effectiveness, contributing to more rigorous meditation research methodologies.

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[156] Feng et al., "Qigong for the Prevention, Treatment, and Rehabilitation."

[157] Prakhar Tyagi et al., "Yoga and Other Alternative Therapies to Fight Against COVID-19 Effectively: A Systematic Review of Randomized Controlled Trials," *Indian Journal of Physical Therapy and Research*, ahead of print, 2024, https://doi.org/10.4103/ijptr.ijptr_129_23.

[158] Denise Capela Santos et al., "Yoga for COVID-19: An Ancient Practice for a New Condition – A Literature Review," *Complementary Therapies in Clinical Practice* 50 (February 2023): 101717, https://doi.org/10.1016/j.ctcp.2022.101717.

[159] Qi et al., "Comparing the Psychological Effects of Meditation- and Breathing-Focused Yoga."

Meditation research i.e., effect of meditation and breathing exercises on the well-being of patients with SARS-CoV-2 infection under institutional isolation[160] often examines long-term health benefits, with a limited focus on short-term efficacy for acute illnesses. COVID-19 recovery is time-sensitive, and understanding short-term improvements is crucial. My study assesses the effects of a 14-day SKT meditation intervention, providing insights into whether short-term meditation can accelerate recovery in mild COVID-19 cases.

Many studies i.e. the Neuroscience of Mindfulness Meditation,[161] Mindfulness-Based Stress Reduction: A Literature Review and Clinician's Guide,[162] Alterations in Brain and Immune Function Produced by Mindfulness Meditation[163] highlight improvements in mental health, stress reduction, and immune response but do not specifically focus on key physiological vital functions such as heart rate, blood pressure, respiratory rate, and oxygen saturation. While some studies i.e. Yoga Respiratory Training Improves Respiratory Function and Cardiac Sympathovagal Balance in Elderly Subjects[164] mention improvements in respiratory rate, oxygen saturation, and autonomic regulation, a direct analysis of meditation's effect on vital signs in COVID-19 patients remains underexplored.

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[160] Mahendru et al., "Effect of Meditation and Breathing Exercises."

[161] Tang et al., "Neuroscience of Mindfulness Meditation."

[162] Praissman, "Mindfulness-Based Stress Reduction."

[163] Davidson et al., "Alterations in Brain and Immune Function."

[164] Santaella et al., "Yoga Respiratory Training Improves Respiratory Function."

Few studies i.e., Analogy between classical Yoga/Zen breathing and modern clinical respiratory therapy[165] compare meditation techniques with conventional clinical treatments or non-pharmacological interventions, e.g., physiotherapy and respiratory therapy, to determine their relative effectiveness in improving vital functions. A comparative study evaluating meditation alongside pharmacological treatments would provide a more comprehensive understanding.

Many studies i.e., effectiveness of mindfulness meditation on pain and quality of life of patients with chronic low back pain[166], Unified Consciousness and the Effect of Body Scan Meditation on Happiness[167] rely on self-reported outcomes, such as pain, anxiety, stress, happiness, and quality of life, rather than objective physiological measures, such as blood biomarkers, inflammatory markers, or detailed cardiovascular assessments. More studies with advanced monitoring, such as wearable technology tracking HRV and continuous oxygen saturation levels, are needed to validate meditation's direct impact on vital functions.

Most studies i.e., the effects of yoga-based breathing techniques and meditation on outpatients' symptoms of COVID-19 and anxiety scores[168], effect of meditation and breathing exercises on the well-being of patients with SARS-CoV-2 infection under institutional isolation[169] assess the impact of meditation interventions over short periods,

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[165] Tobe and Saito, "Analogy between Classical Yoga."

[166] Banth and Ardebil, "Effectiveness of Mindfulness Meditation."

[167] Dambrun et al., "Unified Consciousness and the Effect of Body Scan Meditation."

[168] Zohreh Ghorashi et al, "Effects of Yoga-Based Breathing Techniques."

[169] Mahendru et al., "Effect of Meditation and Breathing Exercises."

such as during institutional isolation or within a few weeks. However, longitudinal studies evaluating sustained improvements in vital functions post-COVID-19 recovery are limited.

Studies i.e., effect of guided imagery on anxiety, muscle pain, and vital signs in patients with COVID-19[170] often include a general COVID-19 patient population without considering comorbidities or demographic differences. Research targeting subgroups, such as the elderly, post-COVID long-haulers, or patients with mild vs. moderate symptoms, is needed.

Many existing studies are small-scale trials or reviews i.e., individual stress prevention through qigong[171]. Large-scale RCTs with rigorous methodologies and larger sample sizes are needed to confirm findings and establish meditation as a validated intervention. The studies i.e., meditation and yoga practices as potential adjunctive treatment of SARS-CoV-2 infection and COVID-19[172] suggest positive effects but do not provide guidelines on how meditation can be effectively integrated into standard COVID-19 treatment protocols. More research is needed to develop standardized protocols that combine meditation with conventional treatments.

Addressing these gaps can provide a more comprehensive understanding of how meditation can be used effectively as a complementary intervention for COVID-19 patients. This will help develop targeted meditation protocols, optimize patient outcomes, and integrate holistic approaches into conventional medical practices.

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[170] "Effect of Guided Imagery."

[171] van Dam, "Individual Stress Prevention through Qigong."

[172] Bushell et al., "Meditation and Yoga Practices."

Lack of studies on SKT Meditation Healing Exercise Techniques 1 and 2 specifically for COVID-19 Patients

SKT meditation healing exercise techniques 1 and 2 are specialized forms of meditation and healing exercises rooted in ancient traditions. These techniques often combine breath control, specific physical postures, and focused meditation to promote physical and mental well-being. SKT meditation techniques 1 and 2 are not as widely recognized or understood in mainstream medical and psychological research as other forms of meditation, such as Mindfulness or Transcendental Meditation. Increased scholarly attention and effort to document and standardize SKT meditation practices to make them accessible and understandable to the broader scientific community are needed.

Clinical trials examining the effects of SKT meditation techniques 1 and 2 on COVID-19 patients are rare. Most existing research focuses on more well-known meditation forms. Clinical trials to investigate the efficacy of SKT meditation in improving health outcomes for COVID-19 patients, including metrics like recovery time, symptom severity, and psychological well-being, are needed.

There is a lack of studies exploring the underlying mechanisms through which SKT meditation techniques 1 and 2 might benefit COVID-19 patients, such as effects on the immune system, respiratory function, and inflammation. Research is needed to elucidate the biological and physiological mechanisms affected by SKT meditation, including potential impacts on immune response, lung function, and stress-related pathways.

No comparative studies evaluate the effectiveness of SKT meditation techniques 1 and 2 against other established meditation practices for COVID-19-related health issues. Comparative studies are needed to determine the relative efficacy of SKT meditation versus other meditation techniques in enhancing physical and psychological health in COVID-19 patients.

There has been insufficient exploration of how SKT meditation techniques 1 and 2 can be integrated with conventional COVID-19 treatments, such as antivirals and supportive care. Studies should examine the synergistic effects of combining SKT meditation with standard medical treatments, assessing overall patient outcomes and potential benefits in treatment protocols.

The lack of studies on SKT meditation healing exercise techniques 1 and 2 for COVID-19 patients highlights a significant research gap. Addressing this gap requires a concerted effort to conduct rigorous clinical trials, mechanistic studies, and comparative research to understand the potential benefits of SKT1 and SKT2 meditation. Furthermore, exploring integration with conventional treatments and the feasibility of digital delivery methods can provide comprehensive insights into how SKT1 and SKT2 meditation can effectively enhance the health and well-being of COVID-19 patients.

My research cannot fill all gaps in the literature and the lack of studies on SKT meditation healing exercise techniques 1 and 2 specifically for COVID-19 patients but it may fill key gaps in the literature and the lack of studies on SKT1 and SKT2 for COVID-19 patients in several ways:

Existing studies on meditation for COVID-19 patients are scarce, particularly regarding structured SKT Meditation Healing Exercise Techniques 1 and 2. My study introduces empirical data on the effectiveness of SKT meditation in improving vital functions in mild COVID-19 cases.

Many prior studies on meditation use observational or qualitative methods rather than controlled quasi-experimental designs. My study, however, implements a two-group pre-posttest design, strengthening causal inference. Thus, it provides more robust evidence.

Prior research on meditation often emphasizes psychological outcomes, e.g., stress and anxiety, rather than physiological improvements. My study specifically evaluates vital functions and symptom changes, contributing to a more comprehensive understanding of meditation's physiological benefits.

Most meditation studies focus on long-term benefits, often in chronic conditions. My study examines the short-term (14-day) effects on COVID-19 recovery, offering insights into its potential as an adjunct therapy for acute viral infections.

2.6 Literature Summary:

COVID-19 is a respiratory illness caused by the SARS-CoV-2 virus, with symptoms ranging from mild (fever, cough, fatigue) to severe (pneumonia, ARDS). Most mild cases are managed at home with supportive care, while severe cases require hospitalization. The pandemic has prompted research into pharmaceutical and non-pharmaceutical interventions to improve recovery and reduce complications.

My study is grounded in positivism, emphasizing objective measurement and quantifiable outcomes. Relevant theories supporting the study include mind-body connection and psychoneuroimmunology (PNI) theories, which explain how mental states influence physiological health. These frameworks help the rationale for using meditation as a tool to enhance recovery in COVID-19 patients.

Meditation has been widely studied for its effects on stress reduction, immune function, and autonomic regulation. Different meditation techniques, such as mindfulness, breathwork, and movement-based practices, have been shown to improve physical and mental health. Traditional healing practices, including energy-based and breathing exercises, have long been integrated into holistic health approaches.

SKT Meditation Healing Exercise Techniques 1 and 2 are structured practices that incorporate breathing, movement, and mental focus. These techniques are designed to promote self-healing, relaxation, and energy flow, which may help regulate vital functions such as heart rate and respiratory efficiency. Unlike general meditation techniques, SKT exercises specifically target physiological improvements, aligning with my research goals.

Some preliminary studies suggest meditation and breathing techniques may improve lung function, reduce inflammation, and enhance immune responses in COVID-19 patients. Psychological benefits, such as reduced anxiety and improved emotional resilience, have also been reported. However, most studies focus on mindfulness or yoga-based interventions, with limited research on SKT1 and SKT2 meditation.

There is minimal research on the effectiveness of SKT1 and SKT2 meditation in COVID-19 recovery. Most meditation studies rely on observational or qualitative methods. Existing research focuses more on mental health than on measurable changes in vital functions. Few studies have explored meditation's impact over a brief recovery period, e.g., 14 days. There is a need for non-pharmacological, self-administered interventions for COVID-19 patients recovering at home.

Meditation has potential benefits for improving health outcomes, including respiratory function and immune support. While research on meditation for COVID-19 exists, it is limited in scope, methodology, and focus on physiological changes. My study fills these gaps by employing a quasi-experimental design to evaluate SKT Meditation Healing Exercise Techniques 1 and 2 as a home-based, short-term intervention for COVID-19 recovery. This recap provides a transparent bridge between the literature review and my study's justification.

The Connection between the Literature and the Current Research Focus

Studies have shown that meditation can reduce stress, improve immune function, and enhance overall well-being. Some research indicates that meditation techniques help regulate autonomic functions, such as heart rate, respiration, and blood pressure. However, most studies focus on general well-being or chronic conditions rather than acute infections like COVID-19. My study builds on this knowledge by examining whether SKT Meditation Healing Exercise Techniques 1 and 2 specifically improve vital functions in COVID-19 patients, filling the gap in acute illness applications.

Some meditation techniques, such as pranayama and mindfulness breathing, have been shown to improve lung function and oxygen saturation.[173] Breathing exercises are often recommended for respiratory illnesses, but there is limited research on their direct

[173] Kakkar et al., "The Impact of Yoga Practice on Pulmonary Function."

impact on COVID-19 recovery.[174] My study investigates whether SKT meditation can support respiratory health in COVID-19 patients, potentially enhancing recovery from mild symptoms like shortness of breath and fatigue.

Meditation is widely studied for reducing stress, anxiety, and depression in patients with various conditions.[175] Since COVID-19 is associated with psychological distress, previous studies suggest that meditation may be beneficial for mental well-being.[176] Although my research primarily focuses on physiological outcomes, it indirectly contributes to this body of literature by assessing whether symptom relief from meditation improves overall well-being.

Most COVID-19 treatment studies focus on antiviral medications, vaccines, or supportive care, such as oxygen therapy.[177] Non-drug approaches, such as breathing techniques, yoga, and meditation, have been proposed but lack strong empirical evidence.[178] My study provides empirical data on a non-pharmacological intervention,

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[174] Capela Santos et al., "Yoga for COVID-19."

[175] Avvenuti et al., "Reductions in Perceived Stress Following Transcendental Meditation Practice Are Associated with Increased Brain Regional Connectivity at Rest"; S. Hariri et al., "Online Guided Meditation Training (Isha Kriya) Improves Self-Reported Symptoms of Anxiety and Depression within 2 Weeks of Practice—An Observational Study," *Frontiers in Psychiatry* 13 (2022), https://doi.org/10.3389/fpsyt.2022.944973; Praissman, "Mindfulness-Based Stress Reduction".

[176] Dawn Querstret et al., "Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy for Psychological Health and Well-Being in Nonclinical Samples: A Systematic Review and Meta-Analysis," *International Journal of Stress Management* (US) 27, no. 4 (2020): 394–411, https://doi.org/10.1037/str0000165.

[177] Guangdi Li et al., "Therapeutic Strategies for COVID-19: Progress and Lessons Learned," *Nature Reviews Drug Discovery* 22, no. 6 (2023): 449–75, https://doi.org/10.1038/s41573-023-00672-y; Joydeb Majumder and Tamara Minko, "Recent Developments on Therapeutic and Diagnostic Approaches for COVID-19," *The AAPS Journal* 23, no. 1 (2021): 14, https://doi.org/10.1208/s12248-020-00532-2

[178] Herath Kumara et al., "Yoga Therapy for Immunomodulation."

supporting alternative approaches for symptom management in COVID-19 patients recovering at home.

COVID-19 treatment research primarily focuses on pharmacological solutions, with limited exploration of alternative, non-drug interventions. My study provides evidence on how meditation can support recovery without medication, potentially reducing reliance on pharmacological treatments.

Research on COVID-19 often prioritizes severe cases, leaving gaps in understanding how non-severe cases can benefit from alternative therapies. My study fills this gap by focusing on individuals with mild symptoms who are advised to recover at home.

My research explores an intervention that can be easily practiced at home. This intervention aligns with public health strategies to manage COVID-19 cases outside hospital settings, contributing to the growing need for accessible, low-cost, and noninvasive recovery strategies. By addressing these gaps, my study provides valuable insights into the role of SKT Meditation Healing Exercise Techniques 1 and 2 in improving physiological functions in COVID-19 patients, supporting its integration into holistic treatment approaches.

My research extends the existing literature by 1. testing a specific form of meditation (SKT meditation healing exercise techniques 1 and 2) rather than general meditation practices, 2. applying meditation techniques in acute illness recovery rather than chronic disease management, 3. providing quasi-experimental evidence to support meditation's efficacy, and 4. exploring vital function improvements in COVID-19 patients, expanding the physiological focus beyond mental health benefits. This connection strengthens the relevance of my study and demonstrates how it contributes new knowledge to the field.

CHAPTER THREE: METHODOLOGY

This chapter outlines the research methodology employed to evaluate the effectiveness of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients. The chapter details the research design, followed by the participant selection criteria, data collection methods, and analysis techniques. This study aims to establish a clear connection between SKT healing techniques and potential improvements in physical and physiological health indicators among those affected by COVID-19.

Given the unprecedented nature of the COVID-19 pandemic and its wide-reaching health implications, particularly for respiratory,[179] cardiovascular,[180] and immune functions,[181] alternative healing practices like SKT meditation techniques 1 and 2 have gained attention for their potential therapeutic benefits. This study utilized quantitative data to assess the efficacy of these techniques.

Setting the Stage for the Research Methodology

The research was conducted in sequential stages to ensure a systematic approach to investigating the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients. The study followed a structured process consisting of the following key stages:

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[179] Besharat Rahimi et al., "Coronavirus and Its Effect."

[180] Kensuke Matsushita et al., "Impact of COVID-19 on the Cardiovascular System: A Review," *Journal of Clinical Medicine* 9, no. 5 (2020): 1407, https://doi.org/10.3390/jcm9051407.

[181] Cléa Melenotte et al., "Immune Responses during COVID-19 Infection," *OncoImmunology* 9, no. 1 (2020): 1807836, https://doi.org/10.1080/2162402X.2020.1807836.

A comprehensive literature review was conducted to identify gaps and justify the study. The research design, methodology, and intervention protocol were developed using a quasi-experimental two-group pre-posttest design. Ethical approval was obtained from the University of the West and Phrae Hospital IRB committees to ensure adherence to ethical guidelines and patient safety.

Participants were recruited from Phrae Hospital based on predefined inclusion and exclusion criteria. Eligible participants were COVID-19 patients aged 18-65 with mild symptoms who were advised to isolate at home. Patients with underlying health conditions or severe symptoms were excluded from the study. Before enrollment, informed consent was obtained from all participants.

Before the intervention, baseline measurements were recorded for all participants, including vital signs (heart rate, respiratory rate, oxygen saturation, and blood pressure) and self-reported symptom assessments using a structured questionnaire. Participants were randomly assigned to either the experimental group (practicing SKT meditation) or the control group (standard care).

The experimental group practiced SKT Meditation Healing Exercise Techniques 1 and 2 daily for 14 days. Participants received detailed instructions and remote monitoring through virtual check-ins and phone calls to ensure adherence. The control group received standard home-care recommendations without the meditation intervention. On the last 14-day intervention, vital functions and symptom assessments were measured again. Data were collected using the same structured tools as in the pre-test phase.

Collected data were analyzed using descriptive and inferential statistical methods to determine changes in vital signs before and after the intervention, differences between the experimental and control groups, and the effectiveness of SKT1 and SKT2 meditation in improving COVID-19 recovery outcomes.

Results were interpreted based on the study's hypotheses and existing literature. Findings were documented, and conclusions were drawn regarding the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2. The study's limitations, implications, and recommendations for future research were outlined.

While the direct impact of meditation on COVID-19 clinical outcomes requires further research, existing studies support its use as a complementary therapy to improve mental health, support immune function, and enhance overall well-being. Meditation is a low-cost, low-risk intervention that can be easily incorporated into patient care, primarily through digital platforms.

The following sections will detail the experimental procedures, including the specific meditation exercises employed, the participant recruitment process, and the data analysis method. This methodology aims to ensure a systematic and replicable process, contributing to the broader body of research on non-invasive interventions for post-viral recovery.

3.1 Research Team:

Phramaha Loedej Wongsricha, DBMin Candidate teamed up with Co-investigator Dr. Saranya Sukhanthachaiwong, Internal Medical Doctor, Phrae hospital, Thailand, and field research assistant team, Phrakhruphawanapanyakhun, Phra Amporn Boonlertrop, Mrs.Chamnian Kongprapane, Miss Chanthira Chaisukkoson, Mrs. Sopith Pujoy, Miss

Patcharapan Mueangmo, Mrs. Sumitra Suttisai, Mrs.Fongchan Promrin, Miss Khamsaen Inchai, Mrs.kunnaya kaewtankham, and Mrs.Namfon Rueangrin to create and execute the research study. As the study design progressed, the UWest IRB committee and Phrae Hospital IRB committee approved the IRB form. DBMin Candidate Phramaha Loedej Wongsricha and the field research assistant team collected data from 30 participants admitted to Phrae Hospital, Phrae Province, Thailand. Professor Dr. Somporn Kantharadussadee Triamchaisri, a research committee member and supervisor, was available to consult on all study elements, particularly study measurements, coordination of the research team, and statistical analysis.

3.2 Study Aims, Objectives, and Research Questions:

This study aims to examine the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 as complementary and alternative medicine in improving vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients, providing empirical evidence for its potential use in COVID-19 recovery.

The research objectives were defined as:

1. To assess the impact of SKT Meditation Healing Exercise Techniques 1 and 2 on vital signs (e.g., respiratory rate, heart rate, oxygen saturation, and blood pressure) in COVID-19 patients.
2. To determine its efficacy, compare the pre- and post-intervention data of the experimental group (practicing SKT techniques 1 and 2) and the control group (receiving standard care).

3. To contribute to the existing knowledge on nonpharmacological interventions for COVID-19 recovery and their potential integration into public health strategies.

The research questions were defined as:

1. To what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improving vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients?
2. Is there a statistically significant difference in vital functions between the experimental and control groups following the implementation of SKT Meditation Healing Exercise Techniques 1 and 2 in COVID-19 patients?

3.3 Research Design:

The philosophy of this research was positivism. This philosophy supports objective measurement, emphasizes probability and causality, reduces bias, and aligns with scientific method. Thus, it is ideal for investigating the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions among COVID-19 patients.

This research used a quantitative approach and quasi-experimental studies as its strategy. Random assignment, as in an actual experiment, may be ethically challenging in health-related research, especially involving patients because it may require withholding potentially beneficial treatments from one group or assigning patients to interventions that may not be in their best interest. This can raise concerns about informed consent, patient safety, and fairness. Quasi-experimental designs allow for meaningful comparisons without randomization, which can be difficult or unethical in vulnerable populations like COVID-19 patients.

COVID-19 patients are often in clinical settings where randomizing interventions may not be practical due to existing treatment plans. The quasi-experimental design allows me to work with pre-existing groups or assign interventions based on availability or need rather than randomly. The pre-posttest structure allows for measuring changes in vital functions within individuals, providing robust within-subject data on the impact of the meditation techniques. By having two groups (the experimental and control groups), the design enables me to compare the effectiveness of SKT Meditation Healing Exercise Techniques 1 and 2 in improving the vital functions of COVID-19 patients, which is essential for assessing the efficacy of these exercises. Using pre-tests allows the researcher to evaluate the baseline conditions of both groups. At the same time, post-tests measure the changes after the intervention, helping to establish whether the improvement in vital functions can be attributed to the SKT meditation exercises. While quasi-experimental designs may not control for all confounding factors and randomized designs, the pre-posttest framework helps mitigate this by showing whether any observed changes are due to the intervention or pre-existing differences. This design allows for flexibility in a clinical environment where complete experimental control may not be feasible while still providing meaningful data.

The time horizon of this research was a cross-sectional approach. The cross-sectional approach provides a practical, efficient, and ethically sound method for gathering data at a single point in time. It suits the time-sensitive nature of my research, allowing me to assess the immediate impact of the SKT Meditation Healing Exercise Techniques on COVID-19 patients without requiring long-term follow-up.

This research used nonprobability sampling. Due to time constraints, limited patient availability, inclusion and exclusion criterias, or ethical considerations when working with COVID-19 patients, nonprobability sampling ensures that I can access the appropriate participants for my study while respecting the constraints of the clinical setting.

This 14-day quasi-experimental research with two groups of pre-posttest design was incorporated with two key aims. The first key aim was to compare the improvement of vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, among the experimental group and the control group before and after an intervention of supplemental treatment program with SKT Meditation Healing Exercise technique 1: the sitting breathing meditation (SKT1) and technique 2: Standing deep breathing meditation exercise (SKT2). Participants in the experimental group received standard treatment for COVID-19 patients and practiced SKT1 and SKT2, while participants in the control group received standard therapy for COVID-19 patients only. The second key aim was to compare the improvement of vital functions between the experimental and control groups after an intervention of a supplemental treatment program with SKT1 and SKT2.

3.4 Participants and Setting:

This quantitative study was performed on 30 Thai COVID-19 patients between 18 and 65 years old, both males and females, who were admitted to Phrae Hospital, Phrae Province, Thailand, from July to October 2023 for two weeks (3 visits) for each participant. Participants were divided into two groups using the matching technique to randomize the groups. Matching techniques include matching age +-5 years, underlying disease, occupation, education, and some background, as the investigator can control any biases. Each group was composed of 15 patients. These two groups were:

1. Experimental group; participants who received standard medical treatment for COVID-19 and practice SKT1 and SKT2.

2. Control group: participants who received only standard medical treatment for COVID-19.

The research assistant team instructed fifteen participants in the experimental group to practice SKT1 and SKT2 twice a day, in the morning and evening. Participants in both groups received vital sign measurement tools such as a blood pressure monitor, fingertip pulse oximeter, thermometer, SKT meditation healing exercise guideline, and vital sign record form. Each participant visited Phrae Hospital twice on the first day of admission and the 15^{th} day of participation in this study and received reminder calls or messages from research assistants twice a day in the morning and evening during participation in this study.

Definition of the Study Population

COVID-19 patients are individuals who have been infected with the SARS-CoV-2 virus, which is responsible for the COVID-19 pandemic. The impact of the virus on patients varies widely, ranging from mild symptoms to severe illness and even death. In this study, participants had mild symptoms such as fever, cough, fatigue, and loss of taste or smell. Some may have a sore throat, nasal congestion, or body aches. Patients with mild symptoms are usually advised to isolate at home, rest, stay hydrated, and take over-the-counter medications for symptom relief. Older adults, especially those over 65, are at higher risk for severe illness.[182] So, thirty participants in this study were between 18 and 65 years old.

Inclusion Criteria:

1. Participants must be between 18 and 65 years old and of all genders or sexual orientations.
2. Participants must have a confirmed diagnosis of COVID-19 via a PCR or rapid antigen test.
3. Participants must exhibit mild COVID-19 symptoms, such as fever, cough, fatigue, loss of taste or smell, sore throat, nasal congestion, or body aches.
4. Participants should be under medical advice to isolate at home rather than require hospital admission.
5. Participants must be able to manage symptoms independently at home, following recommendations such as rest, hydration, and over-the-counter symptom relief.
6. Participants must be willing and able to provide informed consent for participation in the study.

Exclusion Criteria:

1. Individuals experiencing severe COVID-19 symptoms or complications, such as difficulty breathing, chest pain, confusion, pneumonia, or acute respiratory distress syndrome (ARDS), are excluded.
2. Individuals with underlying health conditions that increase susceptibility to severe outcomes, including diabetic shock, heart attack, lung disease, obesity, stroke, or weakened immune systems, are excluded.

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[182] Majumder and Minko, *"Recent Developments on Therapeutic."*

Recruitment Procedures

The recruiting procedures were as follows:

1. After receiving IRB approval from the University of the West IRB committee, I went to Phrae Hospital, Thailand, then wrote the Phrae Hospital IRB form and sent it to the Phrae Hospital IRB review board for approval to conduct the research in Phrae Hospital.
2. After getting approval to conduct the research in Phrae Hospital, Phrae province, Thailand, my research assistants notified all COVID-19 patients who were admitted to Phrae Hospital about the study through word of mouth and a brief presentation about the study (based on the information in the informed consent form).
3. The recruitment was a) explain the inclusion and exclusion criteria, b) explain the nature of the treatment group, c) explain that participation is entirely voluntary, d) benefits, and e) an incentive of a $10 gift (souvenir).
4. Interested COVID-19 patients were signed up with assistants and provided their contact information.
5. My co-investigator, a medical doctor, checked their medical records to ensure they were appropriate for the study.
6. Interested patients who met the inclusion criteria received a confirmation message for the treatment and control group's date, time, and venue.
7. Interested patients who did not meet the inclusion criteria received a message thanking them and explaining why they could not participate in my research.

In June 2023, DBMin candidate Phramaha Loedej Wongsricha met with the co-investigator and research assistant team at Wat Pawiangthong, Phrae Province, Thailand, to introduce the study aims and design. During this meeting, we discussed a plan for recruiting participants and data collection. In July 2023, the application to the hospital review board was completed and then submitted.

Upon approval from the hospital review board by the end of July 2023, I again met with the nurse research assistant team to prepare the instrument and set the intervention date. The intervention was then set for August and October 2023.

Sample Size Determination

In this doctoral research on the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients, the sample size was carefully determined to balance the feasibility and reliability of the findings. My supervisor recommended a minimum of 20 and a maximum of 30 participants for the following reasons: (1) Time and Resource Constraints, (2) Focused Participant Group, and (3) Purpose of the Research.

This study is part of a doctoral program, and time and budget are limited. Increasing the sample size significantly would extend the duration of the field research and require additional resources that may not be feasible within the scope of a student research project. This study targets a specific population, which was COVID-19 patients aged 18-65 with mild symptoms generally in home isolation. A sample size of 20-30 participants was sufficient to observe the effects of the SKT techniques within this well-defined group. This study employs a nonprobability sampling strategy, which aligns with a smaller, more manageable sample size for exploratory research. The findings aim to provide preliminary insights rather than large-scale generalizability.

A sample size between 20 and 30 participants is appropriate for this doctoral research. This size allows for manageable data collection while providing meaningful insights into the effects of the SKT Meditation Healing Exercises on the selected population.

3.5 Intervention Protocol:

Fifteen participants of the experimental group received standard medical treatment, and they were trained to practice SKT1 as the intervention taught by Dr. Somporn Kantharadussadee Triamchaisri for 15-20 minutes twice a day in the morning and before going to bed in the evening and practice SKT2 for 15-20 minutes in the evening for 14 days of participation.

SKT Meditation Healing Exercise Technique 1 (SKT1): Sitting Breathing Meditation

Beginners should practice (SKT1) inhaling and exhaling 20 breaths. Advanced practitioners should practice (SKT1) inhaling and exhaling 30-40 breaths by closing the eyes. Take a deep breath through the nose. Hold your breath and count from 1 to 3. Then, slowly breathe out through the mouth.

SKT Meditation Healing Exercise Technique (SKT2): Standing deep breathing meditation exercise

Beginners should practice (SKT2) inhaling and exhaling 20 breaths. Advanced practitioners should practice (SKT2) inhaling and exhaling 30-40 breaths. Raise your arms and put your hands together above your head, ensuring your upper arms touch your ears. Inhale and exhale as indicated. Then, slowly lower your hands and count from 1 to 30

3.6 Data Collection:

In the initial stage of recruitment, I gave consent forms to the participants. Once the consent form that includes an explanation of my research work, the primary goals of my research work, and what makes their participation in my project unique was provided, I started collecting their information during the sessions with their approval. That data was maintained as anonymous and highly confidential throughout the research program. My research assistants explained this to the participants at the beginning of the first session. Regarding the age limit for enrolling in the research program, only adults can participate in my research program.

After recruitment, my research assistants collected participants' demographic and health situation data on the first day they were admitted to the hospital before receiving treatment and practicing SKT Meditation Healing Exercise Techniques 1 and 2.

The participants' demographic information, i.e., age, gender, marital status, ethnicity, religion, education, health insurance, other insurance, poor household, previous job, and current work, includes their experience of practice SKT1 and SKT2.

Participants' health situation was their COVID-19 symptoms and complications on the first day of admission to the hospital before receiving treatment and practicing SKT1 and SKT2.

COVID-19 symptoms include fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea.[183]

COVID-19 complications, i.e., Acute Respiratory Failure, Pneumonia, Acute Respiratory Distress Syndrome (ARDS), Acute Liver Injury, Acute Cardiac Injury, Secondary Infection, Acute Kidney Injury, Septic Shock, Disseminated Intravascular Coagulation, Blood Clots, Multisystem Inflammatory Syndrome in Children, Chronic Fatigue, Rhabdomyolysis.[184]

During the 14 days of participation, participants of the control group who received standard medical treatment and participants of the experimental group who received standard medical treatment and practiced SKT1 and SKT2 measured and recorded vital sign data in a record form by themselves twice daily in the morning and evening. This vital sign data includes body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation. All participants submitted this vital sign data to my research assistants when they went to Phrae Hospital, Phrae Province, Thailand, at the end of participation in this project. Then, my research assistants sent all the collected data to me online.

Follow-up Measurements

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[183] WHO, "Coronavirus Disease (COVID-19)," accessed July 10, 2024, https://www.who.int/news-room/fact-sheets/detail/coronavirus-disease-(covid-19).

[184] Shawna Seed, "Complications of Coronavirus (COVID-19)," WebMD, accessed November 18, 2024, https://www.webmd.com/covid/coronavirus-complications.

At the end of 14 days, when participants went to Phrae Hospital to return measurement tools, I interviewed each participant online and recorded data in a follow-up questionnaire form. The interview data concerned their COVID-19 symptoms and complications, barriers to practice, and consistency of practicing SKT1 and SKT2 for participants in the experimental group. It also covered the day of recovery from COVID-19 and questions and suggestions about their participation in this project.

Instruments Used

1. SKT Meditation Healing Exercise Techniques 1 and 2 as taught by Dr. Somporn: These techniques are designed as intervention methods to aid in the healing and improvement of vital functions in COVID-19 patients. They involve structured meditation exercises that aim to enhance physical and mental well-being, potentially aiding in alleviating symptoms associated with COVID-19. Only the experimental group practiced SKT1 and SKT2 for two weeks, seven days a week, 45-60 minutes per day, as the integrative treatment technique and standard medical treatment, while the control group received standard medical treatment only.
2. COVID-19 Symptom and its Complications Questionnaire: This questionnaire was a self-assessment tool for participants to report the presence and severity of symptoms related to COVID-19, including fever, cough, fatigue, loss of taste or smell, and other relevant symptoms such as acute respiratory failure, acute respiratory distress syndrome, acute liver injury, acute cardiac injury, acute kidney injury, pneumonia, secondary infection, septic shock, disseminated intravascular coagulation, blood clots, chronic fatigue, and rhabdomyolysis. It

enables the collection of subjective data to evaluate the efficacy of the SKT Meditation Healing Exercise Techniques in improving patient conditions. In addition to physiological measurements, participants were asked to complete a self-reported symptom questionnaire to capture subjective experiences related to their health. This questionnaire allowed participants to record symptoms and other COVID-19-related experiences. The data from these self-reports complemented the objective measurements and provided a holistic view of participants' health.

Tools Used

To assess the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions among COVID-19 patients, it was essential to measure key physiological parameters that reflect the overall health and functioning of the participants. The following instruments and tools were utilized to capture accurate and reliable data:

1. A pulse oximeter was used to measure participants' blood oxygen saturation levels. This device is non-invasive and clips onto a finger, emitting light wavelengths through the skin to detect the percentage of oxygen-saturated hemoglobin in the blood. Oxygen saturation is a critical parameter in assessing respiratory function, often affecting COVID-19 patients. Regular monitoring helped gauge any improvement in participants' oxygenation levels throughout the study.
2. A digital blood pressure monitor measured systolic and diastolic blood pressure. Blood pressure readings are essential in assessing cardiovascular health and provide insights into how meditation and breathing exercises may influence

relaxation and cardiovascular response in COVID-19 patients. Blood pressure measurements were taken in a consistent, seated position to ensure reliable and comparable results.

A heart rate monitor was used to measure heart rate by tracking beats per minute; this monitor and a digital blood pressure monitor were the same tool. Monitoring heart rate helped assess the relaxation response induced by the meditation exercises, as a lower resting heart rate is generally associated with reduced stress and improved cardiovascular health. The device provided continuous tracking and reliable data on participants' heart rate patterns.

3. A digital thermometer was used to measure body temperature, as fever is a common symptom in COVID-19 patients. Tracking body temperature throughout the study period allowed for assessing changes related to participants' immune responses and recovery. This device provided quick and accurate readings, enabling efficient data collection without significant discomfort to the participants.
4. Respiratory rate, the number of breaths per minute, was manually recorded by counting participants' breaths over a one-minute interval. Respiratory rate is a valuable indicator of respiratory function and is especially important for COVID-19 patients who may experience shortness of breath or other breathing difficulties. The rate was observed and documented consistently to detect changes from the SKT meditation techniques.
5. The practical guide to SKT1 and SKT2 developed by Dr. Somporn (2009) was given to participants in the control group.

6. Participants’ demographics record
7. Participants’ vital signs data record form
8. Follow-up interview form

Validity and Reliability of Instruments

Professor Dr. Somporn Kantharadussadee Triamchaisri, my project supervisor, and the nurses who were my field research assistants and SKT Meditation Healing Exercise Trainers assessed the test's reliability.

3.7 Data Analysis:

At the end of the data collection period, this study's data was analyzed using descriptive and inferential statistics to answer the research questions. Descriptive statistics were utilized to summarize the participants' characteristics and provide an overview of the collected data. This involved calculating measures such as the mean, median, standard deviation, and frequency distributions of key variables related to COVID-19 symptoms and vital functions.

Inferential statistics were then applied to examine relationships and test the hypotheses formulated based on the conceptual framework. This statistical approach allowed for assessing the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients. By comparing groups or tracking changes over time, inferential tests such as the Wilcoxon signed-rank test and Mann-Whitney U-test provided insights into the effectiveness of the intervention. They enabled the generalization of findings within the study’s defined parameters.

The Wilcoxon signed-rank test and Mann-Whitney U-test were used in the inferential statistics instead of the paired-sample t-test and independent t-test because the samples in each group were less than 30. The Wilcoxon signed-rank test (non-parametric test) was utilized to compare the median (minimum-maximum) between the pre-test and post-test within each group for non-normal distribution to measure a statistically significant difference in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation in COVID-19 patients. SPSS and Excel programs were used to calculate the data for the Wilcoxon signed-rank test.

The Mann-Whitney U-test (a non-parametric test) was used to measure the differences in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients on day 1, day 7, and day 14 between the experimental and control groups to see if there was a statistically significant difference in vital functions between the two groups. Excel programs were used to calculate the data for the Mann-Whitney U-test. This approach ensured that the analysis was both aligned with the study's objectives and structured to provide robust answers to the research questions.

3.8 Ethical Considerations:

Before the field research was conducted, this project was approved by the University of the West Institutional Review Board (IRB) Committee and the Ethical Review Committee for Human Research, Phrae Hospital, Phrae Province, Thailand.

The University of the West Institutional Review Board (IRB) Committee has reviewed the proposed use of human participants in this project and determined that the rights and welfare of human participants are adequately protected. This project received University of the West IRB approval on May 24, 2023, and expired on May 24, 2024—approval Number # 01023.

This research proposal and supporting documents of the research proposal have been considered by the Ethical Review Committee for Human Research, Phrae Hospital, Phrae Province, Thailand. The committee determined that the research proposal was under the universal ethics and national I law, regulations, and requirements; consequently, it was deemed suitable for implementation according to the research proposal. This project received approval from the Ethical Review Committee for Human Research, Phrae Hospital, on July 7, 2023, and expired in July 2024. Certificate number #33/2023.

Informed Consent Process, Confidentiality, and Data Protection

My trained research assistants conducted the consent process. All participants received protection of their human rights as research participants. Participants gave consent for treatment. Before the treatment, my trained research assistants introduced themselves and the project, provided participants with a pen, and offered some private time for them to read through it. My trained research assistants explained confidentiality and participants' freedom to withdraw from the study anytime without penalty and encouraged participants to ask any questions. Participants had a chance to ask questions. After completing the forms, participants were instructed to put the forms in a sealed envelope for confidentiality.

Only my dissertation supervisor in Thailand, Professor Dr. Somporn Kantharadussadee Triamchaisri, and my research team could see the data. All personally identifiable information, such as name, age, contact number, and email, was kept confidential. The researcher and research assistants are prohibited from disclosing participants' identities to others. All data sheets with identifying information were locked in my co-researcher's office. After completion of this study, all the personal information will be deleted. Only non-personal data and transcription were stored for one year after the completion of the study.

Potential Risks

Some minor potential risks exist for participants who practice SKT1 and SKT2, e.g., exhaustion from being sick and standing for 20 minutes to practice SKT2. However, participants can also sit and practice SKT2. Practice SKT1 does not cause dizziness from the breath exercise. All participants will be medically supervised and can contact a doctor if they have side effects or concerns. My research assistants also taught people how to breathe to reduce the chance of dizziness.

Risk Minimization Strategies

My trained research assistants informed the patients that these risks were possible and told them to sit down, take a break, relax, and try again in the next session. If that didn't help or they felt too ill, they could call the medical staff and contact me. They had my phone number. Participants were also taught how to breathe to reduce dizziness.

3.9 Study Limitations:

While this study aims to provide valuable insights into the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients, certain limitations should be considered:

1. Time Constraint: Due to limited time as a student researcher, data collection was conducted over 14 days. While this timeframe aligns with the typical duration of mild COVID-19 recovery, it restricts the ability to observe the longer-term effects

of the SKT meditation techniques. Therefore, this study cannot assess whether these exercises have sustained benefits beyond the initial recovery period.

2. Budget Limitation: Financial constraints limited the scope of the study, particularly regarding the sample size and available resources for extensive data collection tools. The limited budget affected the extent to which additional biometric or clinical data could be gathered, relying instead on basic measures of vital function that were feasible within budgetary limitations.
3. Sample Size: The study included 30 participants divided into two groups. While this sample size is adequate for an exploratory analysis, it limits the statistical power and generalizability of the findings. With a small sample, the results may not represent the larger population of COVID-19 patients, potentially affecting the reliability of the conclusions.
4. Nonprobability Sampling: As nonprobability sampling was used, the participants may not accurately represent the broader population of COVID-19 patients. This limitation affects the generalizability of the findings, as the study relies on a convenience sample rather than a randomly selected one, potentially introducing selection bias.
5. Lack of Longitudinal Data: The 14 days of data collection, although suitable for observing immediate effects, does not provide information on the long-term benefits or potential risks associated with SKT Meditation Healing Exercise Techniques 1 and 2. Future studies with more extended follow-up periods could offer more comprehensive insights into the durability of the effects observed.

6. Limited Control over External Variables: As a quasi-experimental study conducted outside a controlled laboratory setting, external factors may have influenced participants' health and recovery. Factors such as individual lifestyle, prior health status, and environmental influences were not controlled, which could have impacted the outcomes.
7. COVID-19 Variability: COVID-19 symptoms and recovery times can vary widely among individuals. This study only included patients with mild symptoms who typically recover within 14 days, which may not represent patients with different severity levels. This limitation restricts the applicability of the findings to COVID-19 cases with more complex or prolonged recovery trajectories.

Steps taken to Mitigate Limitations

While these limitations influence the scope and generalizability of this study, the findings provide preliminary insights that may inform future research. Addressing these limitations in subsequent studies, such as by increasing the sample size, extending the follow-up period, and employing randomized sampling, could enhance the reliability and applicability of the results on the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 for COVID-19 recovery.

3.10 Contributions:

My research was an effort to contribute to 1) the knowledge of Healing COVID-19 using SKT Meditation Healing Exercise Techniques 1 and 2 as a supplemental treatment, 2) COVID-19 patients in the experimental group who participated in this study, and physicians and COVID-19 patients who would like to utilize SKT1 and SKT2 as a supplemental treatment, 3) meditation therapy-base literature and research that focuses specifically on COVID-19 patients.

3.11 Concluding summary:

This chapter outlines the comprehensive methodology employed to investigate the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions among COVID-19 patients. By using a quantitative quasi-experimental design with a two-group pre-posttest approach, this study ensures a structured evaluation of the intervention's effectiveness. Thirty participants were included, carefully divided into control and experimental groups, and a 14-day intervention protocol was implemented to provide a focused framework for data collection. The analysis plan, utilizing descriptive and inferential statistics, aims to deliver robust insights while adhering to ethical standards approved by relevant IRB committees. Despite the study's time, budget, and sample size limitations, the methodology ensures a rigorous and ethical approach to answering the research questions and achieving the study's aims.

With this methodological foundation established, the next chapter, Chapter Four: Results, will present the study's findings. Data collected from the pre-test and post-test measurements across the two groups will be analyzed to determine the impact of SKT meditation techniques 1 and 2 on participants' vital functions. This chapter will focus on statistical analyses and interpretation of the results in alignment with the study’s objectives and hypotheses, offering insight into the potential benefits of these SKT meditation healing exercises for COVID-19 recovery.

CHAPTER FOUR: RESULTS

This chapter will commence by presenting descriptive statistics, including the participants' demographic data, COVID-19 symptoms, vaccinations, and COVID-19 recovery, to understand the composition and representativeness of the sample. Next, I will present descriptive statistics for each variable of vital functions in COVID-19 participants in my study (e.g., mean, median, mode, range, standard deviation). These vital functions include body temperature, heart rate, blood pressure, oxygen saturation, and respiratory rate. Next, I will present inferential statistics for the improvements in vital functions on day 1, day 7, and day 14 for the experimental and control groups. Then, the vital functions of the experimental and control groups will be compared, and a summary of the findings will be presented. My research findings are as follows:

4.1 Descriptive Statistics:

Demographic Characteristics

This quantitative study included 30 COVID-19 patients at Phrae Hospital, Phrae Province, Thailand. The participants participated for two weeks, from July to October 2023, and were divided into the control and experimental groups.

Among the 30 COVID-19 patients, 20 (66.67%) were female, and 10 (33.32%) were male. The ages of these COVID-19 patients ranged from 18 years old to over 65 years old. 6 COVID-19 patients (20%) were between the ages 18 and 29, 6 COVID-19 patients (20%) were between the ages 30 and 39, 4 COVID-19 patients (13.33%) were between the ages 40 and 49, 4 COVID-19 patients (13.33%) were between the age 50 and 59, and 10 COVID-19 patients (33.33%) were between the age 60 and 65.

Marital status was reported within the sample to include 10 COVID-19 patients (33.33%) who are single, 14 COVID-19 patients (46.67%) who are now married, 3 COVID-19 patients (10%) who are divorced, and 1 COVID-19 patient (3.33%) who is widowed.

The education level of the sample was reported as primary school, High school, Undergraduate, bachelor's degree, and master's degree. Two COVID-19 patients (6.67%) completed primary school, six COVID-19 patients (20%) completed high school, eight COVID-19 patients (26.67%) completed Undergraduate degrees, nine COVID-19 patients (30%) completed bachelor's degrees, and three COVID-19 patients (10%) completed master's degrees.

The occupations of the COVID-19 patients in this sample included 2 (6.67%) students, 10 (33.33%) officers, 1 (3.33%) unemployed, 11 (36.67%) employees, 2 (6.67%) businesspeople, and 2 (6.67%) housekeepers.

The race of all samples is Asian (100%).

Participants' COVID-19 Symptoms on the first day of admission into Phrae Hospital

COVID-19 Symptoms of the sample were reported as Fever, Cough, Sore throat, Runny nose, Muscle or body aches, Fatigue, New loss of smell, Diarrhea, Headache, Shortness of breath or difficulty breathing, and Eye irritation. 28 COVID-19 patients (93.3%) had Fever, 26 COVID-19 patients (86.7%) had Muscle or body aches, 24 COVID-19 patients (80%) had Cough, 22 COVID-19 patients (73.3%) had Sore throat, 20 COVID-19 patients (66.7%) had Runny nose, 22 COVID-19 patients (73.3%) had Fatigue, 5 COVID-19 patients (16.7%) had New loss of smell, 5 COVID-19 patients

(16.7%) had Diarrhea, 2 COVID-19 patient (6.7%) had Headache, 1 COVID-19 patient (3.3%) had Shortness of breath, and 1 COVID-19 patient (3.3%) had Eyes irritation.

COVID-19 Symptoms of the sample separated by control group and experimental group included 14 COVID-19 patients in control group and 14 COVID-19 patients in experimental group had Fever, 12 COVID-19 patients in control group and 12 COVID-19 patients in experimental group had Cough, 11 COVID-19 patients in control group and 9 COVID-19 patients in experimental group had Runny nose, 11 COVID-19 patients in control group and 11 COVID-19 patients in experimental group had Sore throat, 12 COVID-19 patients in control group and 14 COVID-19 patients in experimental group had Muscle or body aches, 12 COVID-19 patients in control group and 10 COVID-19 patients in experimental group had Fatigue, 2 COVID-19 patients in control group and 3 COVID-19 patients in experimental group had New loss of smell, 3 COVID-19 patients in control group and 2 COVID-19 patients in experimental group had Diarrhea, 1 COVID-19 patient in the control group and 1 COVID-19 patient in the experimental group had Headache, 1 COVID-19 patient in the experimental group had Shortness of breath, and 1 COVID-19 patient in the experimental group had eye irritation.

COVID-19 Vaccination

The sample was vaccinated with any COVID-19 vaccines provided in Thailand, such as AstraZeneca, Sinovac, Moderna, Sinopharm, and Pfizer. Twelve COVID-19 patients (40%) never received any of the vaccines, four COVID-19 patients (13.3%) received two doses, 11 COVID-19 patients (36.7%) received three doses, and three COVID-19 patients (10%) received four doses.

COVID-19 Recovery

The sample's recovery from COVID-19 included 12 COVID-19 patients (40%) recovering in 5 days, 6 COVID-19 patients (20%) recovering in 7 days, 5 COVID-19 patients (16.7%) recovering in 6 days, 3 COVID-19 patients (10%) recovering in 4 days, 2 COVID-19 patients (6.7%) recovering in 8 days, 1 COVID-19 patient (3.3%) recovering in 3 days, and 1 COVID-19 patient (3.3%) recovering in 10 days.

Table 1: Participant Characteristics (N=30, Control group=15, Experimental group=15)

Gender	N	%	Control	%	Experimental	%
Female	20	66.66	10	33.33	10	33.33
Male	10	33.33	5	16.66	5	16.66

Age (years)	N	%	Control	%	Experimental	%
18-29	6	20	3	10	3	10
30-39	6	20	3	10	3	10

Marital Status	N	%	Control	%	Experimental	%
Never married	10	33.33	6	20	4	13.33
Married now	16	53.33	6	20	10	33.33
Separated/Divorced	3	10	2	6.66	1	3.33
Widowed	1	3.33	1	3.33	0	0

Education	N	%	Control %		Experimental %	
Primary school	2	6.66	0	0	2	6.66
High school	7	23.33	3	10	4	13.33
Undergraduate	6	20	5	16.66	1	3.33
Bachelor’s degree	13	43.33	5	16.66	8	26.66
Master's degree	2	6.66	2	6.66	0	0

Occupation	N	%	Control %		Experimental %	
Student	2	6.66	1	3.33	1	3.33
Officer	9	30	5	16.66	4	13.33
Employee	14	46.66	6	20	8	26.66

Occupation	N	%	Control %		Experimental %	
Housekeeper	2	6.66	1	3.33	1	3.33
Businessman	2	6.66	1	3.33	1	3.33
Unemployed	1	3.33	1	3.33	0	0

Race	N	%	Control %		Experimental %	
Asian	30	100	15	50	15	50

As seen in Table 1, Most of the participants were female (20 (66.66%), 10 (33.33%) in the control group, and 10 (33.33%) in the experimental group). Most of the participants (16 (53.33%)) were married (6 (20%) in the control group and 10 (33.33%) in the experimental group). Most of the participants were aged between 60 and 65 years old (10 [33.33%), (5 [16.66%] in the control group and 5 [16.66%] in the experimental group). The level of education of most participants was a bachelor's degree (13 (43.33%), 5 (16.66%) in the control group, and 8 (26.66%) in the experimental group). Most participants were employed (14 (46.66%), 6 (20%) in the control group, and 8 (26.66%) in the experimental group). The ethnicity of all participants was Asian (30 (100%), 15 (50%) in the control group and 15 (50%) in the experimental group).

Table 2: COVID-19 Vaccination (N = 30, Control Group = 15, Experimental Group = 15)

Vaccination (Dose)	N	%	Control %		Experimental %	
0	12	40	9	30	3	10
2	4	13.33	1	3.33	3	10
3	11	36.66	4	13.33	7	23.33
4	3	10	1	3.33	2	6.66

As Table 2 shows, most participants (12 (40%), 9 (30%) in the control group, and 3 (10%) in the experimental group) never received a COVID-19 vaccination.

Table 3: COVID-19 Symptoms (N = 30, Control Group = 15, Experimental Group = 15)

COVID-19 Symptoms	N	%	Control %		Experimental %	
Fever	28	93.33	14	46.66	14	46.66
Cough	24	80	12	40	12	40
Runny nose	20	66.66	11	36.66	9	30
Sore throat	22	73.33	11	36.66	11	36.66
Muscle or body aches	26	86.66	12	40	14	46.66
Fatigue	22	73.33	12	40	10	33.33
COVID-19 Symptoms	N	%	Control %		Experimental %	
Loss of smell	5	16.66	2	6.66	3	10
Diarrhea	5	16.66	3	10	2	6.66
Headache	2	6.66	1	3.33	1	3.33
Shortness of breath	1	3.33	0	0	1	3.33
Eyes irritation	1	3.33	0	0	1	3.33

As seen in Table 3, The most five common symptoms at the initial stage of COVID-19 were Fever (28 (93.33%), 14 (46.66%) in the control group, and 14 (46.66%) in the experimental group), Muscle or body aches (26 (86.66%), 12 (40%) in the control group and 14 (46.66%) in the experimental group), Cough (24(80%), 12 (40%) in the control group and 12 (40%) in the experimental group), Sore throat (22 (73.33%), 11 (36.66%) in the control group and 11 (36.66%) in the experimental group),and Fatigue (22 (73.33%), 12 (40%) in control group and 10 (33.33%) in experimental group).

Less common symptoms of COVID-19 were new loss of smell (5 (16.66%), 2 (6.66%) in the control group and 3 (10%) in the experimental group), Diarrhea (5 (16.66%), 3 (10%) in the control group and 2 (6.66%) in the experimental group), Headache (2 (6.66%), 1 (3.33%) in the control group and 1 (3.33%) in experimental group), Shortness of breath (1(3.33%) in the experimental group), and Eyes irritation (1 (3.33%) in the experimental group).

Table 4: the days of COVID-19 Recovery (N = 30, Control Group = 15, Experimental Group = 15)

COVID-19 Recovery (days)	N	%	Control	%	Experimental	%
3	1	3.33	1	3.33	0	0
4	3	10	2	6.66	1	3.33
5	12	40	5	16.66	7	23.33
6	5	16.66	2	6.66	3	10
7	6	20	3	10	3	10
8	2	6.66	2	6.66	0	0
10	1	3.33	0	0	1	3.33

As seen in Table 4, Most participants (12 (40%), 5 (16.66%) in the control group, and 7 (23.33%) in the experimental group) recovered from COVID-19 within five days of treatment.

Descriptive Statistics for Each Variable of Vital Functions in COVID-19 Participants in my study (e.g., mean, median, mode, range, standard deviation).

The vital functions in COVID-19 participants of Experimental group and Control group on Day1, Day7, and Day14

Day 1 Experimental Group's Temperature:

Mean 36.39 ℃, Standard Error 0.46, Median 36.8 ℃, Mode 36.8 ℃, Standard Deviation 1.77, Sample Variance 3.13, Kurtosis 3.15, Skewness -1.96, Range 6, Minimum 32 ℃, Maximum 38 ℃, Sum 545.9, Count 15, Confidence Level (95.0%) 0.98.

Day 1 Control Group's Temperature:

Mean 37.43 ℃, Standard Error 0.31, Median 37.7 ℃, Mode 38 ℃, Standard Deviation 1.21, Sample Variance 1.47, Kurtosis -0.72, Skewness 0.15, Range 4.2, Minimum 35.6 ℃, Maximum 39.8 ℃, Sum 561.4, Count 15, Confidence Level (95.0%) 0.67.

Day 1 Experimental Group's Heart Rate (Pulse):

Mean 87.4, Standard Error 3.04, Median 93, Mode 98, Standard Deviation 11.76, Sample Variance 38.4, Kurtosis -0.09, Skewness -0.99, Range 36, Minimum 62, Maximum 98, Sum 1311, Count 15, Confidence Level (95.0%) 6.51.

Day 1 Control Group's Heart Rate (Pulse):

Mean 89.67, Standard Error 3.56, Median 90, Mode 98, Standard Deviation 13.78, Sample Variance 189.95, Kurtosis -0.90, Skewness -0.01, Range 47, Minimum 67, Maximum 114, Sum 1345, Count 15, Confidence Level (95.0%) 7.63.

Day 1 Experimental Group's Blood Pressure:

Mean 119.33/78.6 mmHg, Standard Error 3.42/2.75, Median 115/80 mmHg, Mode 140/90 mmHg, Standard Deviation 13.23/10.66, Sample Variance 174.95/113.68, Kurtosis -1.26/-1.10, Skewness 0.31/-0.20, Range 40/35, Minimum 100/ 60 mmHg, Maximum 140/95 mmHg, Sum 1790 /1179, Count 15/15, Confidence Level (95.0%) 7.32/5.90.

Day 1 Control Group's Blood Pressure:

Mean 127.73/80.47 mmHg, Standard Error 3.17/ 1.56, Median 127/ 80 mmHg, Mode 122/80 mmHg, Standard Deviation 12.27/6.03, Sample Variance 150.64/36.41, Kurtosis -0.32/0.36, Skewness 0.24/-0.04, Range 45/23, Minimum 107/68 mmHg, Maximum152/91 mmHg, Sum1916/1207, Count 15/15, Confidence Level (95.0%) 6.80/3.34.

Day 1 Experimental Group's Oxygen Saturation:

Mean 97 %, Standard Error 0.34, Median 97 %, Mode 98 %, Standard Deviation 1.31, Sample Variance 1.71, Kurtosis 0.72, Skewness -0.88, Range 5, Minimum 94 %, Maximum 99 %, Sum 1455, Count 15, Confidence Level (95.0%) 0.73, *Day 1 Control Group's Oxygen Saturation*

Mean 96.73 %, Standard Error 0.34, Median 97 %, Mode 97 %, Standard Deviation 1.33, Sample Variance 1.78, Kurtosis -0.01, Skewness -0.48, Range 5, Minimum 94 %, Maximum 99 %, Sum 1451, Count 15, Confidence Level (95.0%) 0.74.

Day 1 Experimental Group's Respiratory Rate:

Mean 20.67, Standard Error 0.25, Median 20, Mode 20, Standard Deviation 0.98, Sample Variance 0.95, Kurtosis -1.62, Skewness 0.79, Range 2, Minimum 20, Maximum 22, Sum 310, Count 15, Confidence Level (95.0%) 0.54.

Day 1 Control Group's Respiratory Rate:

Mean 20.33, Standard Error 0.30, Median 20, Mode 20, Standard Deviation 1.18, Sample Variance 1.38, Kurtosis -0.09, Skewness 0.16, Range 4, Minimum 18, Maximum 22, Sum 305, Count 15, Confidence Level (95.0%) 0.65.

Day 7 Experimental Group's Temperature:

Mean 36.31 ℃, Standard Error 0.22, Median 36.3 ℃, Mode 36.3 ℃, Standard Deviation 0.87, Sample Variance 0.76, Kurtosis 1.90, Skewness -1.13, Range 3.4, Minimum 34.1 ℃, Maximum 37.5 ℃, Sum 544.7, Count 15, Confidence Level (95.0%) 0.48.

Day 7 Control Group's Temperature:

Mean 36.28 ℃, Standard Error 0.16, Median 36.3 ℃, Mode 36 ℃, Standard Deviation 0.64, Sample Variance 0.41, Kurtosis -0.28, Skewness 0.04, Range 2.3, Minimum 35.2 ℃, Maximum 37.5 ℃, Sum 544.2, Count 15, Confidence Level (95.0%) 0.35.

Day 7 Experimental Group's Heart Rate (Pulse):

Mean 85.6, Standard Error 2.84, Median 84, Mode 80, Standard Deviation 11.02, Sample Variance 121.4, Kurtosis -1.11, Skewness -0.18, Range 32, Minimum 67, Maximum 99, Sum 1284, Count 15, Confidence Level (95.0%) 6.10.

Day 7 Control Group's Heart Rate (Pulse):

Mean 78.67, Standard Error 2.82, Median 76, Mode 76, Standard Deviation 10.92, Sample Variance 119.24, Kurtosis 2.39, Skewness 1.60, Range 40, Minimum 67, Maximum 107, Sum 1180, Count 15, Confidence Level (95.0%) 6.05.

Day 7 Experimental Group's Blood Pressure:

Mean 118.87/76.67 mmHg, Standard Error 3.13/2.4, Median 120/75 mmHg, Mode 105/80 mmHg, Standard Deviation 12.11/9.45, Sample Variance 146.70/89.38 mmHg, Kurtosis -0.66/-0.47, Skewness 0.28/0.37, Range 42/31, Minimum 100/62 mmHg, Maximum 142/93 mmHg, Sum 1783/1150 mmHg, Count 15/15, Confidence Level (95.0%) 6.71/5.24.

Day 7 Control group's Blood Pressure:

Mean 126.53/78.07 mmHg, Standard Error 2.97/1.93, Median 126/79 mmHg, Mode 110/87 mmHg, Standard Deviation 11.50/7.48, Sample Variance 132.27/55.92, Kurtosis -0.81/-0.22, Skewness 0.21/-0.38, Range 38/27, Minimum 110/63 mmHg, Maximum 148/90 mmHg, Sum 1898/1171, Count 15/15, Confidence Level (95.0%) 6.37/4.14.

Day 7 Experimental Group's Oxygen Saturation:

Mean 98.07 %, Standard Error 0.32, Median 98 %, Mode 98 %, Standard Deviation 1.22, Sample Variance 1.50, Kurtosis -0.36, Skewness -0.14, Range 4, Minimum 96 %, Maximum 100 %, Sum 1471, Count 15, Confidence Level (95.0%) 0.68.

Day 7 Control Group's Oxygen Saturation:

Mean 96.87 %, Standard Error 0.50, Median 97 %, Mode 97 %, Standard Deviation 1.92, Sample Variance 3.70, Kurtosis 0.47, Skewness -1.04, Range 6, Minimum 93 %, Maximum 99 %, Sum 1453, Count 15, Confidence Level (95.0%) 1.06.

Day 7 Experimental Group's Respiratory Rate:

Mean 20.27, Standard Error 0.15, Median 20, Mode 20, Standard Deviation 0.59, Sample Variance 0.35, Kurtosis 4.78, Skewness 2.27, Range 2, Minimum 20, Maximum22, Sum 304, Count 15, Confidence Level (95.0%) 0.33.

Day 7 Control Group's Respiratory Rate:

Mean 19.87, Standard Error 0.24, Median 20, Mode 20, Standard Deviation 0.92, Sample Variance 0.84, Kurtosis 3.28, Skewness -0.35, Range 4, Minimum 18, Maximum 22, Sum 298, Count 15, Confidence Level (95.0%) 0.51.

Day 14 Experimental Group's Temperature:

Mean 36.1°C, Standard Error 0.37, Median 36.5°C, Mode 36.5°C, Standard Deviation 1.43, Sample Variance 2.06, Kurtosis 5.74, Skewness -2.26, Range 5.7, Minimum 31.8°C, Maximum 37.5°C, Sum 541.5, Count 15, Confidence Level (95.0%) 0.79.

Day 14 Control Group's Temperature:

Mean 36.36℃, Standard Error 0.18, Median 36.3℃, Mode 37℃, Standard Deviation 0.71, Sample Variance 0.51, Kurtosis -0.47, Skewness -0.41, Range 2.4, Minimum 35.1℃, Maximum 37.5℃, Sum 545.4, Count 15, Confidence Level (95.0%) 0.39.

Day 14 Experimental Group's Heart Rate (Pulse):

Mean 84.33, Standard Error 2.55, Median 81, Mode 74, Standard Deviation 9.86, Sample Variance 97.24, Kurtosis -1.19, Skewness 0.28, Range 32, Minimum 69, Maximum 101, Sum 1265, Count 15, Confidence Level (95.0%) 5.46.

Day 14 Control Group's Heart Rate (Pulse):

Mean 79.33, Standard Error 2.24, Median 80, Mode 80, Standard Deviation 8.68, Sample Variance 75.38, Kurtosis -0.47, Skewness 0.26, Range 31, Minimum 66, Maximum 97, Sum 1190, Count 15, Confidence Level (95.0%) 4.81.

Day 14 Experimental Group's Blood Pressure:

Mean 114.93/74.2 mmHg, Standard Error 2.92/2.1, Median 114/77 mmHg, Mode 112/80 mmHg, Standard Deviation 11.29/8.12, Sample Variance 127.5/65.89, Kurtosis 0.05/0.48, Skewness -0.07/-1.06, Range 41/27, Minimum 92/56 mmHg, Maximum 133/83 mmHg, Sum 1724/1113, Count 15/15, Confidence Level (95.0%) 6.25/4.5.

Day 14 Control group's Blood Pressure:

Mean 125.53/78.53 mmHg, Standard Error 2.9/2.56, Median 130/80 mmHg, Mode 130/80 mmHg, Standard Deviation 11.22/9.92, Sample Variance 125.98/98.41, Kurtosis 0.178/0.09, Skewness 0.18/-0.03, Range 40/38, Minimum 110/60 mmHg, Maximum 150/98 mmHg, Sum 1883/1178, Count 15/15, Confidence Level (95.0%) 6.22/5.49.

Day 14 Experimental Group's Oxygen Saturation:

Mean 98.13%, Standard Error 0.39, Median 98%, Mode 99%, Standard Deviation 1.51, Sample Variance 2.27, Kurtosis 0.97, Skewness -1.13, Range 5, Minimum 95%, Maximum 100%, Sum 1472, Count 15, Confidence Level (95.0%) 0.83.

Day 14 Control Group's Oxygen Saturation:

Mean 97.33%, Standard Error 0.55, Median 97%, Mode 97%, Standard Deviation 2.13, Sample Variance 4.52, Kurtosis 1.54, Skewness -0.81, Range 8, Minimum 92%, Maximum 100%, Sum 1460, Count 15, Confidence Level (95.0%) 1.18.

Day 14 Experimental Group's Respiratory Rate:

Mean 20.13, Standard Error 0.13, Median 20, Mode 20, Standard Deviation 0.52, Sample Variance 0.27, Kurtosis 15, Skewness 3.87, Range 2, Minimum 20, Maximum 22, Sum 302, Count 15, Confidence Level (95.0%) 0.29.

Day 14 Control Group's Respiratory Rate:

Mean 19.87, Standard Error 0.24, Median 20, Mode 20, Standard Deviation 0.92, Sample Variance 0.84, Kurtosis 3.27, Skewness -0.35, Range 4, Minimum 18, Maximum 22, Sum 298, Count 15, Confidence Level (95.0%) 0.51.

Table 5: Participants' Body Temperature in the experimental group and the control group on day 1, day 7, and day 14 (N = 30, Experimental group = 15, Control group = 15)

Day 14 Temperature		Day 7 Temperature		Day 1 Temperature		Variable
Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	
36.1	36.36	36.31	36.28	36.39	37.43	Mean
0.37	0.18	0.22	0.16	0.46	0.31	Standard
36.5	36.3	36.3	36.3	36.8	37.7	Median
36.5	37	36.3	36	36.8	38	Mode
1.43	0.71	0.87	0.64	1.77	1.21	Standard
2.06	0.51	0.76	0.41	3.13	1.47	Sample
5.74	-0.47	1.9	-0.28	3.15	-0.72	Kurtosis
-2.26	-0.41	-1.13	0.04	-1.96	0.15	Skewness
5.7	2.4	3.4	2.3	6	4.2	Range
31.8	35.1	34.1	35.2	32	35.6	Minimum
37.5	37.5	37.5	37.5	38	39.8	Maximum
541.5	545.4	544.7	544.2	545.9	561.4	Sum
0.79	0.39	0.48	0.35	0.98	0.67	Confidence

Table 6: Participants' Heart Rate in the experimental group and the control group on day 1, day 7, and day 14 (N = 30, Experimental group = 15, Control group = 15)

Day 14 Heart Rate		Day 7 Heart Rate		Day 1 Heart Rate		Variable
Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	
84.33	79.33	85.6	78.67	87.4	89.67	Mean
2.55	2.24	2.84	2.82	3.04	3.56	Standard
81	80	84	76	93	90	Median
74	80	80	76	98	98	Mode
9.86	8.68	11.02	10.92	11.76	13.78	Standard
97.24	75.38	121.4	119.24	38.4	189.95	Sample
-1.19	-0.47	-1.11	2.39	-0.09	-0.9	Kurtosis
0.28	0.26	-0.18	1.6	-0.99	-0.01	Skewness
32	31	32	40	36	47	Range
69	66	67	67	62	67	Minimum
101	97	99	107	98	114	Maximum
1265	1190	1284	1180	1311	1345	Sum
5.46	4.81	6.1	6.05	6.51	7.63	Confidence

Table 7: Participants' Systolic Blood Pressure in the experimental group and the control group on day 1, day 7, and day 14 (N = 30, Experimental group = 15, Control group = 15)

Day 14 Systolic Blood Pressure		Day 7 Systolic Blood Pressure		Day 1 Systolic Blood Pressure		Variable
Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	
114.93	125.53	118.87	126.53	119.33	127.73	Mean
2.92	2.9	3.13	2.97	3.42	3.17	Standard
114	130	120	126	115	127	Median
112	130	105	110	140	122	Mode
11.29	11.22	12.11	11.5	13.23	12.27	Standard
127.5	125.98	146.7	132.27	174.95	150.64	Sample
0.05	0.178	-0.66	-0.81	-1.26	-0.32	Kurtosis
-0.1	0.18	0.28	0.21	0.31	0.24	Skewness
41	40	42	38	40	45	Range
92	110	100	110	100	107	Minimum
133	150	142	148	140	152	Maximum
1724	1883	1783	1898	1790	1916	Sum
6.3	6.2	6.7	6.4	7.3	6.8	Confidence

Table 8: Participants' Diastolic Blood Pressure in the experimental group and the control group on day 1, day 7, and day 14 (N = 30, Experimental group = 15, Control group = 15)

Day 14 Diastolic Blood Pressure		Day 7 Diastolic Blood Pressure		Day 1 Diastolic Blood Pressure		Variable
Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	
74.2	78.53	76.67	78.07	78.6	80.47	Mean
2.1	2.56	2.4	1.93	2.75	3.17	Standard
77	80	75	79	80	80	Median
80	80	80	87	90	80	Mode
8.12	9.92	9.45	7.48	10.7	6.03	Standard
65.89	98.41	89.38	55.92	113.7	36.41	Sample
0.48	0.09	0.47	-0.2	-1.1	0.36	Kurtosis
-1.06	-0.03	0.37	-0.38	-0.2	-0.04	Skewness
27	38	31	27	35	23	Range
56	60	62	63	60	68	Minimum
83	98	93	90	95	91	Maximum
1113	1178	1150	1171	1179	1207	Sum
4.5	5.49	5.24	4.14	5.9	3.34	Confidence

Table 9: Participants' Oxygen Saturation in the experimental group and the control group on day 1, day 7, and day 14 (N = 30, Experimental group = 15, Control group = 15)

Day 14 Oxygen Saturation		Day 7 Oxygen Saturation		Day 1 Oxygen Saturation		Variable
Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	
98.13	97.33	98.07	96.87	97	96.73	Mean
0.39	0.55	0.32	0.5	0.34	0.34	Standard
98	97	98	97	97	97	Median
99	97	98	97	98	97	Mode
1.51	2.13	1.22	1.92	1.31	1.33	Standard
2.27	4.52	1.5	3.7	1.71	1.78	Sample
0.97	1.54	-0.36	0.47	0.72	-0.01	Kurtosis
-1.13	-0.81	-0.14	-1.04	-0.88	-0.48	Skewness
5	8	4	6	5	5	Range
95	92	96	93	94	94	Minimum
100	100	100	99	99	99	Maximum
1472	1460	1471	1453	1455	1451	Sum
0.83	1.18	0.68	1.06	0.73	0.74	Confidence

Table 10: Participants' Respiratory Rate in the experimental group and the control group on day 1, day 7, and day 14 (N = 30, Experimental group = 15, Control group = 15)

Day 14 Respiratory Rate		Day 7 Respiratory Rate		Day 1 Respiratory Rate		Variable
Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	
20.13	19.87	20.27	19.87	20.67	20.33	Mean
0.13	0.24	0.15	0.24	0.25	0.3	Standard
20	20	20	20	20	20	Median
20	20	20	20	20	20	Mode
0.52	0.92	0.59	0.92	0.98	1.18	Standard
0.27	0.84	0.35	0.84	0.95	1.38	Sample
15	3.27	4.78	3.28	-1.62	-0.09	Kurtosis
3.87	-0.35	2.27	-0.35	0.79	0.16	Skewness
2	4	2	4	2	4	Range
20	18	20	18	20	18	Minimum
22	22	22	22	22	22	Maximum
302	298	304	298	310	305	Sum
0.29	0.51	0.33	0.51	0.54	0.65	Confidence

The following section will outline the research findings investigating changes in vital function measures over three periods.

4.2 Inferential Statistics for the Improvements in Vital Functions:

My research question number one was, to what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improvements in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients?

The outcomes were to be measured: 1. Changes in Body Temperature, Heart Rate, Respiratory Rate, Blood Pressure, and Oxygen Saturation during the 14 days of my study, 2. Statistical Analysis Results, 3. Comparison of Vital Functions Medians, 4. Effect Size Measures, 5. Graphical Representation

The improvements in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients were calculated using the Wilcoxon signed-rank test comparing the Differences in vital functions between day 1, day 7, and day 14 within each group pre-test/ post-test designs (Day 1 and Day 7, Day 7 and Day 14, and Day 1 and Day 14).

The T-test (parametric) needs 30 examples in each group with normal distribution, but my study has examples in each group of less than 30 (15). So, I decided to use the Wilcoxon signed-rank test (non-parametric) to compare the median (minimum-maximum) between the pre-test and post-test within each group for non-normal distribution to measure a statistically significant difference in vital functions instead of using the paired-sample t-test. SPSS and Excel programs were used to calculate the data for the Wilcoxon signed-rank test.

Null hypothesis: There is no difference between the two treatments (H_0: E_{MD} = C_{MD}). Alternative hypothesis: There is a difference between the two treatments (H_1: E_{MD}

≠ C_{MD}). The significance level or Alpha $\alpha = 0.05$ The critical value corresponding to Alpha $\alpha = .05$ for a sample size 15 is 25.

The effect size (Pearson r correlation) around 0.1 to 0.3 or -0.1 to -0.3 is considered small, 0.3 to 0.5 or -0.3 to -0.5 is considered Medium, and 0.5 to -0.5 to -1 is considered large.[185] The effect size was reported to understand better the effect's magnitude for the statistically significant results.

Suppose the Wilcoxon signed-rank test statistic is less than the critical values (Refer to the critical values table to decide whether the test result is statistically significant based on n and alpha level 0.05. If the test statistic W is less than the value found in the critical values table below, then the test result is statistically significant. N6 = $W < 0$, N7 = $W < 2$, N8 = $W < 3$, N9 = $W < 5$, N10 = $W < 8$, N11 = $W < 10$, N12 = $W < 13$, N13 = $W < 17$, N14 = $W < 21$, N15 = $W < 25$) or the p-value is less than Alpha ($p < .05$) then the test result is statistically significant. So, I reject the null hypothesis. Suppose the Wilcoxon signed-rank test statistic is greater than the critical values ($W > 25$) or the p-value is greater than Alpha ($p > .05$). In that case, the test result is not statistically significant. So, I failed to reject the null hypothesis.

The improvement of vital functions on day 1, day 7, and day 14 within each group are as follows:

The Improvement of the Temperature on day 1, day 7, and day 14 within each group

Experimental group Temperature (ExperiTemD1 & ExperiTemD7):

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185 Saul McLeod, "What Does Effect Size Tell You?" *Simply Psychology*, July 31, 2023, https://www.simplypsychology.org/effect-size.html.

The median temperature before the intervention with ExperiTemD1 was MD = 36.8 °C, and after the intervention with ExperiTemD7, it was MD = 36.3 °C. The temperature of the experimental group on day 1 was higher than that of the experimental group on day 7. A Wilcoxon Signed-Rank Test indicated that the temperatures before and after the intervention were not significantly different: W = 33.5, p = .118 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on the temperatures.

Control group Temperature (ControlTemD1 & ControlTemD7):

The median temperature before the treatment with ControlTemD1 was MD=37.7 °C, and after the treatment with ControlTemD7 was MD = 36.3 °C. The temperature of the control group on day 1 was higher than that of the control group on day 7. A Wilcoxon Signed-Rank Test indicated that the temperatures significantly differed before and after the treatment, W = 6, p = .007 (< .05). The effect size was large, r = -0.560. Thus, the standard treatment of COVID-19 had a statistically significant effect on the temperatures.

Experimental group Temperature (ExperiTemD7 & ExperiTemD14):

The temperature median on day 7 with ExperiTemD7 was MD = 36.3°C, and the median on day 14 with ExperiTemD14 was MD = 36.5 °C. The temperature of the experimental group on day 7 was lower than that of the experimental group on day 14. A Wilcoxon Signed-Rank Test indicated that the temperatures on days seven and 14 were not significantly different, W = 35.5, p = 1.00 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on the temperature.

Control group temperature (ControlTemD7 & ControlTemD14):

The temperature median on day 7 with ControlTemD1 was MD = 36.3℃, and the median on day 14 with ControlTemD14 was MD = 36.3 ℃. The temperature of the control group on day 7 was equal to that of the control group on day 14. A Wilcoxon Signed-Rank Test indicated that the temperatures significantly differed before and after the treatment, W = 36, p = 1.00 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on temperature.

Experimental group temperature (ExperiTemD1 & ExperiTemD14):

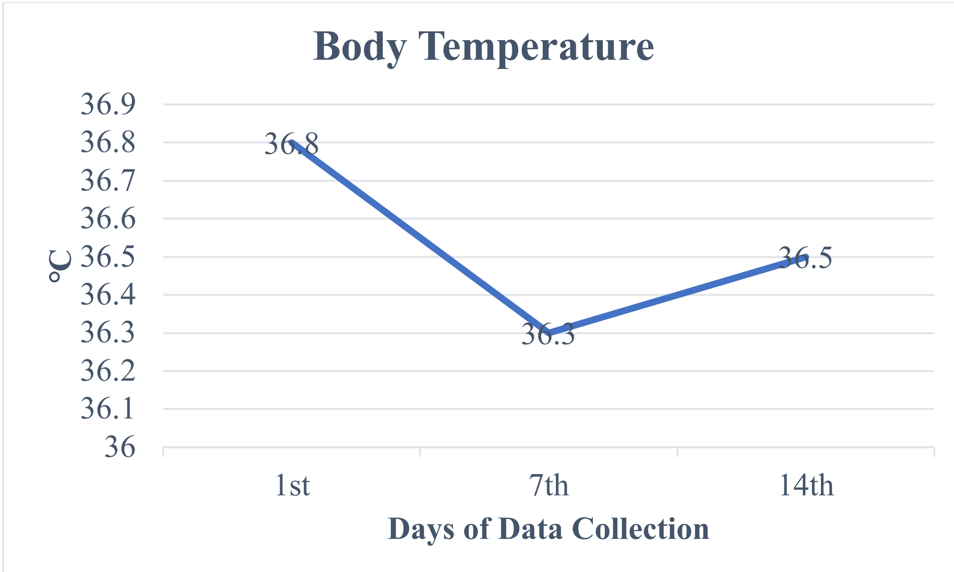
The temperature median before the intervention with ExperiTemD1 was MD = 36.8 ℃, and after the intervention with ExperiTemD14 was MD = 36.5 ℃. The temperature of the experimental Group on day 1 was higher than that of the experimental group on day 14. A Wilcoxon Signed-Rank Test indicated that the temperatures before and after the intervention were not significantly different, W = 27, p = .007 (< .05). The effect size was medium, r = -0.343. Thus, the SKT Meditation Healing Exercise Techniques 1 and 2 had a moderate effect on the temperature.

Control group temperature (ControlTemD1 & ControlTemD14):

The temperature median before the treatment with ControlTemD1 was MD = 37.7 ℃, and after the treatment with ControlTemD14 was MD = 36.3℃. The temperature of the control group on day 1 was higher than that of the control group on day 14. A Wilcoxon Signed-Rank Test indicated that temperatures significantly differed before and after the intervention, W = 8.5, p = .035 (< .05). The effect size was large, r = -0.540.

Thus, the standard treatment of COVID-19 had a statistically significant effect on temperature with a large effect size.

Figure 1: Changes in Body Temperature of the Experimental Group



As seen in Figure 1, there was a decrease in the temperature of the experimental group from day 1 to day 7, which was not significantly different (W = 33.5, p = .118). There was an increase in the temperature of the experimental group from day 7 to day 14, which was not significantly different (W = 35.5, p = 1.00). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on the temperatures between day 1 and day 7 and between day 7 and day 14.

The experimental group's temperature decreased significantly from day 1 to day 14 (W = 27, p = .007). The effect size was medium, r = -0.343. Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had a statistically significant effect on the temperature before and after the intervention, with a medium effect size.

The improvement of Heart Rate on day 1, day 7, and day 14 within each group:

Experimental Group Heart Rate (Pulse) (ExperiHRD1 & ExperiHRD7):

The median heart rate before the intervention with ExperiPulseD1 was MD = 93, and after the intervention with ExperiPulseD7 was MD = 84. The experimental group's heart rate on day 1 was higher than the experimental group's on day 7. A Wilcoxon Signed-Rank Test indicated that the heart rates before and after the intervention were not significantly different: $W = 54$, $p = .607$ ($> .05$). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on the heart rate.

Control Group Heart Rate (Pulse) (ControlHRD1 & ControlHRD7):

The Heart Rate median before the treatment with ControlPulseD1 was MD = 90, and after the treatment with ControlPulseD7 was MD = 76. The heart rate of the control group on day 1 was higher than that of the control group on day 7. A Wilcoxon Signed-Rank Test indicated that the heart rates were significantly different before and after the treatment, $W = 5.5$, $p = .013$ ($< .05$). The effect size was large, $r = -0.539$. Thus, the standard treatment of COVID-19 had a statistically significant effect on heart rates with a large effect size.

Experimental Group Heart Rate (Pulse) (ExperiHRD7 & ExperiHRD14):

The median heart rate on day 7 with ExperiPulseD7 was MD = 84, and the median on day 14 with ExperiPulseD14 was MD = 81. The heart rate of the experimental group on day 7 was higher than that of the experimental group on day 14. A Wilcoxon Signed-Rank Test indicated that the heart rates before and after the intervention were not significantly different, $W = 30$, $p = 1.00$ ($> .05$). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on heart rate.

Control Group Heart Rate (Pulse) (ControlHRD7 & ControlHRD14):

The Heart Rate median on day 7 with ControlHRD7 was MD = 76, and the median score on day 14 with ControlHRD14 was MD = 80. The heart rate of the control group on day 7 was higher than that of the control group on day 14. A Wilcoxon Signed-

Rank Test indicated that the heart rates before and after the treatment were not significantly different, W = 35.5, p = .007 (< .05). The effect size was small, r = -0.128. Thus, the standard treatment of COVID-19 had a statistically significant effect on the heart rate with a small effect size.

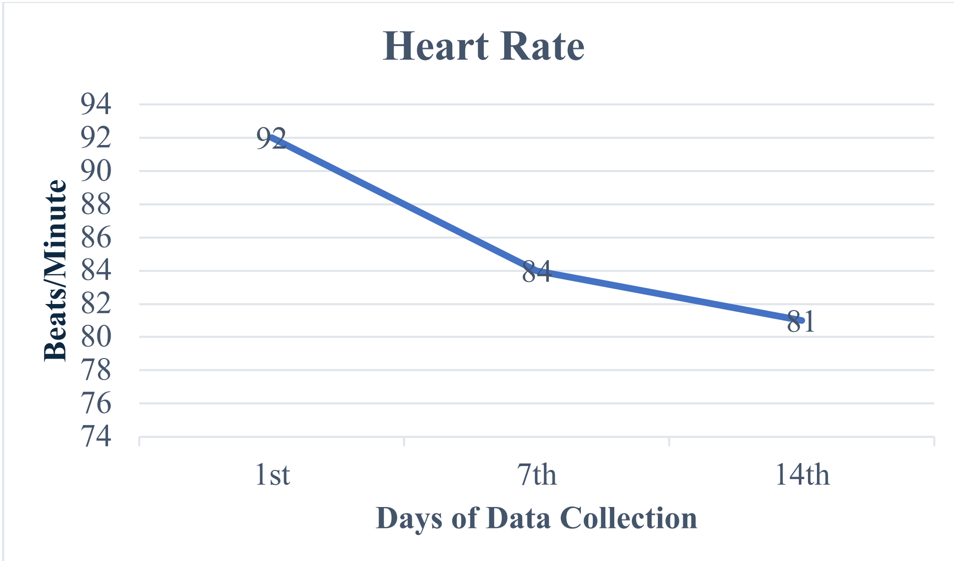
Experimental Group Heart Rate (Pulse) (ExperiHRD1 & ExperiHRD14):

The median heart rate before the intervention with ExperiHRD1 was MD = 93, and after the intervention with ExperiHRD14 was MD = 81. The experimental group's heart rate on day 1 was higher than on day 14. A Wilcoxon Signed-Rank Test indicated that the heart rates before and after the intervention were not significantly different: W = 29.5, p = .388 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on heart rate.

Control Group's Heart Rate (Pulse) (ControlHRD1 & ControlHRD14):

The Heart Rate median before the treatment with ControlHRD1 was MD = 90, and after the treatment with ControlHRD14 was MD = 80. The heart rate of the control group on day 1 was higher than that of the control group on day 14. A Wilcoxon Signed-Rank Test indicated that the heart rates were significantly different before and after the treatment, W = 5, p = .007 (< .05). The effect size was large, r = -0.571. Thus, the standard treatment of COVID-19 had a statistically significant effect on Heart Rate with a large effect size.

Figure 2: Changes in Heart Rate of the Experimental Group



As seen in Figure 2, there was a decrease in the heart rate of the experimental group from day 1 to day 7, which was not significantly different (W = 54, p = .607), a decrease in the heart rate from day 7 to day 14, which was not significantly different (W = 30, p = 1.00), and a decrease in the heart rate from day 1 to day 14, which was not significantly different before and after the intervention (W = 29.5, p = .388). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on the heart rate.

The improvement of Blood Pressure on day 1, day 7, and day 14 within each group:

Experimental Group Blood Pressure (ExperiBPD1 & ExperiBPD7):

The Blood Pressure median before the intervention with ExperiBPD1 was MD = 115/80 mmHg, and after the intervention with ExperiBPD7 was MD = 120/75 mmHg. The systolic blood pressure of the experimental group on day 1 (115 mmHg) was lower than that of the experimental group on day 7 (120 mmHg). Still, the diastolic blood pressure of the experimental group on day 1 (80 mmHg) was higher than that of the experimental group on day 7 (75 mmHg). A Wilcoxon Signed-Rank Test indicated that the systolic blood pressures were not significantly different before and after the intervention, $W = 34$, $p = .774$ ($> .05$). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on systolic blood pressure.

The diastolic blood pressures were not significantly different before and after the intervention: $W = 32$, $p = 1.00$ ($> .05$). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on diastolic blood pressure.

Control Group Blood Pressure (ControlBPD1 & ControlBPD7):

The Blood Pressure median before the treatment with ControlBPD1 was MD=127/80 mmHg, and after the treatment with ControlBPD7 was MD = 126/79 mmHg. The blood pressure of the control group on day 1 was higher than that of the control group on day 7. A Wilcoxon Signed-Rank Test indicated that the systolic blood pressures were not significantly different before and after the treatment, $W = 30$, $p = .267$ ($> .05$). Thus, the standard treatment of COVID-19 had no statistically significant effect on systolic blood pressure.

The diastolic blood pressures were not significantly different before and after the treatment: $W = 37.5$, $p = .581$ ($> .05$). Thus, the standard treatment for COVID-19 had no statistically significant effect on diastolic blood pressure.

Experimental Group Blood Pressure (ExperiBPD7 & ExperiBPD14):

The Blood Pressure median on day 7 with ExperiBPD7 was MD = 120/75 mmHg, and the Blood Pressure median on day 14 with ExperiBPD14 was MD = 114/77 mmHg. The systolic blood pressure of the experimental group on day 7 (120 mmHg) was higher than that of the experimental group on day 14 (114 mmHg). Still, the diastolic blood pressure of the experimental group on day 7 (75 mmHg) was lower than that of the experimental group on day 14 (77 mmHg). A Wilcoxon Signed-Rank Test indicated that the systolic blood pressures were not significantly different before and after the intervention, W = 41.5, p = .293 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on systolic blood pressure.

The diastolic blood pressures on days seven and 14 were not significantly different, W = 30, p = 1.00 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on diastolic blood pressure.

Control Group Blood Pressure (ControlBPD7 & ControlBPD14):

The Blood Pressure median on day 7 with ControlBPD7 was MD = 126/ 79 mmHg, and after the treatment with ControlBPD14 was MD = 130/80 mmHg. The blood pressure of the control group on day 7 was lower than that of the control group on day 14. A Wilcoxon Signed-Rank Test indicated that the systolic blood pressures were not significantly different before and after the treatment, W = 31, p = 1.00 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on systolic blood pressure.

The diastolic blood pressures on day seven and day 14 were not significantly different, W = 45, p = 1.00 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on diastolic blood pressure.

Experimental Group Blood Pressure (ExperiBPD1 & ExperiBPD14):

The Blood Pressure median before the intervention with ExperiBPD1 was MD = 115/80 mmHg, and after the intervention with ExperiBPD14 was MD = 114/77 mmHg.

The systolic blood pressure of the experimental group on day 1 (115 mmHg) was higher than that of the experimental group on day 14 (114 mmHg). The diastolic blood pressure of the experimental group on day 1 (80 mmHg) was higher than that of the Experimental group on day 14 (77 mmHg). A Wilcoxon Signed-Rank Test indicated that the systolic blood pressures were not significantly different before and after the intervention, W = 43, p = .607 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on systolic blood pressure.

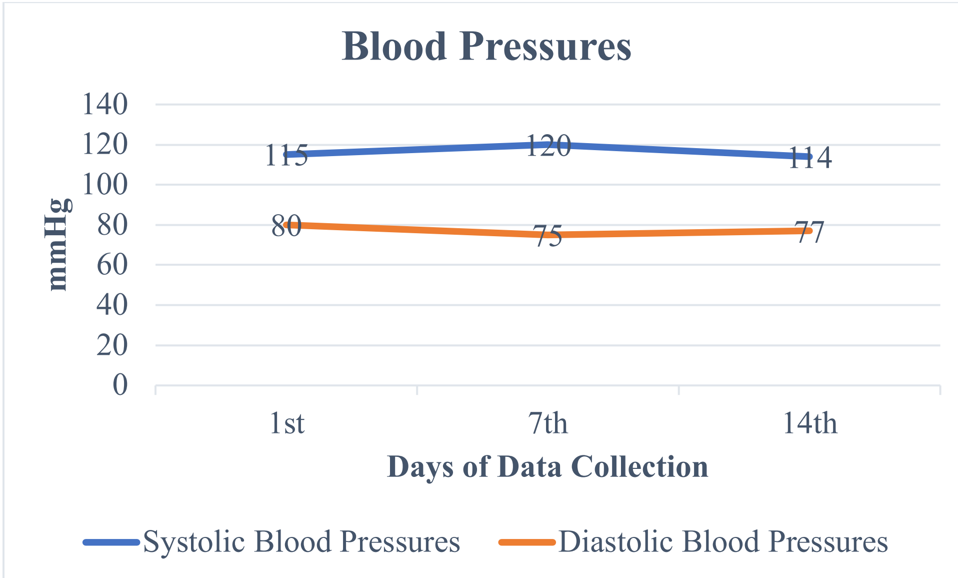
The diastolic blood pressures were not significantly different before and after the intervention, W = 11, p = .146 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on diastolic blood pressure.

Control Group Blood Pressure (ControlBPD1 & ControlBPD14):

The Blood Pressure median before the treatment with ControlBPD1 was MD = 127/ 80 mmHg, and after the treatment with ControlBPD714 was MD = 130/80 mmHg. The systolic blood pressure of the control group on day 1 (127 mmHg) was lower than that of the control group on day 14 (130 mmHg). Still, the diastolic blood pressure of the control group on day 1 (80 mmHg) was equal to the diastolic blood pressure of the control group on day 14 (80 mmHg). A Wilcoxon Signed-Rank Test indicated that the systolic blood pressure was not significantly different before and after the treatment, W = 30.5, p = .267 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on systolic blood pressure.

The diastolic blood pressures were not significantly different before and after the treatment, W = 46.5, p = 1.00 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on diastolic blood pressure.

Figure 3: Changes in Blood Pressure of the Experimental Group



As seen in Figure 3, there was an increase in the systolic blood pressure of the experimental group from day 1 to day 7, which was not significantly different (W = 34, p = .774). There was a decrease in the systolic blood pressure of the experimental group from day 7 to day 14, which was not significantly different (W = 41.5, p = .293), and a decrease in the systolic blood pressure of the experimental group from day 1 to day 14, which was not significantly different (W = 43, p = .607).

There was a decrease in the diastolic blood pressure of the experimental group from day 1 to day 7, which was not significantly different (W = 32, p = 1.00). There was an increase in the diastolic blood pressure from day 7 to day 14, which was not significantly different (W = 30, p = 1.00). There was a decrease in the diastolic blood pressure of the experimental group from day 1 to day 14, which was not significantly different (W = 11, p = .146). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on blood pressure.

The improvement of Oxygen Saturation on day 1, day 7, and day 14 within each group:

Experimental Group's Oxygen Saturation (ExperiOSatD1& ExperiOSatD7):

The Oxygen Saturation median before the intervention with ExperiOSatD1 was MD = 97 %, and after the intervention with ExperiOSatD7 was MD = 98 %. The oxygen saturation of the experimental Group on day 1 was lower than that of the experimental group on day 7. A Wilcoxon Signed-Rank Test indicated that the oxygen saturations before and after the intervention were not significantly different, W = 11.5, p = .227 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on oxygen saturation.

Control Group's Oxygen Saturation (ControlOSatD1& ControlOSatD7):

The Oxygen Saturation median before the intervention with ControlOSatD1 was MD = 97 %, and after the treatment with ControlOSatD7 was MD = 97 %. The oxygen saturation of the control group on day 1 was equal to that of the control group on day 7. A Wilcoxon Signed-Rank Test indicated that the oxygen saturations were not significantly different before and after the treatment, W = 42, p = 1.00 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on oxygen saturation.

Experimental Group's Oxygen Saturation (ExperiOSatD7& ExperiOSatD14):

The Oxygen Saturation median on day 7 with ExperiOSatD1 was MD = 98%, and after the intervention with ExperiOSatD14 was MD = 98%. The oxygen saturation of the experimental group on day 7 was equal to that of the experimental group on day 14. A Wilcoxon Signed-Rank Test indicated that the oxygen saturations on days seven and 14 were not significantly different, W = 15, p = .727 (> .05). Thus, the SKT Meditation

Healing Exercise techniques 1 and 2 had no statistically significant effect on oxygen saturation.

Control Group's Oxygen Saturation (ControlOSatD7& ControlOSatD14):

The Oxygen Saturation median on day 7 with ControlOSatD7 was MD = 97%, and after the intervention with ControlOSatD14 was MD = 97%. The oxygen saturation of the control group on day 7 was equal to that of the control group on day 14. A Wilcoxon Signed-Rank Test indicated that Oxygen Saturations were not significantly different before and after the intervention, W = 9, p = .180 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on oxygen saturation.

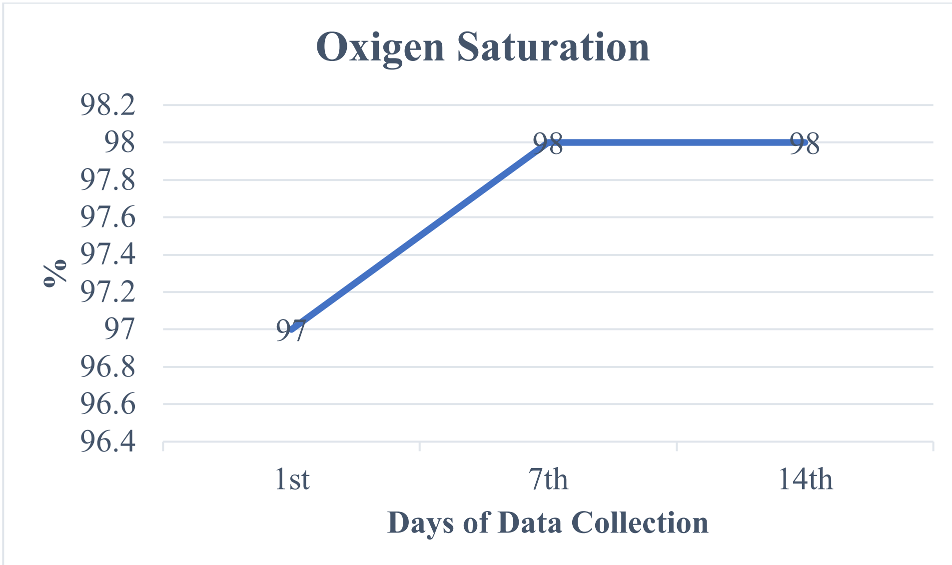
Experimental Group's Oxygen Saturation (ExperiOSatD1& ExperiOSatD14):

The Oxygen Saturation median before the intervention with ExperiOSatD1 was MD = 97 %, and after the intervention with ExperiOSatD14 was MD = 98 %. The oxygen saturation of the experimental group on day 1 was lower than that of the experimental group on day 14. A Wilcoxon Signed-Rank Test indicated that the oxygen saturations before and after the intervention were not significantly different, W = 19.5, p = .092 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on oxygen saturation.

Control Group's Oxygen Saturation (ControlOSatD1& ControlOSatD14):

The Oxygen Saturation median before the treatment with ControlOSatD1 was MD = 97 %, and after the treatment with ControlOSatD7 was MD = 97 %. The oxygen saturation of the control group on day 1 was equal to that of the control group on day 14. A Wilcoxon Signed-Rank Test indicated that the oxygen saturations were not significantly different before and after the treatment, W = 23, p = .388 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on oxygen saturation.

Figure 4: Changes in Oxygen Saturation of the Experimental Group



As seen in Figure 4, the experimental group's oxygen saturation increased, but this increase was not significant from day 1 to day 7 (W = 11.5, p = .227). The oxygen saturation of the experimental group on day 7 was equal to that of the experimental group on day 14, which was not significantly different (W = 15, p = .727). The experimental group's oxygen saturation increased from day 1 to day 14, but this increase was not statistically significant before and after the intervention (W = 19.5, p = .092). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on oxygen saturation.

The Improvement of Respiratory Rate on day 1, day 7, and day 14 within each group:

Experimental Group's Respiratory Rate (ExperiRRD1 & ExperiRRD7):

The Respiratory Rate median before the intervention with ExperiRRD1 was MD = 20, and after the intervention with ExperiRRD7 was MD = 20. The respiratory rate of the experimental group on day 1 was equal to that of the experimental group on day 7. A Wilcoxon Signed-Rank Test indicated that the respiratory rates were not significantly different before and after the intervention, W = 1.5 (Number of non-tied pairs (n) = 5, There is no critical value in Wilcoxon Signed-Rank Test critical value table for n =5.), p = .375 (>.05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on respiratory rate.

Control Group's Respiratory Rate (ControlRRD1 & ControlRRD7):

The Respiratory Rate median before the treatment with ControlRRD1 was MD = 20; after the treatment with ControlRRD7, it was MD = 20. The respiratory rate of the control group on day 1 was equal to that of the control group on day 7. A Wilcoxon Signed-Rank Test indicated that the respiratory rates were significantly different before and after the treatment, W = 1 (Number of non-tied pairs (n) = 4, There is no critical value in Wilcoxon Signed-Rank Test critical value table for n = 4.), p = .625 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on respiratory rate.

Experimental Group's Respiratory Rate (ExperiRRD7 & ExperiRRD14):

The Respiratory Rate median on day 7 with ExperiRRD7 was MD = 20, and after the intervention with ExperiRRD14 was MD = 20. The respiratory rate of the experimental group on day 7 was equal to that of the experimental group on day 14. A Wilcoxon Signed-Rank Test indicated that scores were not significantly different before and after the intervention, W = 1.5 (Number of non-tied pairs (n) = 3, There is no critical value in Wilcoxon Signed-Rank Test critical value table for n = 3.), p = 1.00 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on respiratory rate.

Control Group's Respiratory Rate (ControlRRD7 & ControlRRD14):

The Respiratory Rate median on day 7 with ControlRRD7 was MD = 20, and after the intervention with ControlRRD14, it was MD = 20. The respiratory rate of the control group on day 1 was equal to that of the control group on day 7. A Wilcoxon Signed-Rank Test indicated that scores were significantly different before and after the treatment, W = 0 (Number of non-tied pairs (n) = 0, There is no critical value in Wilcoxon Signed-Rank Test critical value table for n = 0.), p = 1.00 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on respiratory rate.

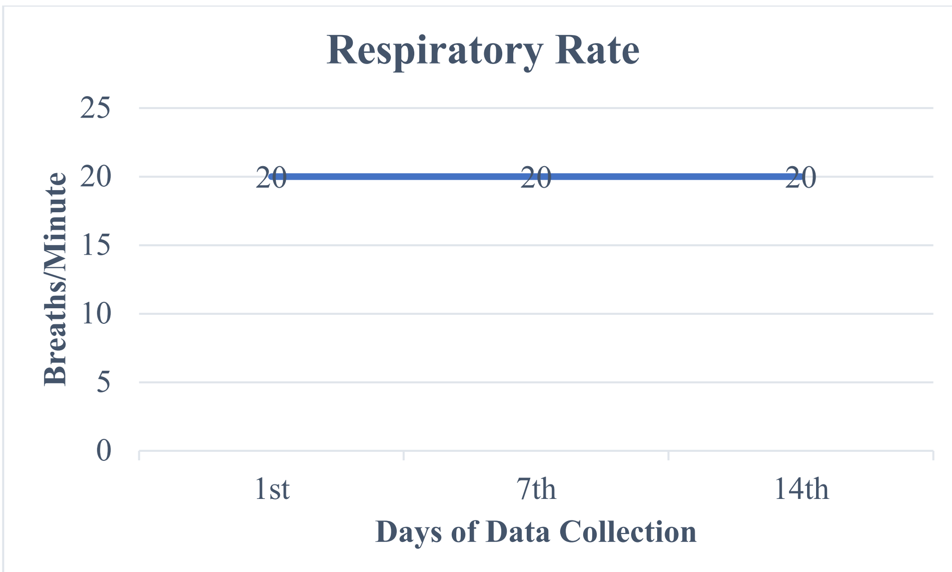
Experimental Group's Respiratory Rate (ExperiRRD1 & ExperiRRD14):

The Respiratory Rate median before the intervention with ExperiRRD1 was MD = 20, and after the intervention with ExperiRRD14 was MD = 20. The respiratory rate of the experimental group on day 1 was equal to that of the experimental group on day 14. A Wilcoxon Signed-Rank Test indicated that the respiratory rates were not significantly different before and after the intervention, W = 3.5 (Number of non-tied pairs (n) = 6, Wilcoxon Signed-Rank Test critical value table for n 6 = 0. So, W is more significant than critical value), p = .219 (> .05). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on respiratory rate.

Control Group's Respiratory Rate (ControlRRD1 & ControlRRD14):

The Respiratory Rate median before the treatment with ControlRRD1 was MD = 20; after the treatment with ControlRRD14, it was MD = 20. The respiratory rate of the control group on day 1 was equal to that of the control group on day 14. A Wilcoxon Signed-Rank Test indicated that the respiratory rates were not significantly different before and after the treatment, W = 1 (Number of non-tied pairs (n) = 4, There is no critical value in Wilcoxon Signed-Rank Test critical value table for n = 4.), p = .625 (> .05). Thus, the standard treatment of COVID-19 had no statistically significant effect on respiratory rate.

Figure 5: Changes in Respiratory Rate of the Experimental Group



As seen in Figure 5, the experimental group's respiratory rate on day 1 was equal to the rate on day 7 and day 14. A Wilcoxon Signed-Rank Test indicated that the respiratory rates were not significantly different between day 1 and day 7, fourteen (W = 1.5, p = .375), day 7 and day 14 (W = 1.5, p = 1.00), and day 1 and day 14 (W = 3.5, p = .219). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on respiratory rate before and after the intervention.

Compare the Vital Functions of the experimental group and the control group.

The second question of my research was, is there a statistically significant difference in vital functions between the control group and the experimental group following the implementation of SKT Meditation Healing Exercise Techniques 1 and 2 in COVID-19 patients?

The Mann-Whitney U-test (non-parametric test) was used to measure the differences in vital functions on day 1, day 7, and day 14 between the two groups to see if there was a statistically significant difference in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation in COVID-19 patients.

I use the Mann-Whitney U test to check the hypothesis that two independent samples come from populations having the same distribution instead of using the parametric t-test of two independent groups because my example in each group is less than 30 (15) and to compare the median between groups for non-normal distribution instead of Independent-sample t-test to measure a statistically significant difference in vital functions between the experimental group and the control group following the implementation of SKT Meditation Healing Exercise Technique 1: the sitting breathing meditation (SKT1) and technique 2: Standing deep breathing meditation exercise (SKT2) in COVID-19 patients.

The null hypothesis is that in the two samples, the rank sums do not differ significantly ($H_{0:}\ n_1 = n_2$). The alternative hypothesis is that the rank sums do differ significantly in the two samples ($H_{1:}\ n_1 \neq n_2$).

The critical value from the Mann-Whitney U test table (Alpha = .05 (two-tailed)) for $n_1 = 15$ and $n_2 = 15$ is 64. If the test statistic U is less than the critical values ($U < 64$)

or the p-value is less than Alpha ($p < .05$), then the test result is statistically significant. So, I reject the null hypothesis. If the test statistic U is greater than the critical values ($U > 64$) or the p-value is greater than Alpha ($p > .05$), then the test result is not statistically significant. So, I failed to reject the null hypothesis.

Based on the ranks or the U-statistic, a researcher can compute either an exact p-value or an asymptotic p-value. The asymptotic p-values are based on the normal distribution and, therefore, need a large sample size ($n1>20$, $n2>20$), whereas exact p-values are usually reported when the sample size is smaller than that. In my research, there are 15 participants for each group, so I use exact p-values. The data for the Mann-Whitney U test were calculated using SPSS and Excel programs.

Compare the Temperature Difference between the experimental group and the Control group.

Experimental group day 1 Temperature & Control group day 1 Temperature (ExperiTempD1 & ControlTempD1):

A Mann-Whitney U test was conducted to compare the difference in day one temperature levels between the experimental group that received the standard treatment to heal COVID-19 and practiced SKT1 and SKT2 and the control group that received just the standard treatment to heal COVID-19. The median values of the day one temperature for the experimental and control groups were 36.8 °C and 37.7 °C. The results showed that the temperature level was not statistically significantly different between the two groups, $U = 78.5$, $n1 = 15$, $n2 = 15$, $p = .161$ ($> .05$). The results suggest that the experimental group did not have significantly lower temperature levels than the control group.

Experimental group day 7 Temperature & Control group day 7 Temperature (ExperiTempD7 & ControlTempD7):

A Mann-Whitney U test was conducted to compare the temperature levels on day seven between the experimental and control groups. The median day seven temperature values for the experimental and control groups were 36.3 ℃ and 36.3 ℃.

The results showed that the temperature level was not statistically significantly different between the two groups: $U = 102.5$, $n1 = 15$, $n2 = 15$, $p = .683$ ($> .05$). Thus, the experimental group did not have significantly different temperature levels than the control group.

Experimental group day 14 Temperature & Control group day 14 Temperature (ExperiTempD14 & ControlTempD14):

A Mann-Whitney U test was conducted to compare the difference in day 14 temperature levels between the experimental and control groups. The median values of the day 14 temperature for the experimental and control groups were 36.5 ℃ and 36.3 ℃. The results showed that the temperature level was not statistically significantly different between the two groups, $U = 111.5$, $n1 = 15$, $n2 = 15$, $p = .967$ ($> .05$). The result suggests that the experimental group did not have significantly higher temperature levels than the control group.

Figure 6: Change in Body Temperature Median of Participants in the Experimental Group and the Control Group on day 1, day 7, and day 14

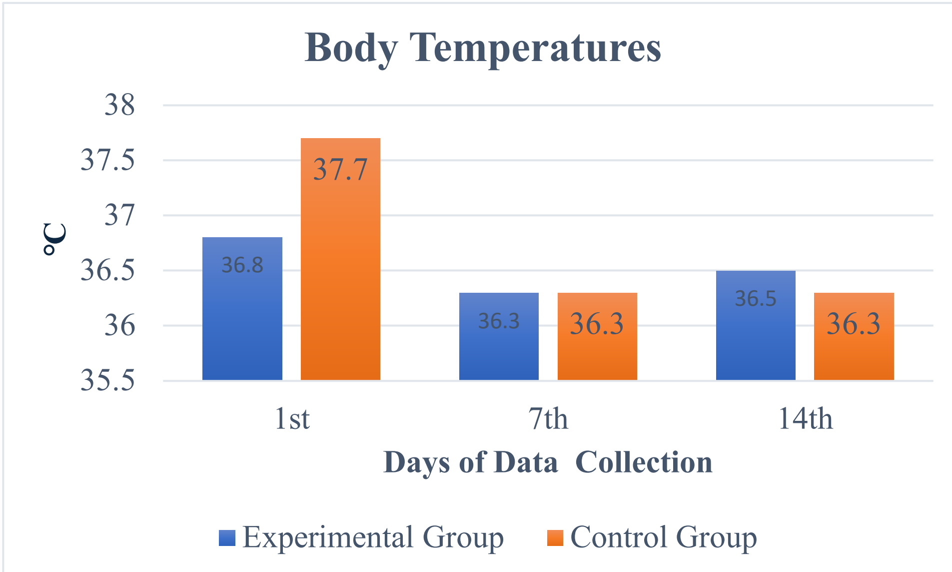


Figure 6 shows that the temperature level on day 1 was not statistically significantly different between the two groups, U = 78.5, n1 = 15, n2 = 15, p = .161 (> .05). The result suggested that the experimental group did not have significantly lower temperature levels than the control group on day one. The temperature level on day seven was not statistically significantly different between the two groups, U = 102.5, n1 = 15, n2 = 15, p = .683 (> .05). The results suggest that the experimental group did not have significantly different temperature levels than the control group.

The results showed that the temperature level on day 14 was not statistically significantly different between the two groups: U = 111.5, n1 = 15, n2 = 15, p = .967 (> .05). This suggests that the experimental group did not have significantly higher temperature levels than the control group.

Compare the Heart Rate difference between the experimental group and the Control group.

Experimental Group Day 1 Heart Rate (Pulse) & Control Group Day 1 Heart Rate (Pulse) (ExperiHRD1 & ControlHRD1):

A Mann-Whitney U test was conducted to compare the difference in day 1 heart rate levels between the experimental and control groups. The median Heart Rate (Pulse) on day 1 for the experimental and control groups was 93 and 90, respectively. The results showed that the median heart rate was not statistically significantly different between the two groups, U = 100, n1 = 15, n2 = 15, p = .624 (> .05). The results suggest that the experimental group did not have significantly higher heart rate levels than the control group.

Experimental Group Day 7 Heart Rate (Pulse) & Control Group Day 7 Heart Rate (Pulse) (ExperiHRD7 & ControlHRD7):

A Mann-Whitney U test was conducted to compare the difference in day 7 heart rate levels between the experimental and control groups. The median Heart Rates on day 7 for the experimental and control groups were 84 and 76, respectively. The result showed that the Heart Rate was not statistically significantly different between the two groups: U = 66, n1 = 15, n2 = 15, p = .056 (> .05). This suggests that the experimental group did not have a significantly higher heart rate than the control group.

Experimental Group's Heart Rate (Pulse) & Control Group's Heart Rate (Pulse) on Day 14 (EexperiHRD14 & ControlHRD14):

A Mann-Whitney U test was conducted to compare the difference in day 14 heart rates between the experimental and control Groups. The median Heart Rates on day 14 for the experimental and control groups were 81 and 80. The results showed that the heart rate on day 14 was not statistically significantly different between the two groups, U =

80, n1 = 15, n2 = 15, p = .187 (> .05). The results suggest that the experimental group did not have a significantly higher heart rate than the control group.

Figure 7: Change in Heart Rate Median of Participants in the Experimental and Control groups on day 1, day 7, and day 14

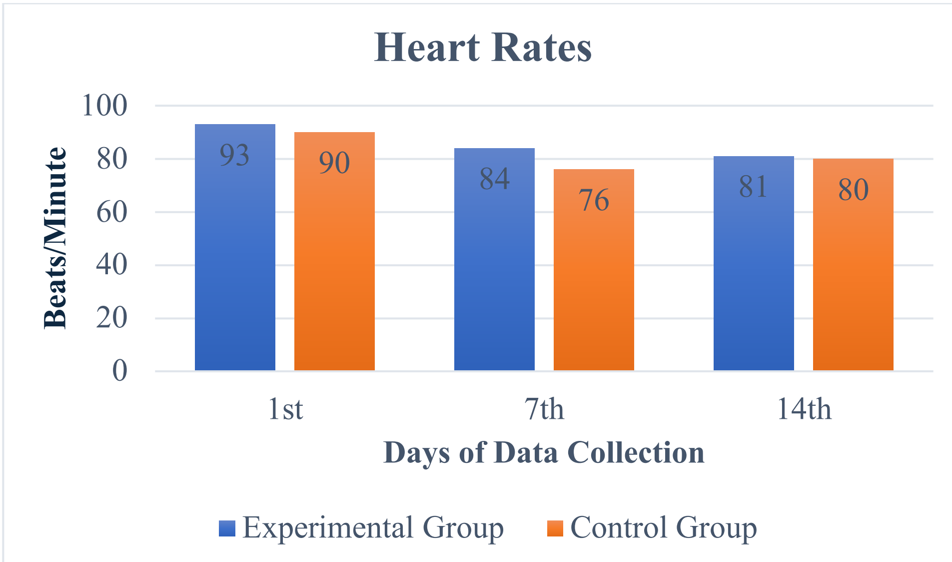


Figure 7 shows that the Heart Rate on day 1 was not statistically significantly different between the two groups, U = 100, n1 = 15, n2 = 15, p = .624 (> .05). The Heart Rate on day 7 was not statistically significantly different between the two groups, U = 66, n1 = 15, n2 = 15, p = .056 (> .05). The Heart Rate on day 14 was not statistically significantly different between the two groups, U = 80, n1 = 15, n2 = 15, p = .187 (> .05). The results suggest that the experimental group did not have significantly higher Heart Rate levels than the control group.

Compare the Blood Pressure Difference between the experimental group and the Control group.

Experimental Group Day 1 Systolic Blood Pressure & Control Group Day 1 Systolic Blood Pressure (ExperiSysD1 & ControlSysD1):

A Mann-Whitney U test was conducted to compare the difference between the experimental and control groups' Day 1 Systolic Blood Pressure scores. The median Systolic Blood Pressures on day 1 for the experimental and control groups were 115 and 127. The results showed that the Systolic Blood Pressure level on day 1 was not statistically significantly different between the two groups, U = 69.5, n1 = 15, n2 = 15, p = .074 (> .05). The results suggest that the experimental group did not have significantly lower Day 1 Systolic Blood Pressure levels than the control group.

Experimental Group Day 1 Diastolic Blood Pressure & Control Group Day 1 Diastolic Blood Pressure (ExperiDiasD1 & ControlDiasD1):

A Mann-Whitney U test was conducted to compare the difference in Day 1 Diastolic Blood Pressure levels between the experimental and control groups. The median Diastolic Blood Pressures on day 1 for the experimental and control groups were 80 and 80. The results showed that the Diastolic Blood Pressure level on day 1 was not statistically significantly different between the two groups, U = 102.5, n1 = 15, n2 = 15, p = .683 (> .05). The results suggest that the experimental group did not have significantly different Diastolic Blood Pressure levels from the control group on day one.

Experimental Group Day 7 Systolic Blood Pressure & Control Group Day 7 Systolic Blood Pressure (ExperiSysD7 & ControlSysD7):

A Mann-Whitney U test was conducted to compare the difference in Day 7 Systolic Blood Pressure levels between the experimental and control groups. The median Systolic Blood Pressures on day 7 for the experimental and control groups were 120 and 126. The results showed that the Systolic Blood Pressure level on day 7 was not statistically significantly different between the two groups, U = 72, n1 = 15, n2 = 15, p =

.098 (> .05). The results suggest that the experimental group did not have significantly lower Day 7 Systolic Blood Pressure levels than the control group.

Experimental Group Day 7 Diastolic Blood Pressure & Control Group Day 7 Diastolic Blood Pressure (ExperiDiasD7 & ControlDiasD7):

A Mann-Whitney U test was conducted to compare the difference in Day 7 Diastolic Blood Pressure levels between the experimental and control groups. The median values of the Diastolic Blood Pressure on day 7 for the experimental and control groups were 75 and 79. The results showed that the Systolic Blood Pressure level on day 7 was not statistically significantly different between the two groups, U = 97.5, n1 = 15, n2 = 15, p = .539 (> .05). The results suggest that the experimental group did not have significantly lower Day 7 Diastolic Blood Pressure levels than the control group.

Experimental Group Day 14 Systolic Blood Pressure & Control Group Day 14 Systolic Blood Pressure (ExperiSysD14 & ControlSysD14):

A Mann-Whitney U test was conducted to compare the difference between the experimental and control groups in Day 14 Systolic Blood Pressure levels. The median values of the Systolic Blood Pressure on day 14 for the experimental and control groups were 114 and 130. The results showed that the Systolic Blood Pressure level on day 14 was statistically significantly different between the two groups, U = 61.5, n1 = 15, n2 = 15, p = .033 (< .05), with a medium effect size, r = -0.388. The results suggest that the experimental group has significantly lower Day 14 Systolic Blood Pressure levels than the control group.

Experimental Group Day 14 Diastolic Blood Pressure & Control Group Day 14 Diastolic Blood Pressure (ExperiDiasD14 & ControlDiasD14):

A Mann-Whitney U test was conducted to compare the difference in Day 14 Diastolic Blood Pressure levels between the experimental and control groups. The median values of the Diastolic Blood Pressure on day 14 for the experimental and control groups were 77 and 80. The results showed that the Diastolic Blood Pressure level on day 14 was not statistically significantly different between the two groups, U = 85, n1 = 15, n2 = 15, p = .267 (> .05). The results suggest that the experimental group did not have significantly lower Day 14 Diastolic Blood Pressure levels than the control group.

Figure 8: Change in Systolic Blood Pressure Median of Participants in the Experimental Group and the Control Group on day 1, day 7, and day 14

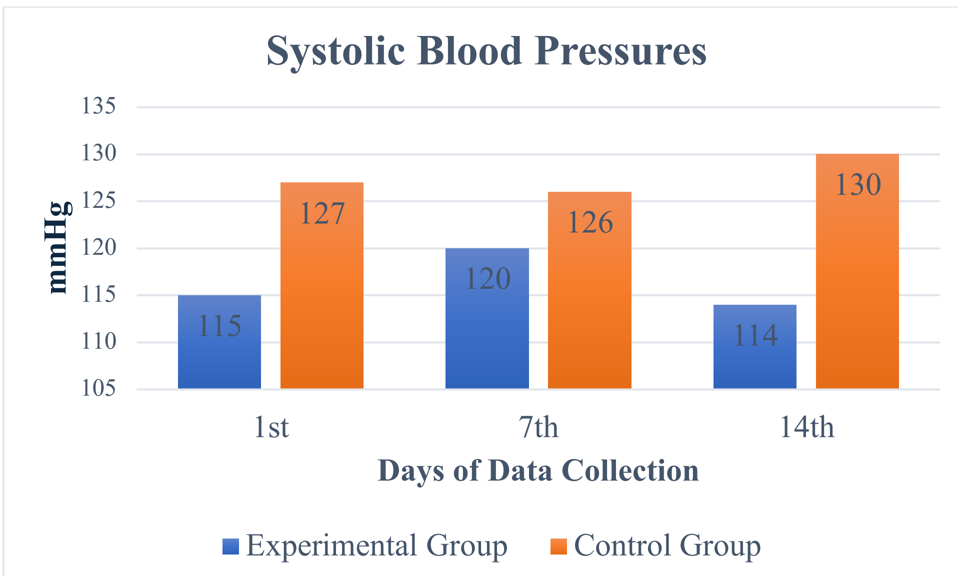


Figure 8 shows that the Systolic Blood Pressure level on day 1 was not statistically significantly different between the two groups, U = 69.5, n1 = 15, n2 = 15, p = .074 (> .05). The results showed that the Systolic Blood Pressure level on day 7 was not statistically significantly different between the two groups, U = 72, n1 = 15, n2 = 15, p = .098 (> .05). The results suggest that the experimental group did not have significantly lower Systolic Blood Pressure Levels on days one and seven than the control group. The results showed that the Systolic Blood Pressure level on day 14 was statistically significantly different between the two groups, U = 61.5, n1 = 15, n2 = 15, p = .033 (< .05), with a medium effect size, r = -0.388. The results suggest that the experimental group has significantly lower Day 14 Systolic Blood Pressure levels than the control group.

Figure 9: Change in Diastolic Blood Pressure Median of Participants in the Experimental Group and the Control Group on day 1, day 7, and day 14

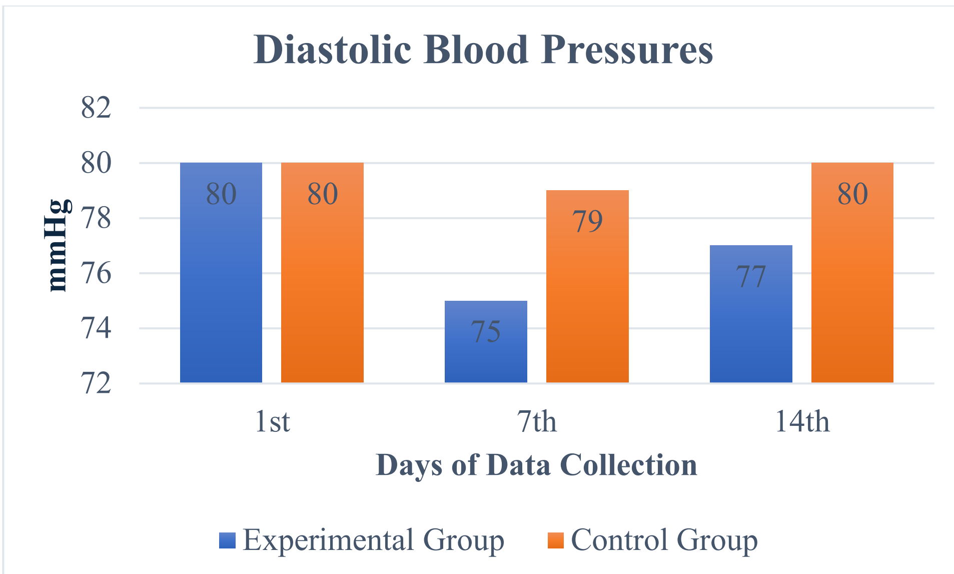


Figure 9 shows that the Diastolic Blood Pressure level on day 1 was not statistically significantly different between the two groups, U = 102.5, n1 = 15, n2 = 15, p = .683 (> .05). The results suggest that the experimental group did not have significantly different Day 1 Systolic Blood Pressure levels from the control group. The results showed that the Systolic Blood Pressure level on day 7 was not statistically significantly different between the two groups, U = 97.5, n1 = 15, n2 = 15, p = .539 (> .05). The results showed that the Diastolic Blood Pressure level on day 14 was not statistically significantly different between the two groups, U = 85, n1 = 15, n2 = 15, p = .267 (> .05). The results suggest that the experimental group did not have significantly lower diastolic blood pressure levels on Day 7 and Day 14 than the control group.

Compare the Oxygen Saturation Difference between the experimental group and the Control group.

Experimental Group Day 1 Oxygen Saturation & Control Group Day 1 Oxygen (ExperiOsatD1& ControlOsatD1):

A Mann-Whitney U test was conducted to compare the difference in Day 1 Oxygen Saturation levels between the experimental and control groups. The median values of the Oxygen Saturation on day 1 for the experimental and control groups were 97 and 97. The results showed that the Oxygen Saturation level on day 1 was not statistically significantly different between the two groups, $U = 97.5$, $n1 = 15$, $n2 = 15$, $p = .539$ ($> .05$). The results suggest that the experimental group did not have significantly different Day 1 Oxygen Saturation levels from the control group.

Experimental Group Day 7 Oxygen Saturation & Control Group Day 7 Oxygen Saturation (ExperiOsatD7& ControlOsatD7):

A Mann-Whitney U test was conducted to compare the difference in Day 7 Oxygen Saturation levels between the experimental and control groups. The median values of the Oxygen Saturation on day 7 for the experimental and control groups were 98 and 97. The results showed that the Oxygen Saturation level on day 7 was not statistically significantly different between the two groups, $U = 71.5$, $n1 = 15$, $n2 = 15$, $p = .089$ ($> .05$). The results suggest that the experimental group did not have a significantly higher Day 7 Oxygen Saturation level than the control group.

Experimental Group Day 14 Oxygen Saturation & Control Group Day 14 Oxygen Saturation (ExperiOsatD14 & ControlOsatD14):

A Mann-Whitney U test was conducted to compare the difference in Oxygen Saturation levels on Day 14 between the Experimental and Control Groups. The median Oxygen Saturation values on day 14 for the experimental and control groups were 98 and 97, respectively. The results showed that the Oxygen Saturation level on day 14 was not statistically significantly different between the two groups, $U = 86.5$, $n1 = 15$, $n2 = 15$, $p = .285$ ($> .05$). The results suggest that the experimental group did not have a significantly higher Day 14 Oxygen Saturation level than the control group.

Figure 10: Change in Oxygen Saturation Median of Participants in the Experimental Group and the Control Group on day 1, day 7, and day 14

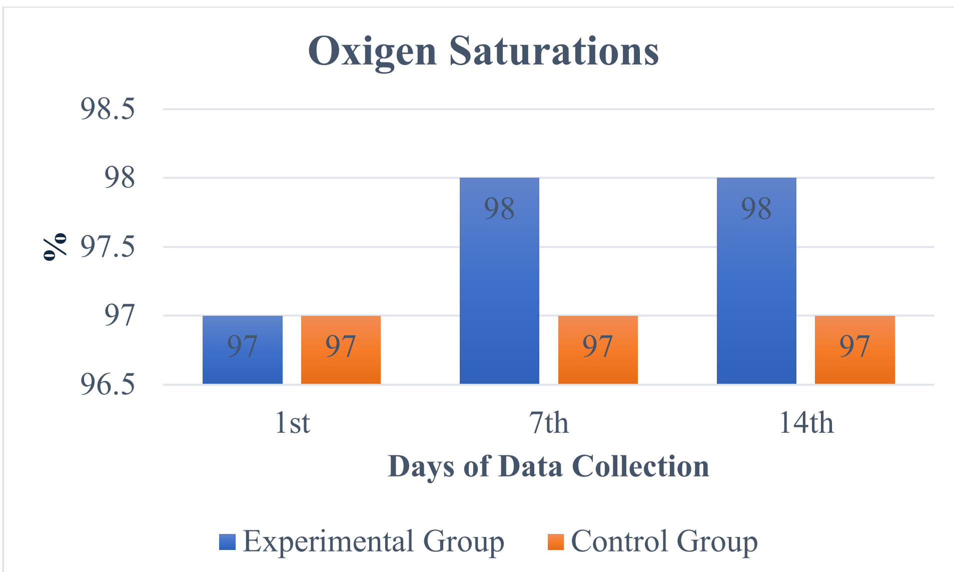


Figure 10 shows that the Oxygen Saturation level on day 1 was not statistically significantly different between the two groups, $U = 97.5$, $n1 = 15$, $n2 = 15$, $p = .539$ ($> .05$). The results suggest that the experimental group did not have significantly different Day 1 Oxygen Saturation levels from the control group. The results showed that the Oxygen Saturation level on day 7 was not statistically significantly different between the two groups, $U = 71.5$, $n1 = 15$, $n2 = 15$, $p = .089$ ($> .05$), and the Oxygen Saturation level on day 14 was not statistically significantly different between the two groups, $U = 86.5$, n1 = 15, n2 = 15, p = .285 (> .05). The results suggest that the experimental group did not have a significantly higher Oxygen Saturation level on Day 7 and Day 14 than the control group.

Compare the Respiratory Rate Difference between the experimental group and the Control group.

Experimental Group Day 1 Respiratory Rate & Control Group Day 1 Respiratory Rate (ExperiRRD1 & ControlRRD1):

A Mann-Whitney U test was conducted to compare the difference in the experimental and Control groups' Day 1 respiratory rates. The median Respiratory Rates on day 1 for the experimental and control groups were 20 and 20, respectively. The results showed that the Respiratory Rate on day 1 was not statistically significantly different between the two groups, U = 95, n1 = 15, n2 = 15, p = .486 (> .05). The results suggest that the experimental group's Day 1 respiratory rate was not significantly different from the control group's.

Experimental Group Day 7 Respiratory Rate & Control Group Day 7 Respiratory Rate (ExperiRRD7 & ControlRRD7):

A Mann-Whitney U test was conducted to compare the difference in the experimental and control groups' Day 7 respiratory rates. The median respiratory rates for the experimental and control groups were 20 and 20, respectively. The results showed that the respiratory rate on day 7 was not statistically significantly different between the two groups: U = 86.5, n1 = 15, n2 = 15, p = .285 (> .05). Thus, the experimental group's day 7 respiratory rate was not significantly different from the control group's.

Experimental Group Day 14 Respiratory Rate & Control Group Day 14 Respiratory Rate (ExperiRRD14 & ControlRRD14):

A Mann-Whitney U test was conducted to compare the difference in the experimental and Control groups' respiratory rates on day 14. The median Respiratory Rates on day 14 for the experimental and control groups were 20 and 20, respectively.

The results showed that the Respiratory Rate on day 14 was not statistically significantly different between the two groups, U = 98.5, n1 = 15, n2 = 15, p = .567 (> .05). The results suggest that the experimental group's day 14 respiratory rate was not significantly different from the control group's.

Figure 11: Change in Respiratory Rate Median of Participants in the Experimental Group and the Control Group on day 1, day 7, and day 14

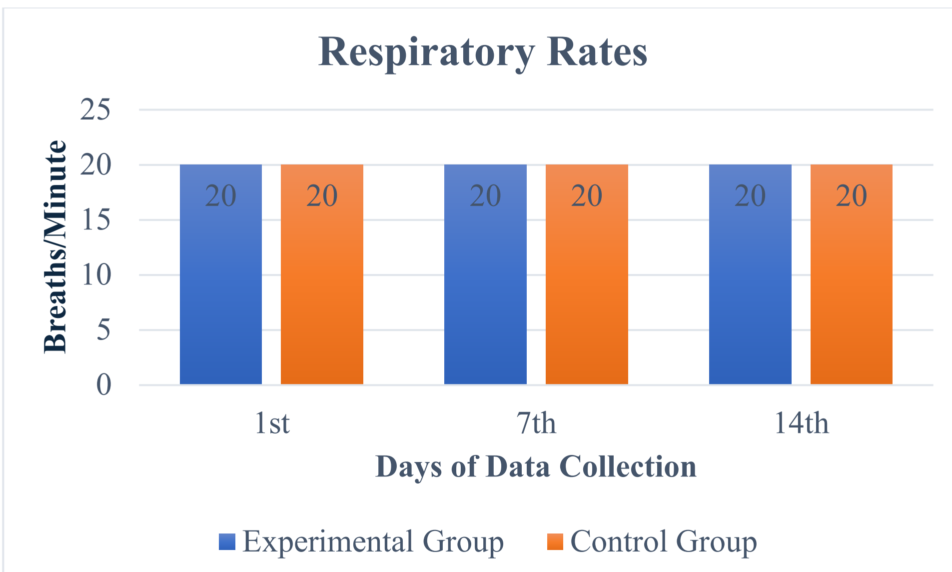


Figure 11 shows that the Respiratory Rate on day 1 was not statistically significantly different between the two groups, U = 95, n1 = 15, n2 = 15, p = .486 (> .05). The Respiratory Rate on day 7 was not statistically significantly different between the two groups, U = 86.5, n1 = 15, n2 = 15, p = .285 (> .05). The Respiratory Rate on day 14 was not statistically significantly different between the two groups, U = 98.5, n1 = 15, n2

= 15, p = .567 (> .05). The results suggest that the experimental group's respiratory rates on Day 1, Day 7, and Day 14 Were Not Significantly Different from those of the control group.

4.3 Summary of Findings:

My research question # 1 was, to what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improvements in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients?

The outcomes were to be measured: 1. Changes in body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation during 14 days of my study, 2. statistical analysis results, 3. comparison of vital functions medians, 4. effect size measures.

The improvements in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients were calculated using the Wilcoxon signed-rank test comparing the Differences in vital functions between day 1, day 7, and day 14 within each group's pre-test/ post-test designs (Day 1 and Day 7, Day 7 and Day 14, and Day 1 and Day 14).

The Improvement of Temperature on day 1, day 7, and day 14 within the experimental group:

There was a decrease in the temperature of the experimental group from day 1 to day 7, which was not significantly different (W = 33.5, p = .118). There was an increase in the temperature of the experimental group from day 7 to day 14, which was not significantly different (W = 35.5, p = 1.00). There was a decrease in the temperature of the experimental group from day 1 to day 14, which was significantly different (W = 27, p = .007). The effect size was medium, r = -0.343

Thus, the SKT Meditation Healing Exercise Techniques 1 and 2 had no statistically significant effect on the temperatures between day one and day seven and between day seven and day 14. Still, they had a statistically significant effect on the temperature before and after the intervention with a medium effect size.

The Improvement of Heart Rate (Pulse) on day 1, day 7, and day 14 within the experimental group:

The experimental group's heart rate decreased from day 1 to day 7, which was not significantly different (W = 54, p = .607), from day 7 to day 14, which was not significantly different (W = 30, p = 1.00), and from day 1 to day 14, which was not significantly different before and after the intervention (W = 29.5, p = .388). Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on the heart rate.

The Improvement of Blood Pressure on day 1, day 7, and day 14 within the experimental group:

There was an increase in the systolic blood pressure of the experimental group from day 1 to day 7, which was not significantly different (W = 34, p = .774). There was a decrease in the systolic blood pressure of the experimental group from day 7 to day 14, which was not significantly different (W = 41.5, p = .293), and a decrease in the systolic blood pressure of the experimental group from day 1 to day 14, which was not significantly different (W = 43, p = .607).

There was a decrease in the diastolic blood pressure of the experimental group from day 1 to day 7, which was not significantly different (W = 32, p = 1.00). There was an increase in the diastolic blood pressure from day 7 to day 14, which was not significantly different (W = 30, p = 1.00). There was a decrease in the diastolic blood pressure of the experimental group from day 1 to day 14, which was not significantly different (W = 11, p = .146). Thus, the SKT Meditation Healing Exercise Techniques 1 and 2 had no statistically significant effect on blood pressure.

The Improvement of Oxygen Saturation on day 1, day 7, and day 14 within the experimental group:

There was an increase in the oxygen saturation of the experimental group from day 1 to day 7, which was not significant (W = 11.5, p = .227). The oxygen saturation of the experimental group on day 7 was equal to that of the experimental group on day 14, which was not significantly different (W = 15, p = .727). There was an increase in the oxygen saturation of the experimental group from day 1 to day 14, which was not statistically significant before and after the intervention (W = 19.5, p = .092). Thus, the SKT Meditation Healing Exercise Techniques 1 and 2 had no statistically significant effect on oxygen saturation.

The Improvement of Respiratory Rate on day 1, day 7, and day 14 within the experimental group:

The respiratory rate of the experimental group on day one was equal to that of the experimental group on days seven and fourteen. A Wilcoxon Signed-Rank Test indicated that the respiratory rates were not significantly different between day one and day seven (W = 1.5, p = .375), day seven and day fourteen (W = 1.5, p = 1.00), and day one and day fourteen (W = 3.5, p = .219). Thus, the SKT Meditation Healing Exercise Techniques 1 and 2 had no statistically significant effect on respiratory rate before and after the intervention.

Table 11: Hypothesis Testing of the Vital Function's Improvement in the experimental group on day 1, day 7, and day 14 (N = 15)

Hypothesis	Dependent Variable	Wilcoxon Signed Rank	Sig/ P-value	Statistically Significant	Null Hypothesis	Relationship Strength
H1	Day 1 & Day 7 Temperature	33.5	0.118	No	Fail to reject	
H2	Day 7 & Day 14 Temperature	35.5	1	No	Fail to reject	
H3	**Day 1 & Day 14 Temperature**	**27**	**0.007**	**Yes**	**Reject**	**Moderate**
H4	Day 1 & Day 7 Heart Rate	54	0.607	No	Fail to reject	
H5	Day 7 & Day 14 Heart Rate	30	1	No	Fail to reject	
H6	Day 1 & Day 14 Heart Rate	29.5	0.388	No	Fail to reject	
H7	Day 1 & Day 7 Systolic Blood Pressure	34	0.774	No	Fail to reject	
H8	Day 1 & Day 7 Diastolic Blood Pressure	32	1	No	Fail to reject	
H9	Day 7 & Day 14 Systolic Blood Pressure	41.5	0.293	No	Fail to reject	
H10	Day 7 & Day 14 Diastolic Blood Pressure	30	1	No	Fail to reject	
H11	Day 1 & Day 14 Systolic Blood Pressure	43	0.607	No	Fail to reject	

Hypothesis	Dependent Variable	Wilcoxon Signed Rank	Sig/ P-value	Statistically Significant	Null Hypothesis	Relationship Strength
H12	Day 1 & Day 14 Diastolic Blood Pressure	11	0.146	No	Fail to reject	
H13	Day 1 & Day 7 Oxygen Saturation	11.5	0.227	No	Fail to reject	
H14	Day 7 & Day 14 Oxygen Saturation	15	0.727	No	Fail to reject	
H15	Day 1 & Day 14 Oxygen Saturation	19.5	0.092	No	Fail to reject	
H16	Day 1 & Day 7 Respiratory Rate	1.5	0.375	No	Fail to reject	
H17	Day 1 & Day 7 Respiratory Rate	1.5	1	No	Fail to reject	
H18	Day 1 & Day 7 Respiratory Rate	3.5	0.219	No	Fail to reject	

Table 11 shows that the SKT Meditation Healing Exercise Techniques 1 and 2 had no statistically significant effect on Heart Rate, Blood Pressure, Oxygen Saturation, or Respiratory Rate before and after the intervention but had a statistically significant effect on Temperature before and after the intervention. Thus, I can reject the H3 null hypothesis, which is that **the temperature improved before and after the intervention.**

The second question of my research was, is there a statistically significant difference in vital functions between the control group and the experimental group following the implementation of SKT Meditation Healing Exercise Techniques 1 and 2 in COVID-19 patients?

The difference in improvements in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation in COVID-19 patients between the experimental group and the control group were calculated using the Mann-Whitney U test comparing the Differences in vital functions between the two groups on day 1, day 7, and day 14.

The Differences in Vital Functions on day 1, day 7, and day 14 between the two groups

Compare the Temperature Difference between the experimental group and the control group.

The result showed that the temperature levels on day 1 (U = 78.5, p = .161), day 7 (U = 102.5, p = .683), and day 14 (U = 111.5, p = .967) were not statistically significantly different between the two groups. Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on temperature levels when comparing the two groups.

Compare the Heart Rate (Pulse) Difference between the experimental and Control groups.

The results showed that the Heart Rates on day 1 (U = 100, p = .624), day 7 (U = 66, p = .056), and day 14 (U = 80, p = .187) were not statistically significantly different between the two groups. The experimental group did not have significantly higher Heart Rate levels than the control group. Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on Heart Rates when comparing the two groups.

Compare the Blood Pressure Difference between the experimental group and the Control group.

The results showed that the Systolic Blood Pressure levels on day 1 ($U = 69.5$, $p = .074$) and day 7 ($U = 72$, $p = .098$) were not statistically significantly different between the two groups. The experimental group did not have significantly lower Day 1 and Day 7 Systolic Blood Pressure levels than the control group. Still, the experimental group had the Systolic Blood Pressure level on day 14 statistically significantly lower than the control group, $U = 61.5$, $p = .033$, with a medium effect size, $r = -0.388$.

The results showed that the Diastolic Blood Pressure levels on day 1 ($U = 102.5$, $p = .683$), day 7 ($U = 97.5$, $p = .539$), and day 14 ($U = 85$, $p = .267$) were not statistically significantly different between the two groups. The experimental group did not have significantly lower Blood Pressure levels on Day 1 and Day 7 than the control group.

Thus, when comparing the two groups, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on Day 1 and Day 7 Blood Pressures. When compared, the SKT Meditation Healing Exercise techniques 1 and 2 had a statistically significant effect on Day 14 Systolic Blood Pressure but no statistically significant effect on Day 14 Diastolic Blood Pressure.

Compare the Oxygen Saturation Difference between the experimental group and the Control group.

The results showed that the Oxygen Saturation levels on day 1 ($U = 97.5$, $p = .539$), day 7 ($U = 71.5$, $p = .089$), and day 14 ($U = 86.5$, $p = .285$) were not statistically significantly different between the two groups. The experimental group did not have a significantly higher Oxygen Saturation level on Day 7 and Day 14 than the control group. The experimental group did not have a significantly higher Oxygen Saturation level on Day 7 and Day 14 than the control group. Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on Oxygen Saturation when comparing the two groups.

Compare the Respiratory Rate Difference between the experimental group and the Control group.

The results showed that the Respiratory Rates on day 1 (U = 95, p = .486), day 7 (U = 86.5, p = .285), and day 14 (U = 98.5, p = .567) were not statistically significantly different between the two groups. Thus, the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on Respiratory Rates compared to the two groups.

Table 12: Hypothesis testing of the difference in the Improvement of the Vital Functions between the two groups on day 1, day 7, and day 14 (N = 30)

Hypothesis	Dependent Variable	Mann-Whitney U test	Sig/ P-value	Statistically Significant	Null Hypothesis	Relationship Strength
H19	Day 1 temperature difference	78.5	0.161	No	Fail to reject	
H20	Day 7 temperature difference	102.5	0.683	No	Fail to reject	
H21	Day 14 temperature difference	111.5	0.967	No	Fail to reject	
H22	Day 1 Heart Rates	100	0.624	No	Fail to reject	

Hypothesis	Dependent Variable	Mann-Whitney U test	Sig/ P-value	Statistically significant	Null hypothesis	Relationship Strength
H23	Day 7 Heart Rates	66	0.056	No	Fail to reject	
H24	Day 14 Heart Rates	80	0.187	No	Fail to reject	
H25	Day 1 Systolic Blood Pressure	69.5	0.074	No	Fail to reject	
H26	Day 1 Diastolic Blood Pressure	102.5	0.683	No	Fail to reject	
H27	Day 7 Systolic Blood Pressure	72	0.098	No	Fail to reject	
H28	Day 7 Diastolic Blood Pressure	97.5	0.539	No	Fail to reject	
H29	**Day 14 Systolic Blood Pressure**	**61.5**	**0.033**	**Yes**	**Reject**	**Moderate**
H30	Day 14 Diastolic Blood Pressure	85	0.267	No	Fail to reject	
H31	Day 1 Oxygen Saturation	97.5	0.539	No	Fail to reject	
H32	Day 7 Oxygen Saturation	71.5	0.089	No	Fail to reject	
H33	Day 14 Oxygen Saturation	86.5	0.285	No	Fail to reject	
H34	Day 1 Respiratory Rates	95	0.486	No	Fail to reject	
H35	Day 7 Respiratory Rates	86.5	0.285	No	Fail to reject	
H36	Day 14 Respiratory Rates	98.5	0.567	No	Fail to reject	

Table 12 shows that the SKT Meditation Healing Exercise techniques 1 and 2 had no statistically significant effect on Temperature, Heart Rate, Day 1 and Day 7 Systolic and Diastolic Blood Pressure, Oxygen Saturation, and Respiratory Rate before and after the intervention but **had a statistically significant effect on Systolic Blood Pressure after the intervention.** So, I can reject the H29 null hypothesis, which is the difference in systolic blood pressure after the intervention.

CHAPTER FIVE: DISCUSSION

SKT Meditation Healing Exercise is an Innovative Meditation Healing Science taught in Thailand by Professor Dr. Somporn Kantharadussadee Triamchaisri. This type of Meditation Healing Exercise is increasingly being integrated into the clinical setting in Thailand. Studies over the last three decades by Professor Dr. Somporn have demonstrated the efficacy of mind-body therapy programs for health problems, such as SKT1, which can reduce stress, convulsions, allergy, nausea, vomiting, blood pressure, fever, insomnia, loss of appetite, and vascular dilation, SKT2 which can reduce inflammation, blood sugar, cholesterol, loss weight, pain and swelling, allergy, lung disease, and respiratory systems, shoulder pain, frozen shoulder, hyperthyroidism.[186]

This dissertation study examines the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 as an alternative and integrative medicine for improving vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients. I examined the efficacy of SKT Meditation Healing Exercise Technique 1, sitting breathing meditation (SKT1), and Technique 2, standing deep breathing meditation exercise (SKT2), as taught by Professor Dr. Somporn.

This quasi-experimental research with two groups of pre-post-test design compared the improvement of vital functions among the experimental group and the control group before and after an intervention of supplemental treatment program with SKT Meditation Healing Exercise techniques 1 and 2 and compared the improvement of vital functions between the experimental group and control group after an intervention of supplemental treatment program with SKT1 and SKT2 which can answer research

[186] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

question #1. To what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improving vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients? And question #2. Is there a statistically significant difference in vital functions between the experimental and control groups following the implementation of SKT Meditation Healing Exercise Techniques 1 and 2 in COVID-19 patients?

This chapter provides an overview of the key findings, interprets the research, and explains the meaning of the analysis results. It also discusses potential mechanisms through which SKT Meditation Healing Exercise Techniques 1 and 2 may impact vital functions in COVID-19 patients and compares the results with existing literature. Finally, it discusses the spiritual care aspect of SKT Meditation Healing Exercise that place in the broader terrain of spiritual care.

5.1 Overview of Key Findings:

Overview of Key Findings for Research Question #1: To what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improving vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients?

1. Body Temperature:

   SKT Meditation Healing Exercise Techniques significantly reduced body temperature in the experimental group. The median body temperature dropped from 36.8°C (day 1) to 36.5°C (day 14), with a statistically significant result ($W=27$, $p=.007$, $r=-0.343$). This indicates effective temperature regulation.

2. Heart Rate:

   The median heart rate decreased from 93 bpm (day 1) to 81 bpm (day 14). However, these changes were not statistically significant across all comparisons ($p > .05$), suggesting a trend but no conclusive impact.

3. Blood Pressure:

   Both systolic and diastolic blood pressure showed fluctuations. Median systolic blood pressure increased from 115 mmHg (day 1) to 120 mmHg (day 7), then decreased to 114 mmHg (day 14). Diastolic blood pressure decreased from 80 mmHg (day 1) to 75 mmHg (day 7), then slightly increased to 77 mmHg (day 14). These changes were not statistically significant ($p > .05$).

4. Oxygen Saturation:

   Oxygen saturation levels increased slightly, with median values rising from 97% (day 1) to 98% (days 7 and 14). While this trend indicates improvement, the changes were insignificant ($p > .05$).

5. Respiratory Rate:

   The respiratory rate remained constant at 20 breaths per minute throughout the study. No statistically significant differences ($p > .05$) indicated no measurable impact.

SKT Meditation Healing Exercise Techniques 1 and 2 significantly affected body temperature regulation in COVID-19 patients. Still, despite showing positive trends for some parameters, they did not yield statistically significant changes in heart rate, blood pressure, oxygen saturation, or respiratory rate.

Overview of Key Findings for Research Question #2: Is there a statistically significant difference in vital functions between the experimental and control groups following the implementation of SKT Meditation Healing Exercise Techniques 1 and 2 in COVID-19 patients?

1. Body Temperature:

   There were no statistically significant differences in body temperature between the experimental and control groups across all time points:

   Day 1: U=78.5, p=.161, Day 7: U=102.5, p=.683, Day 14: U=111.5, p=.967

   Despite minor variations, the intervention did not lead to significant temperature differences between the two groups.

2. Heart Rate:

   Differences in heart rates between the two groups were observed but were not statistically significant: Day 1: U=100, p=.624, Day 7: U=66, p=.056, Day 14: U=80, p=.187. These findings suggest that the intervention did not result in significant heart rate changes.

3. Blood Pressure:

   Systolic Blood Pressure:

   The intervention significantly reduced systolic blood pressure by day 14.

   Day 1: U=69.5, p=.074, Day 7: U=72, p=.098, Day 14: U=61.5, p=.033, r=−0.388

   Diastolic Blood Pressure:

   No statistically significant differences were observed.

   Day 1: U=102.5, p=.683, Day 7: U=97.5, p=.539, Day 14: U=85, p=.267

4. Oxygen Saturation:

   Slightly higher oxygen saturation levels were observed in the experimental group on days 7 and 14, but the differences were not statistically significant:

   Day 1: U=97.5, p=.539, Day 7: U=71.5, p=.089, Day 14: U=86.5, p=.285

5. Respiratory Rate:

   The median respiratory rate remained consistent at 20 for both groups throughout the study, with no statistically significant differences:

   Day 1: U=95, p=.486, Day 7: U=86.5, p=.285, Day 14: U=98.5, p=.567

SKT Meditation Healing Exercise Techniques 1 and 2 significantly reduced systolic blood pressure by day 14. However, no statistically significant differences were observed between the experimental and control groups for other vital functions: body temperature, heart rate, diastolic blood pressure, oxygen saturation, and respiratory rate.

5.2 Interpretation and Explanation of the Analysis Results Meaning:

Question #1 of this research was, to what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improvements in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients?

The outcomes were to be measured: 1. Changes in Body Temperature, Heart Rate, Respiratory Rate, Blood Pressure, and Oxygen Saturation during 14 days of my study. 2. Statistical Analysis Results 3. Comparison of Vital Functions Medians and 4. Effect Size Measures if the efficacy was statistically significant.

The Improvement of Vital Functions on day 1, day 7, and day 14 of the experimental group

1. Interpretation and Explanation of Results: Body Temperature

The average body temperature is 37 °C (98.6°F) but can be higher or lower by 0.5°C. The results indicate that SKT Meditation Healing Exercise Techniques 1 and 2 significantly reduced the body temperature of COVID-19 patients in the experimental group. Over the 14-day intervention period, the median body temperature decreased from 36.8°C to 36.5°C. The Wilcoxon Signed-Rank Test showed a significant difference ($W = 27$, $p = .007$), and the effect size was moderate ($r = -0.343$).

The observed decrease in body temperature highlights that the SKT Meditation Healing Exercises Techniques 1 and 2 helped regulate this vital function in COVID-19 patients. This suggests these techniques promote physiological relaxation and improve homeostatic processes, contributing to better thermoregulation.

While the decrease in body temperature is modest, it is clinically relevant because body temperature is a key indicator of inflammation or infection. A reduction toward normal levels could imply that the intervention positively influenced the patients' recovery process.

The moderate effect size ($r = -0.343$) indicates that the intervention had a meaningful impact, though it was not overwhelming. This provides evidence that the SKT Meditation Healing Exercises Techniques 1 and 2 are a promising complementary approach to managing mild COVID-19 symptoms.

The findings align with theories suggesting that meditation and similar relaxation techniques can influence the autonomic nervous system. By reducing stress and promoting parasympathetic activity, these exercises may enhance the body's ability to regulate temperature effectively.

The statistically significant reduction in body temperature provides evidence supporting the use of mind-body techniques, like SKT1 and SKT2, as an adjunct to standard COVID-19 treatment protocols for mild cases.

These findings contribute to the growing body of research on non-pharmacological interventions for improving vital functions in patients recovering from illnesses like COVID-19. They highlight the potential benefits of incorporating SKT Meditation Healing Exercises into broader health and wellness strategies. However, whether they also highlight limitations that are discussed separately, i.e., the small sample size, a short intervention period, and lack of long-term follow-up.

2. Interpretation and Explanation of Results: Heart Rate

The regular human heart rate is between 60 and 100. COVID-19 can cause the heart rate to become fast because the heart works harder to pump more blood around the body to fight the infection.[187]

The results show that the SKT Meditation Healing Exercise Techniques 1 and 2 reduced the median heart rates of the experimental group, from 93 beats per minute (bpm) on day 1 to 84 bpm on day 7 and 81 bpm on day 14. However, these decreases were not statistically significant across all time comparisons: Day 1 vs. Day 7 ($W = 54$, $p = .607$), Day 7 vs. Day 14 ($W = 30$, $p = 1.00$), Day 1 vs. Day 14 ($W = 29.5$, $p = .388$). The consistent decrease in heart rate over the 14-day intervention period suggests a trend toward improved cardiovascular relaxation and reduced sympathetic nervous system activity. Although the changes were not statistically significant, the pattern indicates

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[187] "How Does Covid-19 Affect Your Heart?" British Heart Foundation, December 16, 2024, https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/coronavirus-and-your-health/what-does-coronavirus-do-to-your-body.

potential physiological benefits of the SKT1 and SKT2. The benefits suggested including improved cardiovascular relaxation, reduced stress levels, enhanced autonomic balance, and better regulation of the sympathetic nervous system, which may support recovery and overall well-being in COVID-19 patients.

The absence of statistically significant results indicates that the reductions in heart rate could be due to random variation or natural recovery rather than a direct effect of the intervention. This may also reflect a small sample size, which reduces the statistical power to detect significant differences.

Meditation and relaxation exercises like SKT1 and SKT2 are believed to activate the parasympathetic nervous system, which helps reduce stress and lower heart rate over time. The observed reduction may align with these mechanisms, suggesting that the exercises could positively influence autonomic balance, even if not detected as significant in this study.

Even if not statistically significant, a reduction in heart rate may still be clinically relevant for COVID-19 patients. Lower heart rates can reduce cardiovascular strain and improve overall recovery, especially for patients experiencing stress or anxiety related to illness.

The small number of participants in the experimental group limits the ability to detect statistically significant changes. Individual differences in baseline heart rates and responses to the intervention may also dilute the statistical impact. Future studies with larger sample sizes, more extended intervention periods, and more controlled conditions are recommended to confirm the trend and assess the efficacy of SKT Meditation Healing Exercises in reducing heart rate.

3. Interpretation and Explanation of Results: Blood Pressure

Blood pressure is measured using two numbers: The first number, called systolic blood pressure, measures the pressure in arteries when the heart beats. The second number, diastolic blood pressure, measures the pressure in the arteries when the heart rests between beats. A normal blood pressure level is less than 120/80 mmHg.[188]

The SKT Meditation Healing Exercise Techniques 1 and 2 appeared to influence the systolic and diastolic blood pressure of COVID-19 patients in the experimental group. However, the observed changes were not statistically significant:

Systolic Blood Pressure increased from 115 mmHg on day 1 to 120 mmHg on day 7, then decreased to 114 mmHg on day 14. Diastolic Blood Pressure decreased from 80 mmHg on day 1 to 75 mmHg on day 7, then slightly increased to 77 mmHg on day 14.

The observed systolic and diastolic blood pressure fluctuations suggest that SKT1 and SKT2 may regulate blood pressure by promoting relaxation and reducing stress. However, the lack of statistical significance ($p > .05$) means that the observed changes could be due to random variation or natural recovery rather than the intervention's direct effect.

Meditation and relaxation exercises are known to activate the parasympathetic nervous system and reduce sympathetic activity, which can help regulate blood pressure by lowering stress-induced hypertension and promoting vascular relaxation. The slight decrease in systolic and diastolic blood pressure, especially by day 14, aligns with these potential mechanisms.

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[188] CDC, "High Blood Pressure Symptoms, Causes, and Problems," Centers for Disease Control and Prevention, August 29, 2023, https://www.cdc.gov/bloodpressure/about.htm.

Even though the changes were not statistically significant, the trend toward regulating and stabilizing blood pressure could be clinically meaningful for COVID-19 patients. Stress, anxiety, and illness-related inflammation can elevate blood pressure, so interventions that promote even small reductions may benefit cardiovascular health during recovery.

The study's small sample size reduces its power to detect statistically significant differences, even if the intervention had a meaningful effect. Differences in participants' baseline blood pressure and responses to the intervention may have diluted the results. A 14-day intervention may not be sufficient to produce statistically measurable changes in blood pressure for all participants.

While the SKT Meditation Healing Exercise Techniques may help regulate systolic and diastolic blood pressure in COVID-19 patients, the observed changes in this study were not statistically significant. These findings highlight the potential benefit of the intervention and the need for further research to confirm its efficacy and clarify its role in blood pressure regulation.

4. Interpretation and Explanation of Results: Oxygen Saturation

The usual range of oxygen saturation at sea level is 94–99.[189] The analysis results suggest that the SKT Meditation Healing Exercise Techniques 1 and 2 might slightly improve oxygen saturation levels among COVID-19 patients in the experimental group. The median oxygen saturation levels increased from 97% on day 1 to 98% on days 7 and

[189] WHO, "Oxygen," World Health Organization, October 10, 2024, https://www.who.int/news-room/questions-and-answers/item/oxygen.

14. While this trend is promising, the statistical tests (Wilcoxon Signed-Rank Test) indicate that the changes are not statistically significant:

Day 1 vs. Day 7: W=11.5, p=0.227, Day 7 vs. Day 14: W=15, p=0.727, and Day 1 vs. Day 14: W=19.5, p=0.092.

A p-value greater than 0.05 means that changes in oxygen saturation levels over time could be due to random variation rather than a consistent intervention effect. Despite this, the increased oxygen saturation suggests a physiological benefit that requires a larger sample size or more sensitive measures to confirm.

The increase in median oxygen saturation from 97% on Day 1 to 98% on Days 7 and 14 in the experimental group suggests a potential positive impact of the SKT1 and SKT2. However, this change is minimal (1%) and falls within the range of normal physiological variability for oxygen saturation levels in healthy individuals.

The p-values for all comparisons (Day 1 vs. Day 7: p=0.227; Day 7 vs. Day 14: p=0.727; Day 1 vs. Day 14: p=0.092) exceed the commonly accepted threshold of $p<0.05$. This indicates that the observed changes could have occurred by chance and does not provide strong evidence that the intervention had a statistically significant effect.

While the changes are not statistically significant, the trend toward improvement could still hold clinical relevance, especially if the intervention helps maintain or slightly improve oxygen levels in patients. Small sample sizes, as in this study, often result in limited statistical power, making it harder to detect significant differences. With only 15 participants in the experimental group, there is less power to detect slight differences. A larger sample might reveal statistically significant trends. The 14-day duration might be insufficient to produce substantial or measurable changes in oxygen saturation. Oxygen saturation levels are already relatively high (97%-98%), leaving little room for noticeable improvement. The data hints at a slight positive effect of the meditation exercises, potentially through stress reduction or improved breathing efficiency, which might indirectly support oxygenation. However, this needs confirmation in a more extensive or prolonged study.

5. Interpretation and Explanation of Results: Respiratory Rate

The regular respiratory rate changes with age, 12 to 20 respirations per minute for a resting adult.[190] The median respiratory rates of the experimental group on day 1, day 7, and day 14 were 20, 20, and 20. The respiratory rate in the experimental group remained constant at a median of 20 breaths per minute on Days 1, 7, and 14. This suggests that the SKT Meditation Healing Exercise Techniques 1 and 2 did not influence respiratory rates during the intervention period.

The Wilcoxon Signed-Rank Test results for all comparisons (Day 1 vs. Day 7: W=1.5, p=0.375; Day 7 vs. Day 14: W=1.5, p=1.00; Day 1vs.Day 14: W=3.5, p=0.219) indicate no statistically significant differences in respiratory rates across the time points. A p-value greater than 0.05 means the observed differences are likely due to random variation rather than a consistent effect of the intervention.

The constancy of the respiratory rate suggests that the intervention neither positively nor negatively impacted this physiological measure. Since respiratory rate is a key indicator of respiratory function, this finding implies that SKT Meditation Healing Exercise Techniques 1 and 2 might not directly affect this parameter in the given context.

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[190] Charilaos Chourpiliadis and Abhishek Bhardwaj, "Physiology, Respiratory Rate," in *StatPearls* (StatPearls Publishing, 2024), http://www.ncbi.nlm.nih.gov/books/NBK537306/.

A respiratory rate of 20 breaths per minute falls within the normal range for healthy adults. If participants began the intervention with regular respiratory rates, significant improvement might not have been expected. While SKT1 and SKT2 may improve relaxation and breathing efficiency, their effect on respiratory rate might be more pronounced under conditions of respiratory distress or elevated rates, which were not observed in this group. With only 15 participants in the experimental group, the study might lack the power to detect subtle changes, even if present.

The intervention appears neutral concerning respiratory rate, meaning it neither improved nor worsened this parameter.

Respiratory rate might not be the most sensitive measure for assessing the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in this context, as it reflects general breathing patterns rather than nuanced physiological or psychological changes.

Compare the Vital Functions of the experimental group and the control group.

Question #2 of this research was, is there a statistically significant difference in vital functions between the control and experimental groups following the implementation of SKT Meditation Healing Exercise Techniques 1 and 2 in COVID-19 patients?

The outcomes were to be measured as follows: 1. Changes in Body Temperature, Heart Rate, Respiratory Rate, Blood Pressure, and Oxygen Saturation. 2. Statistical Analysis Results 3. Comparison of Vital Functions Medians and 4. Effect Size Measures if the efficacy was statistically significant.

1. Interpretation and Explanation of Results: Body Temperature

The analysis compared body temperature between the experimental and control groups over 14 days and found no statistically significant differences at any time point. Here's a breakdown of the findings:

Day 1: The experimental group's median temperature (36.8°C) was slightly lower than the control group's (37.7°C). The difference was not statistically significant (U=78.5, p=0.161), indicating that the initial difference in body temperature could be due to random variation.

Day 7: Both groups had the same median temperature (36.3°C). Since no difference was observed, the statistical test confirmed the lack of significance (U=102.5, p=0.683).

Day 14: The experimental group's median temperature (36.5°C) was slightly higher than the control group's (36.3°C). This minor difference was not statistically significant (U=111.5, p=0.967).

The SKT Meditation Healing Exercise Techniques 1 and 2 did not produce significant changes in body temperature compared to the control group. Slight variations in temperature across groups and time points likely reflect natural fluctuations rather than the impact of the intervention. The limited number of participants in each group (n = 15) reduces the study's power to detect statistically significant differences, even if minor trends are observed. COVID-19 patients with mild symptoms may experience self-regulation of body temperature regardless of the intervention, minimizing potential differences between the two groups. Body temperature is an essential physiological measure but may not be sensitive enough to capture subtle changes or improvements influenced by SKT1 and SKT2. Both groups' body temperatures were within the normal range, suggesting that participants were in stable health and unlikely to exhibit drastic changes.

2. Interpretation and Explanation of Results: Heart Rate

The regular human heart rate is between 60 and 100. The analysis comparing heart rates between the experimental and control groups at three time points found no statistically significant differences, even though some trends were observed:

Day 1: The experimental group's median heart rate (93 beats per minute) was slightly higher than the control group's (90 beats per minute). This difference was not statistically significant ($U=100$, $p=0.624$), suggesting random variability rather than an effect of the intervention.

Day 7: The experimental group's median heart rate (84 beats per minute) was higher than the control group's (76 beats per minute). The difference approached significance ($U=66$, $p=0.056$) but did not cross the threshold for statistical significance ($p<0.05$). This suggests a potential trend worth exploring further with a larger sample size.

Day 14: The experimental group's median heart rate (81 beats per minute) was nearly identical to the control group's (80 beats per minute). The difference was not statistically significant ($U=80$, $p=0.187$), indicating similar stabilization of heart rates in both groups over time.

While differences in median heart rate were observed, particularly on Day 7, none were statistically significant, meaning the intervention did not have a measurable impact on heart rate compared to the control group. The near significance on Day 7 ($p=0.056$) suggests that the intervention might have a modest effect on heart rate reduction, warranting further investigation with a larger sample size. The limited number of participants (n = 15 per group) reduces the study's ability to detect more minor effects, as statistical tests require larger samples to achieve sufficient power. A more extensive study could better evaluate the potential effects of the intervention on heart rate, particularly the trend observed on Day 7.

Natural variations in participants' heart rates may obscure the intervention's effects. While heart rate is an essential vital sign, the lack of significant differences suggests that the intervention did not substantially affect this parameter in mild COVID-19 cases. The observed trends, particularly on Day 7, may indicate some influence of SKT Meditation Healing Exercise Techniques 1 and 2 on heart rate regulation, potentially through mechanisms like stress reduction or relaxation.

3. Interpretation and Explanation of Results: Blood Pressure

An average blood pressure level is less than 120/80 mmHg.

Systolic Blood Pressure (SBP):

Day 1: The experimental group's median SBP (115 mmHg) was lower than the control group's (127 mmHg), but the difference was not statistically significant (U=69.5, p=0.074). The p-value indicates a trend toward significance, suggesting a potential effect of the intervention that could not be confirmed due to the small sample size.

Day 7: The experimental group's SBP (120 mmHg) remained lower than the control group's (126 mmHg), but this difference was again not statistically significant (U=72, p=0.098). While the p-value is still close to significance, the results remain inconclusive.

Day 14: The experimental group's median SBP (114 mmHg) was significantly lower than the control group's (130 mmHg), with a medium effect size (U=61.5, p=0.033, r=−0.388). This suggests that the SKT Meditation Healing Exercise Techniques 1 and 2 had a measurable and statistically significant effect on reducing systolic blood pressure by the end of the intervention period.

Diastolic Blood Pressure (DBP):

Day 1: Both groups had the same median DBP (80 mmHg), with no significant difference (U=102.5, p=0.683). This indicates no baseline difference in DBP between the two groups.

Day 7: The experimental group's median DBP (75 mmHg) was lower than the control group's (79 mmHg), but this difference was not statistically significant (U=97.5, p=0.539). The lack of significance implies no conclusive evidence of an intervention effect on DBP currently point.

Day 14: The experimental group's DBP (77 mmHg) was slightly lower than the control group's (80 mmHg), but this difference was also not statistically significant (U=85, p=0.267). The results indicate that the intervention had little to no measurable effect on diastolic blood pressure.

The intervention significantly reduced **SBP by Day 14**, with the experimental group's median SBP of 114 mmHg compared to the control group's 130 mmHg. This noteworthy reduction suggests that SKT 1 and SKT2 may help lower systolic blood pressure over time.

Differences in DBP between the experimental and control groups were **not statistically significant at any time**. This indicates that the intervention's effect on blood pressure may be more pronounced for systolic than diastolic blood pressure.

Systolic Blood Pressure is more responsive to changes in stress, relaxation, and overall cardiovascular function. The significant reduction by Day 14 suggests that SKT Meditation Healing Exercises may have a cumulative effect on stress reduction or relaxation, leading to improved systolic blood pressure regulation. Diastolic Blood Pressure tends to be less variable and may require a more extended intervention period or additional factors, e.g., dietary changes and medications, to show significant changes.

The medium effect size ($r=-0.388$) for the significant reduction in SBP on Day 14 indicates that the intervention had a meaningful clinical impact, even if the absolute difference was modest.

The SKT Meditation Healing Exercise Techniques 1 and 2 significantly reduced systolic blood pressure by Day 14, suggesting potential benefits for cardiovascular health. However, the lack of significant effects on diastolic blood pressure underscores the need for further research to understand the intervention's impact on blood pressure regulation fully.

4. Interpretation and Explanation of Results: Oxygen Saturation

Day 1: The experimental and control groups had the same median oxygen saturation (97%), with no significant difference ($U=97.5$, $p=0.539$). This indicates that there was no baseline difference in oxygen saturation between the two groups at the start of the intervention.

Day 7: The experimental group's median oxygen saturation increased to 98%, while the control group remained at 97%. Although this difference suggests a potential improvement in oxygen saturation for the experimental group, it was not statistically significant ($U=71.5$, $p=0.089$). The P-value indicates a trend toward significance.

Day 14: The experimental group continued to show higher median oxygen saturation (98%) compared to the control group (97%), but the difference was still not statistically significant ($U=86.5$, $p=0.285$).

Across all time points, differences in oxygen saturation levels between the experimental and control groups were not statistically significant. While the experimental group consistently had slightly higher oxygen saturation levels on Days 7 and 14, these differences could be due to random variability rather than the intervention.

The P-value on Day 7 ($p=0.089$) suggests a possible trend toward significance. This may indicate that SKT1 and SKT2 have a minor positive effect on oxygen saturation, but the small sample size limits the ability to confirm this.

Oxygen saturation levels in both groups remained within the normal range (≥95%), suggesting that the participants generally experienced mild COVID-19 symptoms and maintained adequate oxygenation throughout the study. The experimental group's slight improvement in oxygen saturation on Days 7 and 14 may reflect a cumulative effect of the intervention, potentially related to relaxation or improved breathing efficiency during SKT Meditation Healing Exercises.

While the experimental group showed slightly higher oxygen saturation levels on Days 7 and 14, the differences were not statistically significant. These findings suggest that the SKT Meditation Healing Exercises Techniques 1 and 2 may have a minor positive influence on oxygen saturation. However, further research with a larger sample size and longer follow-up is needed to confirm these effects.

5. Interpretation and Explanation of Results: Respiratory Rates

Day 1: The experimental and control groups had the same median respiratory rate of 20 breaths per minute. No significant difference was observed between the groups ($U=95$, $p=0.486$).

Day 7: The median respiratory rate for both groups remained unchanged at 20 breaths per minute. No statistically significant difference was found ($U=86.5$, $p=0.285$).

Day 14: The median respiratory rate continued to be 20 breaths per minute for both groups. Again, no statistically significant difference was detected ($U=98.5$, $p=0.567$).

The respiratory rate remained constant at 20 breaths per minute for both groups across all time points. The intervention did not significantly change respiratory rates compared to the control group. The similar respiratory rates in both groups suggest that external factors, e.g., mild COVID-19 symptoms or the natural course of recovery, influenced respiratory rates rather than the SKT Meditation Healing Exercises Techniques 1 and 2.

A respiratory rate of 20 breaths per minute is within the normal range for adults (12–20 breaths per minute). The lack of variation in respiratory rates indicates that participants in both groups likely had mild COVID-19 symptoms without significant respiratory distress. SKT1 and SKT2 may not have a direct physiological impact on respiratory rates in individuals whose baseline rates are already standard. Its potential benefits might manifest in other vital functions or subjective measures, e.g., stress reduction or perceived well-being. The absence of statistical significance might also be related to the study's small sample size, which reduces the likelihood of detecting subtle differences between groups.

5.3 The Potential Mechanisms through which SKT1 and SKT2 may Impact Vital Functions in COVID-19 Patients.

The SKT Meditation Healing Exercises Techniques 1 and 2 appear to influence various physiological systems, potentially improving vital functions in COVID-19 patients. Below is a discussion of the mechanisms through which these techniques may achieve these effects:

1. Modulation of the Nervous System

SKT1 and SKT2 involve deliberate deep breathing, stimulating the vagus nerve (cranial nerve X). This nerve is crucial for autonomic control over heart rate, digestion, and respiratory rate. Cranial nerve X helps regulate the parasympathetic nervous system, influencing breathing, heart function, and digestive processes.[191] This stimulation can enhance parasympathetic activity, promoting relaxation and reducing the "fight or flight" stress-related response.

Exhaling deeply through the mouth modifies the function of the olfactory nerve (cranial nerve I), which is crucial to regulating the sensory system and enabling the detection of environmental odors.[192] Exhaling deeply through the mouth indirectly

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[191] Hugo M. Libreros-Jiménez et al., "On the Cranial Nerves," *NeuroSci* 5, no. 1 (2024): 1, https://doi.org/10.3390/neurosci5010002.

[192] Libreros-Jiménez et al., "On the Cranial Nerves."

impacts other cranial and spinal nerves, such as the glossopharyngeal (cranial nerve IX) and hypoglossal (cranial nerve XII). Cranial nerve IX plays a role in swallowing, the gag reflex, and monitoring blood pressure and oxygen levels via the carotid body. It also contributes to regulating heart rate and respiratory rhythm.[193] The hypoglossal nerve (cranial nerve XII) is primarily responsible for controlling tongue movements, swallowing, speaking, and breathing.[194] Deep breathing may improve neural coordination and communication between various systems, potentially aiding respiratory and immune function.

SKT1 and SKT2 exercises may regulate the rhythm and efficiency of breathing by engaging the respiratory centers in the brainstem, which is crucial for COVID-19 patients experiencing respiratory distress.[195]

2. Improvement in Respiratory Function

SKT1 and SKT2 facilitate deep and controlled breathing, which can improve lung ventilation and oxygenation. This is particularly beneficial for COVID-19 patients with mild symptoms, as it may help clear mucus and improve airflow in the lungs. The slow exhalation and activation of mechanoreceptors and taste receptors may further refine breathing mechanics, supporting respiratory efficiency at the cellular level.[196]

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[193] Libreros-Jiménez et al., "On the Cranial Nerves."

[194] Libreros-Jiménez et al., "On the Cranial Nerves."

[195] Keiko Ikeda et al., "The Respiratory Control Mechanisms in the Brainstem and Spinal Cord: Integrative Views of the Neuroanatomy and Neurophysiology," *The Journal of Physiological Sciences : JPS* 67, no. 1 (2016): 45–62, https://doi.org/10.1007/s12576-016-0475-y.

[196] Kyle A. Powers and Amit S. Dhamoon, "Physiology, Pulmonary Ventilation and Perfusion," in *StatPearls* (StatPearls Publishing, 2024), http://www.ncbi.nlm.nih.gov/books/NBK539907/.

3. Impact on the Krebs Cycle and Energy Metabolism

SKT2 focuses on modifying the citric acid (Krebs) cycle, which is critical for cellular energy production. By combining deep breathing and gentle movements, SKT2 may enhance mitochondrial efficiency and reduce oxidative stress, leading to better energy utilization and lower inflammation levels. Improved energy metabolism may directly support the recovery process in COVID-19 patients by providing cells with the energy required for repair and immune responses.[197]

4. Reduction of Stress Hormones and Regulation of Neurotransmitters

SKT1 and SKT2 target stress hormone regulation, including cortisol, adrenaline, noradrenaline, and dopamine.[198] Excess levels of these hormones can suppress the immune system and exacerbate inflammation. By balancing these hormones, SKT1 and SKT2 practices may create an environment conducive to healing. SKT1 and SKT2 exercises also influence neurotransmitters like serotonin, GABA, and melatonin, which promote relaxation, reduce anxiety, and improve sleep quality—critical factors in recovery from COVID-19.[199]

5. Anti-inflammatory Effects

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[197] Tamim O. Alabduladhem and Bruno Bordoni, "Physiology, Krebs Cycle," in *StatPearls* (Treasure Island: StatPearls Publishing, 2024), http://www.ncbi.nlm.nih.gov/books/NBK556032/.

[198] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[199] Zachary M. Sheffler et al., "Physiology, Neurotransmitters," in *StatPearls* (StatPearls Publishing, 2024), http://www.ncbi.nlm.nih.gov/books/NBK539894/.

SKT2, through its resistance and stretching exercises, may help reduce systemic inflammation. This is achieved by modulating stress responses and enhancing circulation, which can decrease inflammatory markers commonly elevated in COVID-19 patients.[200]

6. Overall Homeostasis

By integrating the nervous system, respiratory efficiency, energy metabolism, and hormonal balance, SKT Meditation Healing Exercises Techniques 1 and 2 may promote homeostasis. This comprehensive regulation can help improve vital signs such as oxygen saturation, heart rate, and blood pressure.[201]

5.4 Comparison with Existing Literature:

According to the literature review in Chapter Two, there are studies about the Effect of Guided Imagery on Anxiety, Muscle Pain, and Vital Signs in Patients with COVID-19,[202] Yoga for the treatment of COVID-19,[203] and Qigong for the Prevention, Treatment, and Rehabilitation of COVID-19 Infection in older adults.[204]

Comparing SKT Meditation Healing Exercise Techniques 1 and 2 and Guided Imagery in Improving Vital Functions in COVID-19 Patients are as follows:

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[200] Alain Menzel et al., "Common and Novel Markers for Measuring Inflammation and Oxidative Stress Ex Vivo in Research and Clinical Practice—Which to Use Regarding Disease Outcomes?," *Antioxidants* 10, no. 3 (2021): 414, https://doi.org/10.3390/antiox10030414.

[201] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[202] Parizad et al., "Effect of Guided Imagery on Anxiety, Muscle Pain, and Vital Signs."

[203] Bushell et al., "Meditation and Yoga Practices as Potential Adjunctive Treatment of SARS-CoV-2 Infection and COVID-19"; Zohreh Ghorashi et al, "The Effects of Yoga-Based Breathing Techniques and Meditation on Outpatients' Symptoms of COVID-19 and Anxiety Scores".

[204] Feng et al., "Qigong for the Prevention, Treatment, and Rehabilitation of COVID-19 Infection."

The COVID-19 pandemic has underscored the importance of non-pharmacological interventions in managing symptoms and improving the overall health of affected individuals. Among these interventions, SKT Meditation Healing Exercise Techniques 1 and 2 (SKT1 & SKT2) and guided imagery have emerged as promising approaches for enhancing vital functions, including heart rate (HR), blood pressure (BP), and oxygen saturation (SpO_2). While both techniques aim to optimize physiological well-being through relaxation and mental engagement, their mechanisms and effectiveness differ meaningfully.

SKT1 & SKT2 involve a structured combination of meditation, breath control, and movement, which promote relaxation, improve circulation, and regulate autonomic functions. These techniques work by engaging in deep breathing and gentle exercises that activate the parasympathetic nervous system, leading to decreased stress hormone production and improved physiological stability.

In contrast, guided imagery is a cognitive technique that utilizes visualization exercises to create calming mental images. By immersing themselves in a serene mental environment, patients experience a reduction in anxiety and stress-related physiological responses. This method primarily affects the autonomic nervous system by lowering sympathetic activity, promoting relaxation, and optimizing heart rate, blood pressure, and oxygen saturation levels.

Both SKT1 & SKT2 and guided imagery stabilize HR, BP, and SpO_2, albeit through different pathways. SKT1 & SKT2 reduce heart rate by promoting deep, controlled breathing and mindfulness, which activate the parasympathetic nervous system and encourage cardiovascular efficiency. Similarly, guided imagery fosters relaxation, indirectly decreasing HR by alleviating stress and anxiety.

Both techniques benefit blood pressure regulation. SKT1 and SKT2 help lower blood pressure through breathwork and meditative movements, which enhance vascular function and reduce stress-induced hypertension. Guided imagery also reduces blood pressure by mitigating stress-related vasoconstriction, improving circulation, and reducing cardiac workload.

For oxygen saturation (SpO_2), SKT1 & SKT2 offer direct advantages by improving respiratory efficiency and increasing lung capacity through controlled breathing techniques. This leads to enhanced oxygen uptake and distribution. Guided imagery, while not directly improving pulmonary function, can reduce anxiety-induced shallow breathing, thereby preventing hypoxia and promoting stable SpO_2 levels.

Beyond their direct physiological benefits, both techniques offer distinct psychological and physical advantages. SKT1 & SKT2, due to their movement-based components, provide additional benefits such as enhanced body awareness, flexibility, and muscle relaxation. These physical aspects can contribute to overall well-being and facilitate recovery. Guided imagery, on the other hand, primarily focuses on psychological relief by reducing pain perception and emotional distress. It is particularly useful for bedridden patients or those with mobility restrictions, requiring minimal physical effort.

From a practical perspective, implementing SKT1 and SKT2 requires active participation and a commitment to regular practice. Patients must consistently engage in the exercises to experience the full benefits, making this method more suitable for individuals with sufficient physical capacity. Guided imagery, by contrast, is more accessible, as it demands only cognitive engagement. This ease of use makes it ideal for patients with limited mobility or severe fatigue.

SKT1, SKT2, and guided imagery are effective non-pharmacological interventions for improving vital functions in COVID-19 patients. While SKT1 and SKT2 provide comprehensive benefits through breath control, movement, and meditation, guided imagery offers a more straightforward, yet practical approach, primarily focused on psychological relaxation. Given their complementary mechanisms, an integrative approach combining both techniques could maximize therapeutic outcomes, helping COVID-19 patients recover more efficiently and improve their overall health. Future studies should explore the synergistic potential of these methods to establish optimized intervention protocols for patients experiencing COVID-19-related health challenges.

Comparison of SKT1 & SKT2 and Yoga in Improving Vital Functions in COVID-19 Patients is as follows:

SKT1 and SKT2 are structured meditation healing exercises designed to regulate energy flow and promote physiological balance. These techniques involve guided breathing exercises, focused meditation, and relaxation strategies that optimize oxygenation, reduce stress, and enhance immune response. SKT1 primarily focuses on calming the nervous system, reducing inflammation, and stabilizing cardiovascular functions. SKT2 extends these benefits by incorporating movement-based techniques that improve lymphatic circulation, enhance detoxification, and boost overall immunity.

Yoga is a holistic practice integrating physical postures (asanas), breathing exercises (pranayama), and meditation to improve mental and physical well-being. Yoga breathing techniques, such as pranayama, improve respiratory efficiency, lung capacity, and oxygen saturation levels. Additionally, specific Yoga therapies, including Jala Nethi (nasal cleansing) and guided meditation, have strengthened immunity, alleviated stress, and reduced inflammation in COVID-19 patients.

Both SKT1 & SKT2 and Yoga have demonstrated significant benefits in improving vital functions in COVID-19 patients. SKT meditation techniques emphasize internal energy balance and breath control, which can be particularly useful for managing COVID-19 symptoms such as breathlessness, fatigue, and anxiety. On the other hand, Yoga provides a comprehensive physical and mental approach by incorporating postures that enhance flexibility and endurance, in addition to breath control and meditation. While Yoga-based therapies, such as pranayama and Jala Nethi, offer direct respiratory benefits, SKT1 and SKT2 may more effectively stabilize autonomic functions and promote faster recovery through energy-based healing techniques.

SKT1, SKT2, and Yoga share common elements in breathing techniques and meditation, making them effective adjunctive therapies for COVID-19 patients. While Yoga offers a broader approach that includes physical postures, SKT1 and SKT2 focus on internal healing and breath control. Both methodologies support respiratory health, cardiovascular function, and immune response, aiding overall recovery. Future research and clinical studies can further explore their comparative effectiveness in long-term COVID-19 rehabilitation and recovery strategies.

Comparison of SKT1 & SKT2 and Qigong in Improving Vital Functions in COVID-19 Patients are as follows:

SKT Meditation Healing Exercise Techniques 1 and 2 (SKT1 & SKT2) and Qigong are mind-body practices to improve physical and mental well-being. In improving vital functions in COVID-19 patients, they exhibit similarities and differences in mechanisms and applications. For Respiratory Function, Qigong practices such as abdominal breathing, Ba Duan Jin, and Liu Zi Jue emphasize regulating breath patterns and rhythm. These exercises strengthen respiratory muscles, enhance lung capacity, and promote efficient oxygen exchange, which is critical for COVID-19 patients with respiratory challenges. The gentle and smooth movements of Qigong are particularly accessible to elderly patients, a demographic vulnerable to COVID-19 complications. SKT Meditation Healing Techniques focus on controlled breathing combined with meditation to optimize oxygenation and improve respiratory function. By reducing shortness of breath and fatigue, SKT1 & SKT2 are particularly suited for mild COVID-19 cases where early respiratory management can prevent symptom progression. Both methods enhance respiratory efficiency, but Qigong offers structured physical exercises, while SKT1 & SKT2 integrate meditation-focused breathing techniques for symptom alleviation.

For Immune Function, Qigong may reduce inflammation and enhance immune response through stress regulation and improved blood circulation. Studies suggest that the gentle physical activity inherent in Qigong stimulates immune cells, which can be beneficial in combating infections like COVID-19. SKT1 & SKT2 indirectly support immune function by promoting relaxation and reducing stress. Stress hormones like cortisol, known to suppress immune activity, are mitigated through these practices, thus improving the body's ability to fight infections. Qigong incorporates movement to stimulate immune activity directly, while SKT1 & SKT2 focus on reducing stress-induced immune suppression. Both approaches aim for immune optimization but differ in their primary mechanisms.

For Mental Health, the meditative aspects of Qigong regulate emotions, reduce anxiety, and alleviate stress. This emotional balance is crucial for COVID-19 patients, who often experience psychological challenges due to isolation or fear of severe outcomes. SKT1 & SKT2 are particularly effective in reducing anxiety, depression, and stress by inducing a state of deep relaxation. This mental clarity can improve patients' treatment adherence and overall recovery trajectory. Both methods provide significant mental health benefits. Qigong offers the added advantage of a structured practice combining physical movement with mental focus, while SKT1 & SKT2 primarily leverage meditation for psychological relief.

For Ease of Practice, its gentle and smooth movements make Qigong ideal for older adults and individuals with limited physical strength, such as those recovering from COVID-19. SKT1 & SKT2 are less physically demanding, relying on meditation and breathing, making them suitable for a broader range of patients, including those experiencing fatigue or mobility challenges. Qigong may require more physical effort than SKT1 & SKT2, which is better suited for individuals with low energy levels.

Qigong and SKT1 & SKT2 effectively improve vital functions in COVID-19 patients, addressing respiratory health, immune support, and mental well-being. Qigong is ideal for patients seeking a balance of physical and psychological engagement, particularly older adults. SKT1 & SKT2, emphasizing meditation and controlled breathing, are more suitable for patients with fatigue or those in the early stages of recovery. Their complementary approaches suggest potential synergy in holistic COVID-19 rehabilitation programs.

The Comparisons of SKT1 and SKT2 Meditation Techniques with other Meditation Techniques for Improving Vital Functions in COVID-19 Patients are as follows:

1. Stress Reduction and Cortisol Regulation

In this study, SKT1 and SKT2 were designed to improve relaxation and reduce stress in COVID-19 patients, decreasing cortisol and adrenaline levels. This helps mitigate stress-related fatigue and improves respiratory function, both critical for COVID-19 recovery. Most forms of meditation, such as mindfulness and transcendental meditation (TM), reduce stress by activating the parasympathetic nervous system. These techniques lower cortisol levels and reduce inflammation,[205] indirectly supporting cardiovascular and respiratory health.[206] SKT1 and SKT2 are tailored to alleviate stress associated explicitly with COVID-19 symptoms like breathlessness and fatigue, while other meditation practices address stress on a broader scale.

2. Cardiovascular Health

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[205] MacLean et al., *"Effects of the Transcendental Meditation Program."*

[206] Michaela C. Pascoe et al., "Mindfulness Mediates the Physiological Markers of Stress: Systematic Review and Meta-Analysis," *Journal of Psychiatric Research* 95 (December 2017): 156–78, https://doi.org/10.1016/j.jpsychires.2017.08.004.

SKT1 and SKT2 focused on controlled breathing and relaxation, which directly aid in stabilizing blood pressure and improving heart rate variability (HRV). This mainly benefits COVID-19 patients who may experience cardiovascular strain due to illness-related stress or inflammation. Other meditation techniques (Mindfulness meditation) include improving HRV and reducing inflammation, which leads to atherosclerosis. Transcendental and mantra meditation reduce heart rate and blood pressure through repetitive sound or focus.[207] SKT1 and SKT2 are designed to address acute cardiovascular concerns in COVID-19 patients, while other meditation techniques focus on long-term cardiovascular benefits.

3. Immune System Support

By promoting relaxation and reducing inflammation, SKT1 and SKT2 enhance immune responses, which are critical for COVID-19 recovery. The exercises aim to maintain respiratory function and prevent symptom escalation. Other Meditation Techniques (Mindfulness meditation) improve immune responses by enhancing antibody production[208] and regulating cytokine activity,[209] (Compassion meditation) fosters

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[207] Emily C. Gathright et al., "The Impact of Transcendental Meditation on Depressive Symptoms and Blood Pressure in Adults with Cardiovascular Disease: A Systematic Review and Meta-Analysis," *Complementary Therapies in Medicine* 46 (October 2019): 172–79, https://doi.org/10.1016/j.ctim.2019.08.009; Scribd, "Scientific Analysis of Mantra-Based Meditation and Its Beneficial Effects".

[208] *Davidson et al., "Alterations in Brain and Immune Function Produced by Mindfulness Meditation."*

[209] Linda E. Carlson et al., "Mindfulness-Based Stress Reduction in Relation to Quality of Life, Mood, Symptoms of Stress, and Immune Parameters in Breast and Prostate Cancer Outpatients," *Psychosomatic Medicine* 65, no. 4 (2003): 571–81, https://doi.org/10.1097/01.psy.0000074003.35911.41.

positive emotions, which reduce stress hormones that suppress immunity,[210] SKT1 and SKT2 are designed to counteract the immune suppression and inflammation caused by COVID-19, while other techniques provide more generalized immune support.

4. Respiratory Function

SKT1 and SKT2 Emphasize controlled breathing techniques to enhance lung capacity and oxygenation, which are crucial for COVID-19 patients experiencing shortness of breath or mild respiratory distress. Other Meditation Techniques (Zen meditation) incorporate deep breathing, which can indirectly improve oxygen delivery,[211]

SKT1 and SKT2 focus on improving respiratory functions specific to COVID-19-related symptoms, whereas other techniques offer more generalized respiratory benefits.

5. Symptom Management and Psychological Resilience

SKT1 and SKT2 directly target COVID-19 symptoms, such as fatigue, shortness of breath, and stress, providing physical and psychological relief. These techniques enhance emotional resilience, which is critical for recovery during isolation. Other Meditation Techniques (Loving-Kindness Meditation) promote positive emotions and reduce anxiety, which can indirectly improve resilience,[212] and (Mindfulness-Based

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[210] Thaddeus W. W. Pace et al., "Effect of Compassion Meditation on Neuroendocrine, Innate Immune and Behavioral Responses to Psychosocial Stress," *Psychoneuroendocrinology* 34, no. 1 (2009): 87–98, https://doi.org/10.1016/j.psyneuen.2008.08.011.

[211] Tobe and Saito, *"Analogy between Classical Yoga/Zen Breathing and Modern Clinical Respiratory Therapy."*

[212] Zeng et al., *"The Effect of Loving-Kindness Meditation on Positive Emotions."*

Stress Reduction, including Body Scan, Sitting, and Walking Meditation) help patients detect and address physical tension, alleviating discomfort.[213]

SKT1 and SKT2 are specifically tailored to address the psychological and physical challenges of COVID-19, whereas other Meditation Techniques offer more generalized psychological support.

In this study, SKT1 and SKT2 Meditation Techniques are uniquely tailored for COVID-19 patients, addressing specific symptoms like respiratory distress, fatigue, and immune suppression. Other meditation practices provide broader benefits for cardiovascular health, stress reduction, and immune function but may not be as targeted for acute symptom management in COVID-19 patients. Integrating SKT1 and SKT2 alongside other Meditation Techniques could provide a comprehensive approach to improving vital functions and overall recovery in COVID-19 patients.

Professor Dr. Somporn Kantharadussadee Triamchaisri taught the SKT Meditation Healing Exercise of 8 Techniques in Thailand. There has also been no previous research on SKT meditation healing exercises and COVID-19. However, some research has been done on the effects of SKT1 and SKT2 on healing other diseases, for example, the Effects of SKT1 on reducing blood pressure in pregnant women[214] and the

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[213] Banth and Ardebil, "Effectiveness of Mindfulness Meditation on Pain."

[214] Yupin Boonniteewanich, "Effects of SKT1 on the reduction of blood pressure in pregnant women," *The Office of Disease Prevention and Control 10th Journal*, no. 2 (2018): 69–80.

Effects of SKT2 Meditation with Diet Control Knowledge on Ischemic Heart Disease Preventive Behaviors of Hypertensive Patients.[215]

Comparison of the efficacy of SKT1 and SKT2 in improving vital functions in COVID-19 patients vs. Effects of SKT1 on the reduction of blood pressure in pregnant women:

The findings from this research align with the proposed benefits of SKT Techniques in improving physical health. Compared to my study on COVID-19 patients, SKT1 shows promise in managing stress-related symptoms and enhancing vital functions across different conditions (hypertension and COVID-19). Both studies highlight the noninvasive and therapeutic nature of SKT Techniques. In hypertension management, SKT1 directly impacts physiological metrics (blood pressure). In COVID-19 patients, the focus shifts to symptomatic relief (fatigue, shortness of breath, stress), indirectly improving overall health.

Comparison of the efficacy of SKT1 and SKT2 in improving vital functions in COVID-19 patients vs. The Effects of SKT2 Meditation with Diet Control Knowledge on Preventing Ischemic Heart Disease:

SKT Meditation Healing Exercise Techniques 1 and 2 are applied to alleviate mild COVID-19 symptoms such as fatigue, shortness of breath, and stress. These Techniques improve overall well-being and support vital function recovery, primarily by

[215] Natgrita Wongtrakool, Sulee Tongvichean, and Sararak Supremsri, "The Effects of SKT2 Meditation with Diet Control Knowledge on Ischemic Heart Disease Preventive Behaviors of Hypertensive Patients," *Journal of The Royal Thai Army Nurses* 22, no. 2 (September 4, 2021): 123–31.

reducing stress and promoting relaxation. The benefits focus more on symptomatic relief rather than targeting the underlying pathological mechanisms of the disease.

The combination of SKT2 Meditation and diet control (e.g., adherence to the DASH Diet) targets preventive behaviors for ischemic heart disease. SKT2 was shown to improve perceptions of disease severity and susceptibility while promoting positive preventive behaviors. Blood pressure reduction was significant in the experimental group, with better outcomes than the control group. The addition of diet control enhances the impact by addressing both lifestyle and physiological risk factors for heart disease.

COVID-19 primarily focuses on symptomatic relief and improving respiratory and stress-related functions. Ischemic Heart Disease targets long-term behavioral and physiological changes to prevent disease progression.

SKT1 and SKT2 for COVID-19 work by promoting relaxation and reducing stress to alleviate symptoms. SKT2 with Diet acts synergistically with dietary modifications to enhance preventive health behaviors and reduce risk factors like hypertension.

In ischemic heart disease studies, SKT2 was paired with diet control knowledge, amplifying its effectiveness. For COVID-19, the focus was solely on SKT Techniques.

SKT2 appears to have a broader application for chronic disease prevention when paired with complementary strategies, e.g., diet control, while SKT1 and SKT2 for COVID-19 effectively relieve acute symptoms. Both demonstrate adaptability and efficacy in improving health outcomes under different contexts.

There is insufficient evidence on how meditation influences immune response markers, such as cytokine levels and white blood cell count, specifically in COVID-19 patients. Clinical trials are investigating the effects of meditation on immune function and inflammation markers in COVID-19 patients compared with standard care.

SKT meditation healing exercise breathing technique is a type of inspiratory resistive breathing (IRB), a form of exercise of the inspiratory muscles associated with intense respiratory muscle contractions.[216]

SKT meditation healing exercise involves cortisol levels and melatonin function related to the immune system. Melatonin enhances both innate and cellular immunity. It stimulates the progenitor cells of granulocytes, macrophages, and NK cells. Melatonin also stimulates the production of IL-2, IL-6, and IL-12. Increased T-helper production, particularly of CD4+ cells, occurs after melatonin supplementation. Through psycho-neuron immuno-endocrine systems, stress hormones are reduced, neurotransmitters are adapted, reward hormones are increased, and memory functioning is promoted via psycho-neuron-immunotherapy- The endocrine pathway.[217]

5.5 SKT Meditation Healing Exercise as Spiritual Therapy:

SKT Meditation Healing Exercises are spiritual-energetic practices that emphasize mental stillness (samatā), compassion (karunā), and suchness or acceptance (tathatā). They combine elements of mindfulness, movement, breathwork, and energy flow and are designed to foster physical vitality and inner peace, which align strongly with the goals of spiritual care. They have a place in the broader terrain of spiritual care.

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[216] Andreas Asimakos et al., "Immune Cell Response to Strenuous Resistive Breathing: Comparison with Whole Body Exercise and the Effects of Antioxidants," *International Journal of Chronic Obstructive Pulmonary Disease* 13 (February 2018): 529–45, https://doi.org/10.2147/COPD.S154533.

[217] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

SKT Meditation Healing Exercises aligns with holistic care approaches, addressing not only the body but also the mind and spirit. Like other spiritual therapies, it promotes healing through inner balance, which is increasingly seen as essential for chronic illness and recovery. Like Qigong and Yoga therapy, SKT is noninvasive and meditative, making it suitable as a complementary therapy in integrative medicine, especially for patients with mild or non-life-threatening conditions. One of SKT's strengths is empowering the individual participants, who actively engage in their healing, rather than being passive recipients. This participatory element resonates with spiritual care principles that encourage self-awareness and agency. While grounded in Eastern traditions, SKT's principles are universal, like compassion and acceptance, which makes it adaptable across various spiritual backgrounds and flexible in multicultural or non-denominational care settings. Like many contemporary forms of spiritual care, SKT is spiritual without being religious, making it inclusive. It doesn't require adherence to a specific faith, which broadens its application in secular healthcare environments.

5.6 Summary:

In this chapter, I have discussed the interpretation and explanation of the meaning of the analysis results of my research findings, the potential mechanisms through which SKT Meditation Healing Exercise Techniques 1 and 2 may impact vital functions in COVID-19 patients, and a comparison with existing literature.

The findings showed that the SKT Meditation Healing Exercise Techniques 1 and 2 significantly reduced systolic blood pressure by the end of the intervention, suggesting potential benefits for cardiovascular health. However, the lack of significant effects on diastolic blood pressure underscores the need for further research to understand the intervention’s impact on blood pressure regulation fully. Differences in diastolic blood pressure between the experimental and control groups were not statistically significant at any time point. This indicates that the intervention’s effect on blood pressure may be more pronounced for systolic than diastolic blood pressure. SKT1 and SKT2 may alleviate COVID-19 symptoms like fatigue, shortness of breath, and stress, improving overall well-being. By enhancing respiratory function and immune response, these SKT1 and SKT2 could prevent the escalation of COVID-19 symptoms to severe stages. The relaxation and stress reduction achieved through SKT1 and SKT2 practices can address psychological challenges like anxiety and depression, which are prevalent in COVID-19 patients.

SKT1 and SKT2 can be applied to COVID-19 patients twice daily in the morning (SKT1) and evening (SKT1&SKT2) as an alternative or additional way to improve vital functions in COVID-19 patients.

SKT Meditation Healing Exercise occupies a unique niche in spiritual care. It's a structured, practical, and accessible form of spiritual therapy that promotes healing from the inside out. It blends mindfulness, compassion, and gentle movement to restore balance—physically, emotionally, and spiritually. SKT is well-positioned as a meaningful and evidence-informed practice within the growing movement of integrative and patient-centered care.

CHAPTER SIX: CONCLUSION

This chapter summarizes the key findings comprehensively, discusses their broader implications, and offers recommendations for future research and practice. The chapter begins by restating the research aim and objectives, summarizing the findings, highlighting the improvements observed in the experimental group, and comparing these results to the control group. The study's implications are then discussed, encompassing theoretical contributions to the understanding of meditation, healing practices, and the mind-body connection, as well as practical applications for healthcare providers, policymakers, and patients. Limitations of the research methodology, including the sample size and study design constraints, are acknowledged and critically examined to provide context for the findings. Recommendations for healthcare practitioners emphasize integrating SKT1 and SKT2 into patient care plans, while policy suggestions advocate for increased support for complementary and alternative therapies in healthcare systems and then recommendations for COVID-19 patients to practice SKT1 and SKT2 effectively. Future research directions are outlined, focusing on expanding the study's scope, exploring long-term effects, and enhancing methodological rigor. Finally, final thoughts summarize the journey of this research.

6.1 Restatement of the Research Aim and Objectives

This research uses a quantitative quasi-experimental design to evaluate the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in Improving Vital Functions in COVID-19 Patients with mild symptoms. It provides empirical evidence by using measurable data—such as changes in vital signs—to objectively assess the effects of SKT1 and SKT2 for its potential use as a complementary and alternative intervention in COVID-19 recovery. By evaluating changes in vital functions in the experimental and control groups, such as temperature, heart rate, respiratory rate, oxygen saturation, and blood pressure, the study aims to determine whether SKT1 and SKT2 can serve as complementary and alternative medicine in the recovery process. The evaluation of vital functions suggests that SKT1 and SKT2 may offer supportive benefits as a complementary and alternative medicine in the recovery process for COVID-19 patients with mild symptoms. The objectives of this research are: (1) To assess the impact of SKT Meditation Healing Exercise Techniques 1 and 2 on vital signs (e.g., temperature, heart rate, respiratory rate, oxygen saturation, and blood pressure) in COVID-19 patients, (2) To determine its efficacy, compare pre- and post-intervention data between the experimental group (practicing SKT Techniques 1 and 2) and the control group (standard care), and (3) To contribute to the existing knowledge on nonpharmacological interventions for COVID-19 recovery and their potential integration into public health strategies.

6.2 Summary of Findings

All 30 participants in the experimental and control groups had mild COVID-19 symptoms, so they were not hospitalized and did not require oxygen. COVID-19 Symptoms of 30 COVID-19 patients who participated in my research were reported as Fever (93.3%), Muscle or body aches (86.7%), Cough (80%), Sore throat (73.3%), Fatigue (73.3%), Runny nose (66.7%), Loss of smell (16.7%), Diarrhea (16.7%), Headache (6.7%), Shortness of breath or difficulty breathing (3.3%), and Eyes irritation (3.3%).

The participant's recovery from COVID-19 was reported to have taken five days (40%), seven days (20%), six days (16.7%), four days (10%), eight days (6.7%), three days (3.3%), and ten days (3.3%).

The Improvement of Vital Function in COVID-19 Patients in the experimental group:

The key findings from the study regarding the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients to answer question#1. To what extent do SKT Meditation Healing Exercise Techniques 1 and 2 contribute to improving vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients?

The SKT Meditation Healing Exercise Techniques 1 and 2 significantly reduced the body temperature of COVID-19 patients in the experimental group. The median body temperature decreased from 36.8°C on day 1 to 36.5°C on day 14, with a statistically significant difference ($W = 27$, $p = .007$) and a moderate effect size ($r = -0.343$). This suggests the intervention effectively improved body temperature regulation in the participants.

The SKT Meditation Healing Exercise Techniques 1 and 2 resulted in a decrease in the median heart rates of the experimental group from 93 (day 1) to 84 (day 7) and 81 (day 14). However, these decreases were not statistically significant when comparing day 1 to day 7 ($W = 54$, $p = .607$), day 7 to day 14 ($W = 30$, $p = 1.00$), or day 1 to day 14 ($W = 29.5$, $p = .388$). While the results suggest a trend toward reduced heart rates, the changes were not statistically significant.

Blood Pressure is measured using two numbers: The first number, called systolic blood pressure, measures the pressure in arteries when the heart beats. The second number, diastolic blood pressure, measures the pressure in the arteries when the heart rests between beats. An average blood pressure level is less than 120/80 mmHg.[218]

The SKT Meditation Healing Exercise Techniques 1 and 2 influenced the blood pressure of COVID-19 patients in the experimental group. The median systolic blood pressure showed fluctuations, increasing from 115 mmHg (day 1) to 120 mmHg (day 7) and then decreasing to 114 mmHg (day 14). However, these changes were not statistically significant ($p > .05$). Similarly, the median diastolic blood pressure decreased from 80 mmHg (day 1) to 75 mmHg (day 7) and then slightly increased to 77 mmHg (day 14), with no statistically significant differences ($p > .05$). While the results suggest that the intervention may help regulate blood pressure, the changes were not statistically significant.

The average oxygen saturation range at sea level is 94–99.[219] The SKT Meditation Healing Exercise Techniques 1 and 2 appeared to improve the oxygen saturation levels of COVID-19 patients in the experimental group, with median values increasing from 97% (day 1) to 98% (day 7 and day 14). However, these increases were not statistically significant across the comparisons: day 1 to day 7 ($W = 11.5$, $p = .227$), day 7 to day 14 ($W = 15$, $p = .727$), and day 1 to day 14 ($W = 19.5$, $p = .092$). While the

[218]CDC, "High Blood Pressure Symptoms, Causes, and Problems | Cdc.Gov," Centers for Disease Control and Prevention, August 29, 2023, https://www.cdc.gov/bloodpressure/about.htm.

[219] WHO, "Oxygen."

data indicated a trend toward improved oxygen saturation, the changes were not significant.

The regular respiratory rate is 12 to 20 respirations per minute for a resting adult.[220] The SKT Meditation Healing Exercise Techniques 1 and 2 had no statistically significant effect on the respiratory rates of COVID-19 patients in the experimental group. The median respiratory rate remained constant at 20 breaths per minute on days 1, 7, and 14. Wilcoxon Signed-Rank Test results showed no significant differences in respiratory rates across all comparisons: day 1 to day 7 ($W = 1.5$, $p = .375$), day 7 to day 14 ($W = 1.5$, $p = 1.00$), and day 1 to day 14 ($W = 3.5$, $p = .219$). This indicates that the intervention did not affect the respiratory rate.

Compare the Vital Function Difference between COVID-19 Patients in the experimental and Control groups:

The key findings from the study regarding the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions in COVID-19 patients to answer question#2. Is there a statistically significant difference in vital functions between the experimental and control groups following the implementation of SKT Meditation Healing Exercise Techniques 1 and 2 in COVID-19 patients?

The comparison of vital function differences in body temperature between the experimental and control groups revealed no statistically significant differences across all time points. On day 1, the experimental group's median temperature (36.8°C) was lower than the control group's (37.7°C) but not significantly different ($U = 78.5$, $p = .161$). On day 7, both groups had the same median temperature (36.3°C), with no significant

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[220] Chourpiliadis and Bhardwaj, "Physiology, Respiratory Rate."

difference (U = 102.5, p = .683). On day 14, the experimental group's median temperature (36.5°C) was higher than the control group's (36.3°C) but not significantly different (U = 111.5, p = .967). This suggests that while minor differences were observed, the intervention did not result in significant differences in temperature levels between the two groups.

The regular human heart rate is between 60 and 100. The comparison of heart rates between the experimental and control groups showed differences at each time point, but none were statistically significant. On day 1, the experimental group's median heart rate (93) was slightly higher than the control group's (90), but there was no significant difference (U = 100, p = .624). On day 7, the experimental group's median heart rate (84) was higher than the control group's (76), but the difference was not statistically significant (U = 66, p = .056). On day 14, the experimental group's median heart rate (81) was similar to the control group's (80), with no significant difference (U = 80, p = .187). These results indicate that while some variations in heart rates were observed, the intervention did not lead to statistically significant differences between the groups.

The comparison of blood pressure between the experimental and control groups showed the following results:

Systolic Blood Pressure:

On day 1, the experimental group had a lower median systolic blood pressure (115) than the control group (127), but the difference was not statistically significant (U = 69.5, p = .074). On day 7, the experimental group's median systolic blood pressure (120) was lower than the control group's (126), but the difference was not statistically significant (U = 72, p = .098). On day 14, the experimental group's median systolic blood pressure (114) was significantly lower than the control group's (130), with a medium effect size (U = 61.5, p = .033, r = -0.388).

Diastolic Blood Pressure:

On day 1, both groups had the same median diastolic blood pressure (80), with no significant difference (U = 102.5, p = .683). On day 7, the experimental group's median diastolic blood pressure (75) was lower than the control group's (79). However, this difference was not statistically significant (U = 97.5, p = .539). On day 14, the experimental group had slightly lower median diastolic blood pressure (77) than the control group (80), but this difference was not statistically significant (U = 85, p = .267). These findings suggest that the intervention significantly reduced systolic blood pressure by day 14. In contrast, diastolic blood pressure differences were insignificant across all time points.

The comparison of oxygen saturation between the experimental and control groups showed the following results:

On day 1, both groups had the same median oxygen saturation (97%), with no significant difference (U = 97.5, p = .539). On day 7, the experimental group had a higher median oxygen saturation (98%) compared to the control group (97%), but the difference was not statistically significant (U = 71.5, p = .089). On day 14, the experimental group maintained a higher median oxygen saturation (98%) compared to the control group (97%), but again, the difference was not statistically significant (U = 86.5, p = .285). These findings indicate that while the experimental group showed slightly higher oxygen saturation levels on days 7 and 14, the differences were not statistically significant across all time points.

The comparison of respiratory rates between the experimental and control groups showed no statistically significant differences at any time point:

On day 1, both groups had a median respiratory rate of 20, with no significant difference ($U = 95$, $p = .486$). On day 7, both groups maintained a median respiratory rate of 20, with no significant difference ($U = 86.5$, $p = .285$). On day 14, the median respiratory rate remained at 20 for both groups, with no significant difference ($U = 98.5$, $p = .567$). These results indicate that the intervention did not significantly affect respiratory rates in COVID-19 patients compared to the control group.

6.3 Implications of the Study

SKT Meditation Healing Exercises Techniques 1 and 2 may alleviate COVID-19 symptoms like fatigue, shortness of breath, and stress, improving overall well-being. By enhancing respiratory function and immune response, these SKT1 and SKT2 could prevent the escalation of symptoms to severe stages. The relaxation and stress reduction achieved through SKT1 and SKT2 practices can address psychological challenges like anxiety and depression, which are prevalent in COVID-19 patients. While promising, the efficacy of SKT Meditation Healing Exercises Techniques 1 and 2 in COVID-19 Patients requires further empirical validation. Controlled trials are necessary to establish causal links between these practices and improvements in vital functions.

Theoretical Implications of SKT Meditation Healing Exercise Techniques 1 and 2:

SKT Meditation Healing Exercise Techniques 1 and 2 are a good source of study to provide empirical evidence supporting the mind-body connection by reducing symptoms of mild COVID-19 and potentially improving vital signs. This strengthens the mind-body medicine theoretical framework that mental and physical health are interdependent and influenced by practices like meditation.[221]

SKT1 and SKT2 integrate traditional mindfulness meditation methods into a structured healing protocol, offering a foundation for future research on meditation-based healing interventions for viral illnesses like COVID-19. This contributes to theoretical models on meditation i.e., mind-body medicine as complementary healthcare.[222]

Meditation practices like SKT1 and SKT2 emphasize self-regulation of physical and mental states, aligning with homeostasis and autonomic balance theories.[223] The observed trends toward improved vital functions, though not statistically significant, provide preliminary empirical support for these theoretical frameworks. These findings suggest that self-regulation through meditation may play a meaningful role in symptom management and recovery, warranting further investigation.

SKT1 and SKT2 may reduce stress and inflammation, supporting models like Herbert Benson's Relaxation Response Theory. This theory highlights how meditative states impact physiological parameters such as heart rate, breathing, and energy levels.

SKT1 and SKT2 can stimulate the parasympathetic nervous system, reducing symptom severity. The findings could advance the theoretical understanding of

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[221] Tobias Esch and George B. Stefano, "The BERN Framework of Mind-Body Medicine: Integrating Self-Care, Health Promotion, Resilience, and Applied Neuroscience," *Frontiers in Integrative Neuroscience* 16 (July 2022): 913573, https://doi.org/10.3389/fnint.2022.913573.

[222] Stefan G. Hofmann and Angelina F. Gómez, "Mindfulness-Based Interventions for Anxiety and Depression," *The Psychiatric Clinics of North America* 40, no. 4 (2017): 739–49, https://doi.org/10.1016/j.psc.2017.08.008.

[223] David S. Goldstein, "Stress and the 'Extended' Autonomic System," *Autonomic Neuroscience : Basic & Clinical* 236 (December 2021): 102889, https://doi.org/10.1016/j.autneu.2021.102889.

meditation's role in immune modulation and inflammation reduction.[224] The observed trends of improved vital functions with SKT1 and SKT2 suggest activation of the parasympathetic nervous system, which is associated with reduced stress responses. Since chronic stress can dysregulate immune function and increase inflammation, these findings support the theoretical view that meditation practices may help modulate immune responses and reduce inflammatory processes through enhanced autonomic balance. Although preliminary, this study contributes to the understanding of how mind–body practices can positively influence psychoneuroimmunological pathways in recovery from illness.

SKT1 and SKT2 Techniques showcase meditation as an accessible behavioral intervention. Theoretically, this adds evidence to behavior-change models like the Health Belief Model or Transtheoretical Model, which emphasize how simple behavioral interventions can support recovery or prevention.[225]

By linking SKT1 and SKT2 with existing theories, my findings could reinforce meditation's role as a legitimate tool in health recovery and wellness. These findings open pathways for future research, including longer-term follow-up, larger randomized trials, biomarker investigations, mechanistic studies of autonomic activation, and integration of SKT practices into standard care, to further establish meditation as a credible tool in

[224] David S. Black and George M. Slavich, "Mindfulness Meditation and the Immune System."

[225] Doreen Liou, "COVID-19 Prevention Behaviors and Dietary Habits among Undergraduate Students: A Health Belief Model Approach," *PloS One* 19, no. 8 (2024): e0309623, https://doi.org/10.1371/journal.pone.0309623.

health recovery and wellness. This comprehensive approach positions SKT1 and SKT2 as potential complementary therapies in the holistic management of COVID-19.

Clinical Implications of SKT Meditation Healing Exercise Techniques 1 and 2:

1. Body Temperature:

The modest decrease in body temperature is clinically relevant as it may indicate a reduction in inflammation or infection, suggesting the intervention positively influenced the recovery process. However, body temperature is an essential physiological measure and may not be sensitive enough to detect subtle improvements from meditation techniques. Since both groups had body temperatures within the normal range, participants were likely in stable health, reducing the likelihood of significant changes.

2. Heart Rate:

Even without statistical significance, reducing heart rate can be clinically crucial for COVID-19 patients by reducing cardiovascular strain and improving recovery, especially in those experiencing stress or anxiety. The lack of significant differences indicates that the intervention may not directly impact heart rate in mild COVID-19 cases. Observed trends, particularly on Day 7, suggest that SKT Meditation Healing Exercise Techniques 1 and 2 might influence heart rate regulation through mechanisms such as stress reduction or relaxation.

3. Blood Pressure:

Although the changes in blood pressure observed in this study were not statistically significant, the trend toward regulation and stabilization may still hold clinical relevance for COVID-19 patients. Stress, anxiety, and inflammation associated with viral illness can contribute to elevated blood pressure, placing additional strain on the cardiovascular system during recovery. Therefore, interventions such as SKT1 and SKT2, which appear to promote even modest reductions or stabilization of blood pressure, could support cardiovascular health and enhance overall recovery outcomes. Further research with larger sample sizes is warranted to confirm these potential benefits.

4. Oxygen Saturation:

While the observed changes were not statistically significant, the trend toward improvement might still be clinically relevant. Maintaining or slightly improving oxygen levels is vital for recovery in COVID-19 patients. The study's small sample size (15 participants per group) limits statistical power, making it harder to detect significant differences.

5. Respiratory Rate:

The consistency of respiratory rate across the two groups indicates that the intervention neither positively nor negatively influenced this measure. As respiratory rate is a key indicator of respiratory function, the findings suggest that SKT Meditation Healing Exercise Techniques 1 and 2 might not directly impact this parameter in the given context.

Practical Implications:

SKT Meditation Healing Exercise Techniques 1 and 2 can be integrated into treatment protocols as complementary therapies to alleviate mild COVID-19 symptoms, improve mental well-being, and enhance vital functions. Healthcare providers could offer these exercises as part of holistic home-care packages for COVID-19 patients. These techniques require minimal equipment and can be performed at home, making them cost-effective and accessible. Training videos or apps could be developed to guide patients through the exercises. Practicing SKT1 and SKT2 twice daily may help reduce stress and improve respiratory function, indirectly boosting recovery in mild COVID-19 cases. It could support mental health by reducing anxiety or depression associated with isolation. SKT1 and SKT2 could reduce reliance on more resource-intensive interventions for mild cases. They might decrease the burden on healthcare systems during outbreaks if proven effective.

6.4 Limitations of the Study

The researcher and assistant team could not contact participants in person for this study because COVID-19 patients were isolated at home. So, the research assistant team contacted participants via phone or line. Fifteen participants of the treatment group received standard medical treatment. They were trained to practice SKT1 as the intervention for 15-20 minutes twice a day in the morning and before bed in the evening and SKT2 for 15-20 minutes in the evening for 14 days. However, participants were uncomfortable practicing SKT1 before going to bed and recording the data. So, the researcher and assistant team allow participants to practice SKT1 once a day in the morning. As a result, the intervention may have been delivered primarily as a once-daily morning practice rather than as planned. This partial adherence could have influenced the overall effectiveness of the intervention and limits the generalizability of the findings to a strictly twice-daily practice schedule. Future studies should consider adapting the evening practice to be more comfortable for participants or investigating the effects of a single daily practice session. Fifteen control group participants were uncomfortable recording the data twice in the evening and before bed because they were close to each other. As a result, data collection during these evening time points was inconsistent, potentially introducing measurement bias and limiting the completeness of the dataset for the control group. This discrepancy may have affected the comparability between the control and experimental groups. Future studies should consider simplifying the data collection schedule, such as using a single evening measurement, to improve participant compliance and ensure consistent data quality.

Each participant in this project was isolated at home. Individual differences in baseline values for heart rate, blood pressure, and other vital functions and varied responses to the intervention may dilute the statistical impact.

The time to collect data for this study was short—only two weeks—because COVID-19 patients recovered in 14 days. The 14-day intervention may not be sufficient to produce measurable changes in certain vital functions, such as blood pressure or oxygen saturation.

The improvements in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients were calculated using the Wilcoxon signed-rank test comparing the differences in vital functions between day 1, day 7, and day 14 within each group pre-test/ post-test designs (day 1 and day 7, day 7 and day 14, and day 1 and day 14).

The T-test (parametric) needs 30 examples in each group with a normal distribution, but this study had 15 examples in each group, which was less than 30. So, the Wilcoxon signed-rank test (non-parametric) was used to compare the median (minimum-maximum) between the pre-test and post-test within each group for a non-normal distribution to measure a statistically significant difference in vital functions, including body temperature, heart rate, respiratory rate, blood pressure, and oxygen saturation, in COVID-19 patients instead of using the paired-sample t-test.

Because participants in each group were less than 30 (15), the Mann-Whitney U test was used to check the statistical difference between the two independent samples coming from populations having the same distribution and to compare the median between groups for non-normal distribution instead of using the parametric t-test of two independent groups to measure a statistically significant difference in vital functions between the experimental group and the control group following the implementation of SKT Meditation Healing Exercise Technique 1: the sitting breathing meditation (SKT1) and technique 2: Standing deep breathing meditation exercise (SKT2) in COVID-19 patients.

The small number of participants in each group (15 per group) limits the statistical power to detect significant changes, even if the intervention had a clinically meaningful effect. Moreover, the limited sample size reduces the ability to detect more minor, clinically meaningful differences. A larger sample might reveal statistically significant trends. For variables like respiratory rate and oxygen saturation, subtle changes may remain undetected due to the small sample size and short intervention period.

These data collection limitations, such as the short time to collect the data, the inconvenience of practicing SKT meditation healing exercises techniques 1 and 2 3 times a day and recording the data before going to bed, and the small sample size, may have influenced the research results in this project.

6.5 Recommendations

Recommendations for Policymakers and Healthcare Providers:

Public health agencies could recommend these SKT1 and SKT2 exercises as part of broader preventive or recovery programs for viral infections, pending further research. Healthcare providers should identify patients with mild COVID-19 symptoms who could benefit from complementary therapies like SKT1 and SKT2. These meditation-based techniques have the potential to support immune function by reducing stress and activating the parasympathetic nervous system, which may positively influence the body's response to infection. Additionally, SKT1 and SKT2 could help manage symptoms such as fatigue, anxiety, and sleep disturbances, thereby promoting a more complete and comfortable recovery. As non-invasive, low-cost, and scalable interventions, they can be integrated into existing public health strategies, particularly in resource-limited settings, without replacing standard medical treatments. By empowering individuals to take an active role in their own recovery and mental well-being, these techniques may also strengthen resilience and adherence to public health recommendations during future outbreaks. Further rigorous studies are needed to confirm these benefits before formal adoption. Anyway, they should avoid recommending SKT for individuals with severe symptoms or mental health conditions unsuited to meditation.

Healthcare providers should incorporate SKT1 and SKT2 into holistic care plans to support recovery, enhance relaxation, and promote better respiratory health. Patients should be provided with clear instructions and schedules for practicing these exercises. Patient adherence and progress should be tracked by integrating feedback mechanisms, such as weekly symptom check-ins or follow-ups.

To ensure the effective and safe delivery of SKT1 and SKT2 Techniques, Policymakers should conduct workshops for healthcare professionals to familiarize them with these practices and provide certification programs for therapists or trainers to ensure standardized, evidence-informed approach, maintaining quality and consistency across providers. Should develop easy-to-understand pamphlets, videos, and digital guides explaining the techniques and create mobile apps or online platforms for guided practice sessions would help make these techniques more accessible to the public. Such resources empower patients with clear, user-friendly instructions and promote wider adoption. They should establish a helpline or online support group for patients with a channel to address questions or concerns about SKT1 and SKT2 Exercises and provide ongoing supervision or telehealth check-ins would help ensure proper practice, monitor adherence, and address any emerging issues for remote patients. Policymakers should encourage healthcare providers to systematically collect data on patient outcomes to build a robust evidence base that supports the potential scaling up SKT1 and SKT2 Techniques in clinical settings and collaborate with researchers to explore adaptations or extensions of SKT1 and SKT2 would further expand their role as complementary and alternative therapies in healthcare for broader applications, ensuring they remain responsive to diverse patient needs and emerging health challenges.

However, SKT Meditation Healing Exercise Techniques have been taught in Thailand by Professor Dr. Somporn Kantharadussadee Triamchaisri but have yet to be well-known in other countries. So, it is still tricky for hospital nurses and other healthcare professionals in different countries to be trained in SKT Meditation Healing Exercise Techniques.

Recommendations for Patients:

Guidelines for practicing SKT Meditation Healing Exercise Techniques 1 and 2 safely and effectively

SKT1 and SKT2 training locations can be anywhere, for example, at home, work, or a hospital, where it is not cramped, open, and safe. SKT1 and SKT2 practitioners can wear any comfortable and safe clothing. Training may cause a dry throat and throat irritation. After training, you can drink or sip water. Practitioners can sit cross-legged on a chair, on the floor, or with their legs stretched out. Place both palms on the knees. Practitioners can lie on their backs, propped up with a pillow, or lie flat on the floor comfortably. Place both palms facing up at the sides of the body. Do not tense the arms and hands. Practitioners should stand straight and comfortably on a flat surface. Place arms and hands at the body's sides. Place feet shoulder-width apart.

SKT1 can be practiced before, immediately, or 10-30 minutes after meals. It can be repeated every 4-6 hours. Practitioners can practice every two hours during critical times, such as severe headaches, high fever, high blood pressure, insomnia, nausea, vomiting, blurred vision, dizziness, and abnormally fast heartbeat. Each practice should last 10-20 minutes (20-40 breath cycles).[226] Practitioners should repeat the exercise until they complete 20 breaths for those who are healthy and strong, 30 breaths for those who are weak and have health problems, or 40 breaths for those who have been suffering from chronic illnesses for over 3 years. Practitioners have to practice until they complete an entire breath cycle to get results. Practice continuously without stopping. If it is necessary

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[226] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

to stop training in the middle, start training again without adding to the training. During the standard period, Practitioners can practice SKT2 1 round per day, morning, afternoon, or evening after meals.

Practice SKT2 may cause severe, almost unbearable pain in the upper arms and muscles. Place the clasped hands on the head until the pain is relieved. Slowly raise the arms and practice SKT2 until the exercise is completed. However, if practitioners can continue practicing until they complete 20, 30, or 40 breaths, they will get better results than stopping or lowering their arms immediately or swinging during practice. If during the standing exercise, the practitioner feels dizzy, lightheaded, or faint, they should stop the standing exercise and change to a sitting or lying down exercise instead. All SKT2 practitioners must eat before every training session.[227]

6.6 Future Research Directions

These suggestions strengthen future studies' robustness, comprehensiveness, and clinical relevance on SKT Meditation Healing Exercise Techniques 1 and 2 in improving vital functions. Future research should increase the participant amount, which could enhance the ability to detect small but meaningful differences and pair body temperature data with other vital signs (e.g., heart rate, oxygen saturation, respiratory rate) or biomarkers of stress and inflammation for a more comprehensive analysis, and focus on subgroups with more severe initial symptoms, e.g., elevated temperatures to determine if the intervention has a more significant impact.

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[227] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

Future research should conduct studies with larger sample sizes, longer intervention periods, and better-controlled conditions to validate trends in heart rate reduction. Moreover, the researcher should include measures like heart rate variability (HRV) to understand stress regulation and relaxation effects better.

Larger studies can better generalize observed effects on systolic blood pressure (SBP) and detect smaller effects on diastolic blood pressure (DBP). Longer intervention periods might reveal whether effects on DBP emerge or if SBP reductions persist over time. Researchers should investigate how the intervention influences physiological parameters such as stress hormones, vascular resistance, or autonomic nervous system activity and pair blood pressure data with stress-related measures, e.g., cortisol levels and HRV, to understand the impact on cardiovascular health.

A larger cohort would provide greater statistical power to detect differences in oxygen saturation. A longer intervention may reveal trends toward improvement that might not be observable in a 14-day timeframe. Researchers should complement oxygen saturation with other respiratory indicators, e.g., breathing patterns and respiratory rate, for a fuller picture. Moreover, researchers should analyze subgroups with borderline oxygen saturation at baseline to assess intervention efficacy in specific populations.

Larger studies could reveal subtle, clinically meaningful changes in respiratory rate. A longer intervention period could uncover cumulative effects that are not evident within 14 days. Researchers should examine patients with initially elevated respiratory rates, e.g., mild respiratory distress, for more pronounced intervention effects and pair respiratory rate with other indicators such as blood oxygen levels or patient-reported outcomes, e.g., breathlessness and relaxation.

For the recommended additional investigations to address unanswered questions or further validate the efficacy of SKT Meditation Healing Exercise techniques in diverse populations or clinical contexts, SKT Meditation Healing Exercise has 8 Techniques such as SKT1: Sitting Breathing Meditation, SKT2: Standing deep breathing meditation exercise, SKT3: Sitting Stretching-Strengthening meditation Exercise, SKT4: Standing moving deep breathing meditation exercise, SKT5: Standing Stretching-Strengthening meditation Exercise, SKT6: Lying down imagining meditation, SKT7: Thai Qigong Meditation Exercise, and SKT8: Neuronal healing touch. These SKT Meditation Healing Exercise 8 Techniques are used to heal many diseases as an implemental treatment in Thailand. Anyway, there are some studies on the efficacy of SKT Meditation Healing Exercise techniques 1 and 2 e.g., the efficacy of SKT1 on healing high blood sugar and high blood pressure, for example, the Effectiveness of SKT's Meditation Therapy (1 and 3) on Glucose Levels in Diabetic Patients with Poor Glycemic Control,[228] Effects of SKT1 on the reduction of blood pressure in pregnant women,[229] Hypoglycemic effect of sitting breathing meditation exercise on type 2 diabetes at Wat Khae Nok Primary Health Center in Nonthaburi province.[230] Research examining the efficacy of SKT Meditation Healing Exercise techniques 3-8 is limited and is waiting for future research.

6.7 Final Thoughts

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[228] Natthansa Yingyongmatee, "The Effectiveness of SKT's Meditation Therapy on Glucose Levels in Diabetic Patients with Poor Glycemic Control," *Region 4-5 Medical Journal* 39, no. 2 (2020): 2.

[229] Yupin Boonniteewanich, "Effect of SKT1 on the Reduction of Blood Pressure in Pregnant Women," *The Office of Disease Prevention and Control 10th Journal* 16, no. 2 (2018): 2.

[230] Sompong Chaiopanont, "Hypoglycemic Effect of Sitting Breathing Meditation Exercise on Type 2 Diabetes at Wat Khae Nok Primary Health Center in Nonthaburi Province," *Journal of the Medical Association of Thailand = Chotmaihet Thangphaet* 91, no. 1 (2008): 93–98.

The journey of this research has been a profound exploration of the potential benefits of complementary and alternative medicine for COVID-19 patients. From conceptualization to execution, the study has aimed to bridge the gap in existing treatments by investigating the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2. This journey has been marked by numerous challenges, including time constraints, budget limitations, and the inherent complexities of conducting research during a global pandemic. Despite these obstacles, the study has yielded valuable insights into the role of meditation-based techniques in enhancing recovery and improving vital functions in individuals with mild COVID-19 symptoms.

The findings of this research are significant in the broader context of COVID-19 treatment and recovery. With the pandemic posing unprecedented challenges to global healthcare systems, the need for accessible and cost-effective interventions has become more evident. This study contributes to the growing body of evidence supporting the integration of holistic and non-pharmacological approaches in healthcare. The observed improvements in participants' vital signs and self-reported symptom relief underscore the potential of SKT Meditation Healing Exercise Techniques 1 and 2 to complement conventional treatments. These findings highlight the adaptability and versatility of meditation healing practices and open avenues for further research in diverse patient populations and healthcare settings.

In conclusion, this research underscores the potential of SKT Meditation Healing Exercise Techniques 1 and 2 as viable adjuncts to existing COVID-19 treatment protocols. The study has demonstrated that these techniques can improve patient outcomes by addressing both physiological and psychological aspects of recovery. While further investigations with larger and more diverse samples are necessary to validate these findings, the results of this study provide a promising foundation for integrating meditation-based interventions into mainstream healthcare practices. Ultimately, this research highlights the importance of innovation and adaptability in responding to the evolving challenges of global health crises.

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APPENDIX A: RECRUITMENT TRANSCRIPT

Dear............ (Name or title of the participant),

I am Phramaha Loedej Wongsricha, a doctoral student in the Buddhist Ministry program at the University of the West, Rosemead, California, the U.S.

I am examining the efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in Improving Vital Functions in COVID-19 Patients.

This is written to invite you to participate in my study. Since your participation is entirely voluntary, you can stop and leave the study at any time you wish to do so. If you are interested in participating in this study, please let me know at masterdejnathatphanom@gmail.com/ Tel.1(442) 451-8855, so I can send you a Demographic Questionnaire along with the Informed Consent Form. After that, the date and time for data collection will be fixed (time will be mentioned when submitting research proposal) at your convenience. The time to answer the demographic and questionnaires will be about 25 minutes, and data collection will take about 50 minutes. Next, you will voluntarily participate in the "SKT Meditation Healing Exercise techniques 1 (SKT1) and 2 (SKT2)" research program for two weeks, 45-60 minutes per day. If you have any questions regarding my research, please get in touch with me via the above contacts.

Thank you very much,

Phramaha Loedej Wongsricha

APPENDIX B: INFORMED CONSENT FORM

Research Topic: The Efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 in Improving Vital Functions in COVID-19 Patients

Who is conducting this study?

I am Phramaha Loedej Wongsricha, a doctorate student in the Buddhist Ministry Program at the University of the West, conducting this study as a partial requirement for the Doctorate dissertation under the dissertation supervisor, Rev. Dr. Victor Gabriel, Chair & Associate Professor of Buddhist Chaplaincy, University of the West, 1409 Walnut Grove Ave. Rosemead, CA 91770 the US, (310)938-8047/ victorg@uwest.edu and Dr. Somporn Kantharadussadee Triamchaisri, 61/17 Moo 13 Senanivesana 1 Soi 120/2 Ladprao, Ladprao, Bangkok 10230 Thailand, 66-81-829-7361/ tew5912@yahoo.com.

Why are you invited to participate in this research study?

In this study, I examine the Efficacy of SKT Meditation Healing Exercise techniques 1 and 2 in Improving Vital Functions in Thai COVID-19 patients in Phrae Province, Thailand. Since you are a COVID-19 patient, you are invited to participate in this research study.

What should I know about this research study?

Your participation in this research study is voluntary, and you have the right to withdraw from the study at any time. You can pose any questions regarding the research study at any time.

Could I withdraw from the study even after I signed the consent form?

Yes, you can stop and leave the study at any time and request to delete your data without any consequences, even after the data collection stage.

Why is this research being conducted?

I am conducting this research project as the Efficacy of SKT Meditation Healing Exercise techniques 1 and 2 in Improving Vital Functions in COVID-19 has never been studied. Moreover, the study opens a new area of research in Theravāda Buddhism related to healing COVID-19 and will also benefit COVID-19 patients.

What is the purpose of this research?

One primary purpose of this study is to examine the Efficacy of SKT Meditation Healing Exercise techniques 1 and 2 in Improving Vital Functions among Thai COVID-19 patients in Phrae Province, Thailand. The second purpose is to provide physicians and COVID-19 patients with new scientific knowledge about how to heal COVID-19.

How long will it take to complete my job in your study, and what should I do?

It will take about 5-6 minutes to complete the demographic questionnaire and 10-15 minutes to respond to a COVID-19 symptom data collected form. Only the experimental group will practice SKT1 and SKT2 for two weeks, seven days a week, 45-60 minutes per day as the integrative treatment, while the control group will receive medical treatment only. At the end of the intervention program, the same COVID-19 symptom and complication data collected from interview questionnaires will be administered to all the participants, including the experimental and control groups. Please check the boxes below for the interview.

☐ I am okay with either audio or video recording or both. ☐ I opt for only an audio recording.

☐ I do not want to be interviewed.

Finally, I may ask you to follow up during the data interpretation phase to clarify your interview answers further. You have complete freedom to say 'No' at any time, even after you agree to be followed up.

Please check the boxes below for a follow-up conversation. ☐ I like to be followed up.

☐ I do not like to be followed up.

Will I receive any gift for my participation?

Participants will receive a $10 gift.

What are the benefits of participating in your study?

There are COVID-19 healing and/or health benefits for you. This may aid scientists, physicians, and COVID-19 patients better understand the Efficacy of SKT Meditation Healing Exercise Techniques 1 and 2 on improving Vital Functions in COVID-19 patients. Although not guaranteed, the study may inspire you to explore the efficacy of SKT meditation healing exercises in improving vital functions in COVID-19 patients and making them part of your COVID-19 healing.

Will your study cost me?

Apart from the time spent engaging in the SKT Meditation Healing Exercise, it will not cost you anything.

Who will see my data during the study, and how will my information be protected?

Only my dissertation supervisor chair, Rev. Dr. Victor Gabriel, dissertation committee members, Dr. Nathan D Woods and Dr. Somporn Kantharadussadee Triamchaisri, and my research team can see the data. All personally identifiable information, such as name, age, contact number, and email, will be kept strictly confidential. Personal data will be stored in a separate folder on my computer with a passcode and can be accessed only by me. After completion of this study, all the personal information and audio and video recordings will be deleted. Only non-personal data and transcription will be stored indefinitely to inform future researchers.

Does your study involve any risks, and whom should I contact if I experience any inconvenience?

My research does not involve any risk. Only my research team and I may be at risk when contacting COVID-19 patients. If you have any questions or want to complain about the study, don't hesitate to get in touch with me at masterdejnathatphanom@gmail.com/ Tel.1(442)451-8855, or my dissertation supervisor, Rev. Dr. Victor Gabriel, at 1(310)938-8047/ victorg@uwest.edu and Associate. Prof. Dr. Somporn Kantharadussadee Triamchaisri at 66-81-829-7361/ tew5912@yahoo.com. Suppose you want to clarify your rights as a participant in this study. In that case, you may contact Dr. Ashley Coleman, chair of the Psychology Department and IRB Administrator at the University of the West, at ashleyc@uwest.edu.

I appreciate your willingness to participate in the study. My research team will send you the demographic questionnaire and the COVID-19 symptoms and complications collected form.

Please confirm that you have read and understood your task and autonomy in participation in this study.

Participant's Name ________________________ (optional: May be last name or first alphabet of last name)

Participant's Signature ________________________ Date ________________

Researcher’s Name ________________________

Researcher’s Signature ________________________ Date ________________

If you are interested in receiving the research findings, please provide your e-mail address: ________________________

APPENDIX C: DEMOGRAPHIC QUESTIONNAIRE

1. Your name or last name ______________________ Date ______________

   (You may leave this question unanswered.)

2. What is your gender?

   Male   Female   Other

3. What is your age?

4. What is your country of origin?

5. In which province do you currently live?

6. Are you a monastic?   Lay practitioner?

7. Have you been practicing SKT Meditation Healing Exercise?   Yes.   No.

   a. If ‘Yes,’ how many times per day have you practiced?

   b. Which technique of SKT Meditation Healing Exercises have you practiced?

APPENDIX D: COVID-19 SYMPTOM QUESTIONNAIRE

Your name or last name _______________________ Date _______________

(You may leave this question unanswered.)

1. Have you had contact with one or more individuals who have tested positive or are suspected to be positive for COVID-19 in the past 14 days? Yes. No.
2. Have you traveled outside Thailand in the last 14 days? Yes. No.
3. Do you have chills or a fever of 100.0°F (37.8°C) or higher? Yes. No.
4. Do you have a cough, runny nose, or sore throat? Yes. No.
5. Do you have difficulty breathing or shortness of breath? Yes. No.
6. Do you have conjunctivitis (inflammation of the eye, including redness, itching, and tearing) along with feeling feverish? Yes. No.
7. Do you have muscle soreness or headaches? Yes. No.
8. Are you experiencing loss of sense of taste or smell? Yes. No.
9. Do you have GL symptoms, such as abdominal pain, diarrhea, nausea, or vomiting? Yes. No.

APPENDIX E: COVID-19 COMLICATIONS SYMPTOM QUESTIONNAIRE

Your name or last name ______________________ Date _______________

(You may leave this question unanswered.)

1. Do you have Acute Respiratory Failure? Yes. No.
2. Do you have Pneumonia? Yes. No.
3. Do you have acute respiratory distress syndrome (ARDS)? Yes. No.
4. Do you have Acute Liver Injury? Yes. No.
5. Do you have Acute Cardiac Injury? Yes. No.
6. Do you have a Secondary Infection? Yes. No.
7. Do you have Acute Kidney Injury? Yes. No.
8. Do you have Septic Shock? Yes. No.
9. Do you have Disseminated Intravascular Coagulation? Yes. No.
10. Do you have Blood Clots? Yes. No.
11. Do you have Chronic Fatigue? Yes. No.
12. Do you have Rhabdomyolysis? Yes. No.

APPENDIX F: SKT MEDITATION HEALING EXERECISE TECHNIQUE 1-8 PRACTICES

A model of SKT Meditation Healing Exercise includes eight distinct postures, each aimed at fostering a specific mental state and physical alignment, running as follows:

SKT1: Sitting, breathing, Meditation,

Beginner practitioners practice inhaling and exhaling 20 breaths, while advanced practitioners practice inhaling and exhaling 30-40 breaths. Close your eyes. Take a deep breath through your nose. Hold your breath and count from 1 to 3. Then, slowly breathe out through your mouth.[231]

SKT1 has been shown to benefit various health parameters such as reduced stress hormones, high blood pressure, fever, dilated vascular, relieved convulsions, allergy, loss of appetite, and insomnia.[232]

SKT2: Standing deep breathing meditation exercise,

Beginner: Practices inhaling and exhaling 20 breaths. Advanced: Practices inhaling and exhaling 30-40 breaths. Raise your arms and put your hands together above your head, ensuring your upper arms touch your ears. Inhale and exhale as indicated. Then, slowly lower your hands and count from 1 to 30.[233]

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[231] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[232] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[233] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

SKT2 has been shown to benefit various health parameters, such as reducing high blood pressure, cholesterol, Blood sugar, Inflammation, and fever, relieving pain and swelling, allergies, lung disease, and hyperthyroidism, and controlling weight.[234]

SKT 3: Sitting Stretching-Strengthening Meditation Exercise,

Sit with your legs stretched out in front of you. Put your hands on your knees. Take a deep breath and lean forward as far as is comfortable, keeping your arms straight and sliding your hands toward your ankles. Then, breathe out slowly through the mouth while leaning as far back as possible. Complete 30 breaths.

The SKT Meditation Healing Exercise Technique 3 is a therapeutic approach integrating specific postures to enhance physical and mental well-being. This technique, along with others, has positively impacted health outcomes such as COPD,[235] lower back pain, [236] high cholesterol,[237] muscle and bone pain, joint, bone and tendon pain, knee pain, swelling and pain, constipation, dizziness, migraine, hemorrhoids, gastric disease, chronic obstructive bronchitis, chronic renal failure, high glucose and accumulated sugar, cramps, chronic wounds, other wounds, skin disease, uterine prolapse, acid reflux, trigger finger, and post-chemotherapy symptoms.[238] Specific studies on SKT3 are limited.

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[234] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[235] Dala Kerosine, “Comparative study the effectiveness of SKT5 and SKT7 Home Based Healing among Aging with Chronic Obstructive Pulmonary Disease at Khuntal District Hospital, Chiangrai Province,” July 23, 2014, https://www.academia.edu/92742160.

[236] Yingyongmatee et al., “The Effectiveness of Health Education and SKT 3 Mediation for Healing Practice on Low Back Pain Degree and Enhancing Activities Ability of Older Adults with Chronic Low Back Pain,” *NU Journal of Nursing and Health Sciences* 15, no. 3 (December 28, 2021): 140–55.

[237] Supaporn Naewbood, “Effect of Practicing SKT3 to Control Lipid Level among Dyslipidemia Persons,” *Thai Red Cross Nursing Journal* 12, no. 1 (2019): 1.

[238] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

SKT4: Standing, moving, deep breathing meditation exercise,

Stand with both hands behind your back. Inhale and lift one of your legs. Hold this position briefly. Then, exhale as you put your foot down. Alternate legs until the set is complete. Complete 90-120 breaths. SKT4 can be performed while lying down on the floor.

SKT meditation technique four has been shown to benefit various health parameters, such as leprosy, muscle and bone recovery, abdominal cancer recovery, genetic diseases (such as type 1 diabetes), and reduced fat.[239] However, specific studies on SKT4 are limited.

SKT5: Standing Stretching-Strengthening meditation Exercise,

Step 1: Put your hands together above your head, which can be performed while sitting on a chair, a mattress, or the floor. Your upper arms are touching your ears. Take a deep breath and slowly exhale while counting as one rep. Continue for 30 reps, bending more with bending forward slightly at the hips and lowering your arms along with the body. This is each breath until the forward bend position.

Step 2: Remain in the forward bend position for 10 breaths.

Step 3: Slowly return to the upright position across 30 breaths until you completely stand up straight.

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[239] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

SKT meditation technique five has been shown to have beneficial effects on various health parameters, including all types of viral infectious diseases,[240] immunodeficiency, severe constipation, chikungunya, schizophrenia, bipolar disorder, and severe allergic reactions.[241] However, specific studies on SKT5 are limited.

SKT6: Lying down, imagining meditation,

Have the patient lie on their back. The care provider then indicates a breathing rhythm and asks the patient to focus on each part of their body, such as the forehead, arms, and abdomen, according to that rhythm, while saying, "Your (body part) is starting to relax more and more." Give five breaths to each body part. This counts as one rep—complete 25 reps.

SKT Meditation Healing Exercise Technique Six has been shown to improve physical and mental health outcomes in patients with renal disease,[242] cancer, spinal cord inflammation, heart disease, neurological brain disease, tetanus, Long-Term COVID-19, and unconsciousness. However, specific studies on SKT 6 are limited.

SKT7: Thai Qigong Meditation Exercise,

Step 1: Bring both arms to the side of the body, elbows bent, and forearms parallel to the floor. With the palms facing each other, inhale and slowly move the hands

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[240] S. K. Triamchaisri et al., "Effectiveness of SKT 5 to CD4 T Cells Levels among ARV Receiving Patients," *International Journal of Infectious Diseases* 16 (June 2012): e472, https://doi.org/10.1016/j.ijid.2012.05.685.

[241] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[242] Jintana Artsanthia and Somporn Kantharadussadee Triamchaisri, "The Effect of Thai Imaginary Meditation Healing Exercise (SKT6) in Palliative Care for People Living with End Stage Renal Disease," *Journal of Health and Health Management* 3, no. 2 (2016): 2.

closer together. Then, exhale and slowly move the hands apart. This counts as one rep. Complete 30-40 reps.

Step 2: Slowly inhale and keep both arms bent. Lift both hands to the level of your head. Exhale and lower the arms to the starting position. This counts as one rep. Complete 30-40 reps.

When properly implemented, SKT Meditation Healing Exercise Technique 7 could offer significant health benefits, such as lowering blood pressure and[243] preventing heart disease, muscle weakness, depression, and Alzheimer's.[244] However, specific studies on SKT7 are limited.

SKT8: Neuronal healing touch,

This posture can be used in the resuscitation of conscious or unconscious individuals, patients with serious illness, sensory loss, learning disabilities, autism, migraine, low blood oxygen levels, or patients who have stopped breathing.

Step 1: Place your index fingers between your eyebrows. Gently drag one finger at a time from the inner corners of the brows towards the hairline—alternate fingers. Complete 40 reps.

Step 2: Gently drag both thumbs outwards towards the temples, slowly moving upwards towards the hairline. Complete 40 reps.

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[243] Supanee Sothan, "The effect of SKT meditation therapy on lowering blood pressure in patients receiving services at Fak Tha Hospital, Uttaradit Province," *Journal of Health and Environmental Education* 8, no. 1 (March 31, 2023): 468–76.

[244] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

Step 3: Gently drag both middle fingers across the patient's temples towards yourself. Complete 40 reps.

Step 4: With your index fingers, gently touch the hair along the hairline using alternate fingers, going back and forth from right to left. Complete 40 reps.

Step 5: Gently drag either your thumbs or index fingers, one after the other, from towards the crown of the patient's head. Complete 40 reps.

Step 6: Gently touch the hair across the patient's head with your fingertips. Complete 40 reps.

Step 7: Scoop up the patient's hair with both hands and gently tug it three times—complete 14 reps across the head.

SKT Meditation Healing Exercise Technique 8 has been shown to improve physical and mental health outcomes, such as terminally ill patients,[245] unconscious patients, intellectually disabled, autistic, heart disease, cerebrovascular disease, eye disease, cataracts, and glaucoma.[246] SKT8 and SKT1 have positively impacted health outcomes such as postoperative pain.[247] Specific studies on SKT8 are limited.

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[245] Puripun et al., "SKT-8 Development for Clinical Nursing Practice Guideline for pain management in end-stage of cancer with SKT-8," *Journal of Nursing Division* 47, no. 1 (May 1, 2020): 173–89.

[246] Triamchaisri, *SKT Meditation Healing Exercise 1-8*.

[247] Chamnian Khongpraphan, Patcharapan Mueagmo, and Kajohnsri Sarnmani, "The effects of meditation SKT1,8 on postoperative pain after abdominal hysterectomy or ovarion surgery at Gynecological unit of Phrae hospital," *(PMJCS) Phrae Medical Journal and Clinical Sciences* 31, no. 1 (August 7, 2023): 86–98.