

# Complementary Medicine Clinical Trials: Mindfulness and COVID-19

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## Abstract

Humanity has suffered from infectious diseases throughout history and the psychological burden of prolonged stress and uncertainty. The coronavirus (SARS-CoV-2, COVID-19), is one such pandemic that produced long-term mental as well as physical sequelae. During 2020, the year of COVID, the stress and anxiety about this life-threatening virus led to a surge of health recommendations and clinical research into mindfulness meditation as a coping strategy. This short communication is an exploratory review of international clinical trials investigating mindfulness-based complementary therapies to reduce COVID induced stress-related or mental health conditions: clinical trial frequency by country as well as frequent populations investigated, specifically, healthcare and non-healthcare samples.

**Keywords:** COVID-19 and Mindfulness, COVID and mindfulness, COVID and mindfulness meditation, coronavirus and mindfulness-based stress reduction.

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## INTRODUCTION

While the biological and physical manifestations of COVID were paramount, the focus here is mental health effects. Understandably, pandemics and epidemics have a severe impact on the mental health of populations [1]. In June of 2020, the *Lancet Psychiatry*, called for mental health research action in response to COVID-19 [2]. The stress response is optimal when we adapt to a short-term threat in our environment, act and move on, allowing brain and physiology to calm down and regroup. Yet, 2020 was a year of uncertainty and death, and the toll of chronic [COVID] stress or allostatic load---accumulated wear and tear on the biopsychosocial health of all---still looms despite vaccinations for biological defense [3]. One complementary therapy suggested to reduce COVID-related stress, anxiety, fear and post-traumatic symptoms is mindfulness meditation strategies for all, be it healthcare workers or the general population [4-5]. In addition to the worry and fear associated with contracting the virus itself, mindfulness was suggested to alleviate the psychological stress of public health protocols such as social distancing, quarantine and isolation, grief, loneliness, etc.

### Mindfulness and the Present Moment

Mindfulness is the practice of paying attention to the present moment with uncritical acceptance of reality as it is, including the witnessing of one's

experience; one's thoughts, feelings and sensations without labels (good/bad) or judgment. Mindfulness fosters the self-regulation of awareness and emotion [6]. Reviews of mindfulness-based interventions show improved changes in the brain due to stress and anxiety, such as decreased amygdala activity [7]. Improved anxiety and depression, stress, cortisol and other physiological markers of stress, as well as post-traumatic scores and symptoms, have been documented [4]. During the pandemic, mindfulness-based strategies were recommended by Harvard, Yale, and the Centers for Disease Control (CDC), for a plethora of data indicate that mindfulness specifically is a protective factor for mental health during the pandemic [8-9]. International scholars presented a thesis as to mindfulness' unique approach to help people mitigate the global mental health crisis wrought by COVID [10]. What follows is a brief report of international mindfulness trials in response to the COVID pandemic.

The International Clinical Trials Registry Platform (ICTRP) affiliated with the World Health Organization and the United States National Institutes of Health (NIH) government registry of clinical trials (CT.gov) were reviewed with the following search terms: COVID, COVID-19, coronavirus (condition or disease) and mindfulness, mindfulness meditation, mindfulness intervention; COVID stress/distress, COVID anxiety, COVID PTSD and mindfulness/ mindfulness meditation/mindfulness intervention; COVID, mental

health and mindfulness/ mindfulness meditation/mindfulness intervention; COVID, depression and mindfulness/ mindfulness meditation/mindfulness intervention; COVID, trauma and mindfulness/mindfulness meditation/mindfulness intervention; COVID, mindfulness and healthcare worker/staff/ professional/personnel. The WHO's ICTRP produced 40 hits while CT.gov listed 57 trials. All status of clinical trials and research design/arms/sample size were included. Upon analysis, clinical trials not including mindfulness strategies or trials not specific to COVID-19 were excluded; trials cross-listed in both registries were reduced to one frequency per country and population for

a remaining total of 60 clinical trials. Intervention modalities were virtual or online, audio-recordings or apps for mobile download and home practice. Obviously, the limitation here was that populations needed functional access to computers or mobile devices.

The leading countries with the highest frequency of clinical trials that met the inclusion criteria were the United States and China, respectively with 12 and nine clinical trials, followed by Australia and Canada with five clinical trials each. Italy and Iran (4 each) were followed by Spain (3). Multiple countries below had lower frequencies (listed in parentheses).

**Table-1: List of Clinical Trials by Country and Frequency**

List of Clinical Trials by Country	Frequency
United States	12
China	9
Australia	5
Canada	5
Italy	4
Iran	4
Spain	3
Brazil	2
India	2
Malaysia	2
Mexico	2
Switzerland	2
Egypt, Germany, Israel, The Netherlands	1
Saudi Arabia, Singapore, Thailand, Turkey	1

Lastly, the data revealed 15 clinical trials where the subjects were healthcare workers, healthcare professionals/staff or nurses. The remaining populations were the general population ranging from university students, teenagers and the elderly, to patients. The United States totaled four trials followed by Spain with three identified clinical trials; the remaining trials by other countries resulted in a frequency of only one trial per country (Australia, Canada, China, India, Iran, Mexico, the Netherlands and Switzerland). COVID-19 has uncertain long-term physical and mental health sequelae. Clinical trials relating to the pandemic will no doubt continue as a scientific response to the coronavirus.

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