

Effectiveness of meditation on wellness management among corporate employees in India: An interventional study

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Abstract

Background and Aims: Urban corporate sector relies heavily on workplace well-being, with meditation being a potent stress reduction method that significantly enhances the quality of life (QoL) and wellness. The study aims to assess the effectiveness of meditation on wellness management among corporate employees in India.

Methods: The quasi-experimental controlled study design was employed from May to June 2021, which assessed stress, QoL, and wellness indices (satisfaction with life, well-being) with meditation practice as the intervention. The online questionnaire incorporates questions from the Depression, Anxiety, Stress Scale, World Health Organization (WHO) QoL Scale, Five-item Satisfaction with Life scale and WHO-5 Well-being Index. A nonrandom sampling technique selected 146 and 74 subjects in the intervention and control groups, respectively, among the employees of Star health- and allied insurance company. The data was analyzed using SPSS V27 (©IBM SPSS Statistics). The Wilcoxon signed rank test for the dependent groups, and Mann-Whitney *U* test for the independent groups (between subjects) was performed.

Results: Among a total of 220 subjects who enrolled in the recruitment survey, 146 subjects underwent the intervention thus providing a response rate of 66.4%. For the intervention group, the difference (within group) in mean scores between baseline and endline assessment shows a reduction in stress (0.02) and significant improvement in QoL (0.21) and wellness indices (satisfaction with life: 0.21, well-being: 0.24). The difference (between the experimental and control groups) in mean endline scores shows a decrease in stress (0.07), an increase in wellness indices (satisfaction with life: 0.12, well-being: 0.23), and a significant change in the QoL (0.17).

Conclusion: Meditation intervention in corporate wellness programs enhances the QoL, wellness, and stress management, establishing the effectiveness of health profile-raising ingenuities at the workplace.

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KEYWORDS

health promotion, heartfulness meditation, mindfulness meditation, quality of life, satisfaction with life, stress management

1 | INTRODUCTION

The health crisis of the 21st century predominantly encompasses noncommunicable diseases (NCDs), comprising stress-related conditions like coronary artery disease, diabetes, cancers, and neuropsychiatric diseases. These chronic conditions ominously contribute to suffering, augmented healthcare costs, morbidity, and mortality.¹ The relationship between NCDs and mental disorders is complex and bidirectional and in this regard, improving mental health, and well-being are pivotal for reducing the global burden of NCDs.² The World Economic Forum estimates the global cost of mental health conditions at US\$ 2.5 trillion during 2010, which is expected to increase to US\$ 6 trillion by 2030.³ The Global Burden of disease 2020 study estimates that the COVID-19 pandemic has caused a 27.6% increase in cases of major depressive disorder and a 25.6% increase in cases of anxiety disorders.⁴

As per the World Health Organization (WHO) estimates, mental health problems in India generate 2443 disability-adjusted life years per 100,000 population and the estimated economic loss is US\$ 1.03 trillion during the period 2012–2030.³ The results of the National Mental Health Survey during 2015–2016, estimates that ~150 million individuals in India suffer from one or the other mental disorders of varying severity (comprise 10.5% of the total population). The Global Burden Study 2017 reports that ~197 million individuals in India, experience mental illness comprising 14.3% of the total population. Both reports infer that the working age group between 15 and 59 years, comprises a major proportion of the subjects with mental disorders.³

A study done by Deloitte company on anxiety disorders during the second wave of the COVID pandemic ranks India as the highest among 18 countries.⁴ Majumdar et al.'s study reports that COVID-19-induced lockdown had behavioral effects on urban corporate employees resulting in erratic sleep behavior, enhanced psychometric distress, somatic discomfort, and other issues, which could be due to social isolation, over-reliance on digital technology, and disoriented work schedules.⁵ Complimentary and integrative approaches to health such as yoga and meditation, can improve the quality of life (QoL) of an individual by integrating the aspects of physical, psychological, and social health.⁶ Meditation involves achieving a state of “thoughtless awareness” in which the excessive stress producing activity of the mind is neutralized without reducing alertness and effectiveness.⁷

The rationale for the intervention is based on the need for “well-being at workplace,” which enables an improvement in the mental health of employees. Given the limited number of studies on the role of meditation in corporate well-being among the Indian population, the study aims to analyze the impact of meditation intervention on

wellness management at the workplace. The objectives of the study include: To assess the effectiveness of a 3-week meditation intervention on stress, QoL, and wellness indices (satisfaction with life, well-being) among employees of the Star Health wellness program.

Figure 1 shows the conceptual framework of association between the variables in our study. The meditation intervention is the “independent” variable, and the reduction in stress and improvement in QoL and wellness are the “dependent” variables. The “mediating” variables include sex, age, and type of work, and the “moderating” variable includes the two training institutions (vendors): Buddha CEO and Heartfulness. The “control” variable includes compliance with the meditation course.⁸

2 | METHODS AND MATERIALS

2.1 | Study area, design, and time period

The study conducted from May to June 2021 was a quasi-experimental controlled design, coordinated by a research team from Ramaiah University of Applied Sciences (RUAS) in Bengaluru, India.

2.2 | Source and study population

The study involved 146 employees of Star Health and Allied Insurance Company in India along with 74 controls, with the intervention groups stratified based on the vendor as “Buddha CEO” and “Heartfulness.” The Buddha CEO group underwent a 3-

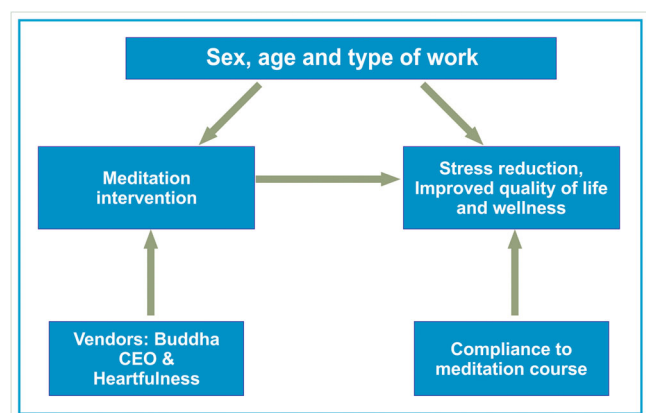


FIGURE 1 Conceptual framework for the comparison of variables in the study.

week program based on the science of breath-mindfulness meditation, and the Heartfulness group underwent a 3-week heartfulness meditation. During the week, these sessions were offered 1-h/day with online tutoring by a master trainer, and a weekly holiday was provided on Sundays'.

2.3 | Inclusion and exclusion criteria

The study included employees over 18 years of age, who were willing to practice meditation techniques as part of the intervention arm. The study excluded individuals already practicing meditation techniques, those on medication for mental health issues, and patients recovering postsurgery from acute health conditions.

2.4 | Sample size determination

The study includes all the subjects who respond to the baseline questionnaire. The experimental group includes respondents who completed the intervention ($n = 146$), and the control group ($n = 74$) comprises participants who responded at the baseline but did not participate in the meditation intervention.

2.5 | Sampling technique and procedure

The sampling technique was nonrandom, as some participants who enrolled in the recruitment survey refused to undergo the intervention. In this context, the research team was unable to select the participants at random from the population.

2.6 | Dependent variables

Stress, QoL, and wellness indices are the dependent variables. A change in their values from baseline to endline was measured as part of the study.

2.7 | Independent variables

The meditation intervention is the "independent" variable. The two institutions offering the intervention include Buddha CEO and Heartfulness groups.

2.8 | Sociodemographic variables

The endline data was analyzed for the following characteristics: sex (male and female), age (stratified in 10-year groups), and occupation (sedentary, moderate, and heavy).

2.9 | Data collection methods and procedures

Data were collected using online questionnaires, and the variables stress, QoL, and Wellness were measured using standardized validated scales. Stress was the primary outcome, while QoL and wellness were the secondary outcomes. The wellness component includes two indices: "satisfaction with life" and "well-being." The assessment was done using the Depression, Anxiety, Stress Scale (DASS 21), WHO-QoL Scale, Five-item Satisfaction with Life scale, and WHO-5 Well-Being Index, respectively.

The standardization in the context of questionnaire development includes validity and reliability. The content validity defines whether the tool addresses all the relevant aspects of the construct. The results from the Lawshe's content validity ratio (CVR) technique provided a range of 0.74–1.⁹ The values are above the minimum value ratio of 0.5, denoting its acceptability and factoring the validity of contents. The content validity index (CVI) was calculated as the average of the I-CVI scores for all items on the scale. The mean CVR and CVI values were 0.79 and 0.8, respectively. There were 10 experts in the panel, and as per the Lawshe table for determining CVR the recommended cut-off value is >0.78 .⁹ Similarly, for CVI it is >0.78 .¹⁰ The reliability analysis reports a Cronbach's α coefficient of 0.85, which is an acceptable level of the questionnaire's reliability (a recommended high of 0.8 for basic research tools).¹¹ The high correlation among the items of the scale is reflected in the high " α " value. The tools were pilot-tested in-house, before rolling out the survey.

2.10 | Data quality assurance

The data were collected through an online questionnaire, which enabled the normalization of data. It was automatically extracted to an Excel spreadsheet, which entitles consistency of the data. The research team was trained in all the procedures related to data collection and analysis.

2.11 | Statistical analysis

The baseline survey data was analyzed by weighting the scores of the questionnaire responses. This score was compared with the endline survey, which was conducted subsequent to 3-weeks of intervention during June 2021. The mean difference in scores among the intervention group was analyzed for statistical significance. The endline data were compared between the control and experimental groups. Further, the endline data in the experimental group were compared between the two vendors (Buddha CEO and Heartfulness). The continuous data were presented as mean (range) and discrete data as frequency. As the data was nonparametric, the following tests have been used:

(i) For dependent groups (Table 2), the Wilcoxon signed rank test was used to analyze the difference between baseline and endline scores.

(ii) For independent groups (between subjects), the Mann–Whitney *U* test (for two groups) was used (Tables 3 and 4). Statistical significance was considered for $p < 0.05$.

Statistical software SPSS V27 (©IBM SPSS Statistics) was used for the analysis. Prespecified analysis includes a comparison of baseline and endline data for the intervention group, and the difference in endline data between the control and experimental groups. However, exploratory analysis includes the comparison of two intervention groups (Buddha CEO & Heartfulness).

2.12 | Ethical consideration

The study was approved by the Institutional Ethics Review Board of RUAS, vide no: EC-2021/F/104. The study participants provided their consent through an online form, after being oriented about the study's scope and objectives. The research was conducted following the prescribed guidelines.

3 | RESULTS

Among a total 220 subjects who enrolled in the recruitment survey, the study found a response rate of 66.4% who underwent the intervention. The intervention group includes 146 participants, 52 of whom underwent the Buddha CEO and 94 the heartfulness meditation practices. The controls included 74 participants who enrolled in the recruitment survey initially, but did not undergo the intervention. Table 1 describes the characteristics of the study subjects, where 107 (73.3%) were males and 39 (26.7%) were females. The mean age of participants was 39.04 and 38.8 years in the Buddha CEO and Heartfulness meditation groups respectively. The nature of work was "highly active" among ~50% of the study participants.

The inferential statistics used for hypothesis testing are listed in Tables 2–4. Table 2 depicts the difference in scores (baseline vs.

endline) for the intervention group, where the study reports a reduction in mean scores for stress, and improvement for QoL, satisfaction with life, and well-being indices. The Wilcoxon signed rank test shows a statistically significant difference for the difference in mean scores related to QoL (0.21, $p = 0.001$) and wellness indices (satisfaction with life: 0.21, $p = 0.01$ and well-being: 0.24, $p = 0.003$).

Table 3 reports the assessment of mean endline scores \pm standard error of mean, for the control and intervention groups. The difference in mean scores was analyzed by the Mann–Whitney *U* test. The results show a lower level of stress, and higher levels of QoL and wellness indices (both satisfaction with life and well-being) in the intervention group. However, a significant difference was observed only for the QoL (0.17, $p = 0.009$).

In the exploratory analysis as illustrated in Table 4, the endline data between Buddha CEO and Heartfulness meditation groups were compared. The difference in mean outcome measures was analyzed by the Mann–Whitney *U* test, and the results did not show significance. Further, the difference in endline scores (for both intervention groups combined) was analyzed by the variables sex, age, and type of work, which did not show any significance. The said group of three variables were assessed separately for the two intervention groups (Buddha CEO and Heartfulness). The difference in mean scores of the endline data for this probe was analyzed by the Mann–Whitney *U* test, which neither showed any significance.

Figure 2 depicts the salient features of the study. The outcome measures analyzed in our study have implications for the overall health and well-being of the employees.

4 | DISCUSSION

The study found a significant difference in the outcome measures of the intervention group after a 3-week meditation intervention. These measures include QoL (mean difference 0.21 $p = 0.001$) and wellness indices (Satisfaction with life: mean difference 0.21, $p = 0.001$ and well-being: mean difference 0.24, $p = 0.003$). The difference in endline scores between the control and intervention groups showed

TABLE 1 Characteristics of study participants in the intervention group.

Sl.no.	Characteristic	Buddha CEO meditation (n = 52)	Heartfulness meditation (n = 94)	Both programs (n = 146)
1	Sex			
	Male	37	70	107
	Female	15	24	39
2	Age (years)			
	Mean (range)	39.04 (19–52)	38.78 (24–56)	38.87 (19–56)
3	Nature of work			
	Sedentary (desktop)	15	23	38
	Moderately active	14	19	33
	Dynamic and highly active	23	52	75

TABLE 2 Comparison of the baseline and endline data in the intervention group.

Sl.no.	Outcome	Baseline (mean ± SE)	Endline (at 3 weeks: mean ± SE)	Difference (mean scores)	p Value
1	Stress	2.05 ± 0.05	2.03 ± 0.06	0.02	0.44 ^{NS}
2	Quality of life	3.45 ± 0.05	3.66 ± 0.04	0.21	0.001*
3	Wellness				
	Satisfaction with life	4.57 ± 0.1	4.78 ± 0.1	0.21	0.01*
	Well-being Index	3.33 ± 0.09	3.57 ± 0.08	0.24	0.003*

Note: $p < 0.05$ indicates statistical significance.

^{NS}Not significant at 5% level of significance.

*Significant at 5% level of significance.

TABLE 3 Comparison of the endline data between the control and intervention groups.

Sl.no.	Outcome	Control group (n = 74)	Experimental group (n = 146)	Difference (mean scores)	p Value
1	Stress	2.1 ± 0.09	2.04 ± 0.06	0.07	0.38 ^{NS}
2	Quality of life	3.49 ± 0.07	3.66 ± 0.05	0.17	0.009*
3	Wellness indices				
	Satisfaction with life	4.66 ± 0.14	4.78 ± 0.1	0.12	0.31 ^{NS}
	Well-being	3.34 ± 0.11	3.57 ± 0.08	0.23	0.08 ^{NS}

^{NS}Not significant at 5% level of significance.

*Significant at 5% level of significance.

TABLE 4 Comparison between Buddha CEO and heartfulness meditation.

Sl.No.	Outcome	Buddha CEO (mean scores)	Heartfulness meditation (mean scores)	Difference (mean scores)	p Value
1	Stress management	1.89 ± 0.09	2.11 ± 0.08	0.22	0.13 ^{NS}
2	Quality of life	3.66 ± 0.08	3.66 ± 0.05	0.002	0.45 ^{NS}
3	Wellness				
	Satisfaction with life	4.89 ± 0.17	4.72 ± 0.13	0.16	0.49 ^{NS}
	Well-being Index	3.65 ± 0.13	3.53 ± 0.1	0.12	0.27 ^{NS}
4	Client satisfaction	1.8 ± 0.09	1.63 ± 0.06	0.14	0.28 ^{NS}

^{NS}Not significant at 5% level of significance.

a significant difference in the variable "QoL" (mean difference 0.17, $p = 0.009$). The study results reflect on the benefits of meditation intervention at the workplace, and it is advisable that practitioners consistently attune themselves for enriching their lifestyle.

Thimmapuram et al.'s study reports similar findings among participants of the structured heartfulness meditation program, wherein an improvement in measures of burnout (emotional exhaustion [mean difference 8.8, $p < 0.001$], depersonalization [mean difference 3.7, $p < 0.001$], personal accomplishment [mean difference 1.9, $p = 0.018$]), and emotional wellness were found among the participating healthcare providers when compared with the controls.¹¹ Sylapan et al. reported a profound enhancement of well-being among proficient heartfulness meditators as compared with novice

meditators ($H = 12.05$, $p = 0.002$), and was intermediate grade among the controls.¹² These findings are similar to the improvement in well-being reported in the present study. Sylapan's study report the difference among the three groups (proficient meditators, novice meditators, and controls) in terms of satisfaction with life ($F = 6.03$, $p = 0.004$).¹² The present study showed significant difference in mean scores for "Satisfaction with life" among the intervention group (mean difference 0.21, $p = 0.001$).

The dynamic and continuous process of "wellness" involves self-awareness and making healthy choices toward achieving a successful lifestyle. This can be achieved through a balance between physical, emotional, intellectual, social, and spiritual realms.¹¹ The QoL is a broad-ranging concept that encompasses an individual's subjective

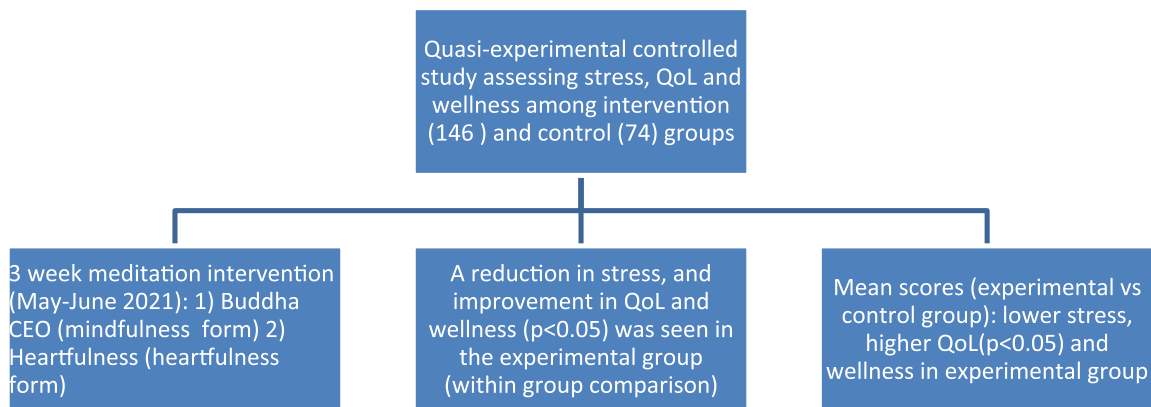


FIGURE 2 Flowchart depicting the activities and their timelines of the study.

perception of well-being across all the domains of life including those related to physical/emotional health and the social context.¹³ Results from Dunlop's study show that following a meditation intervention program, radiology technicians report an improvement in their QoL as well as their level of job satisfaction. This in turn enabled their work efficiency.¹⁴ Such findings allude to the results from our study, which report the meditation-related effects on QoL and well-being.

In a study by Shukla et al. on type-2 diabetes patients, an improvement in the glycaemic control and QoL (mean difference 0.3, $p = 0.003$) was reported after mindfulness meditation intervention, when compared with the control group (mean difference 0.1, $p = 0.762$). The intervention groups showed a significant improvement in the health and functioning domain ($p = 0.023$).¹⁵ Allexandre et al.'s study demonstrates the effectiveness of an 8-week web-based self-directed mindfulness stress management program in the workplace. The results at 8 weeks among the three meditation intervention groups show a significant improvement in all outcome measures except productivity and professional efficacy (with a similar trend at 16 weeks). These measures include perceived stress, emotional exhaustion, mindfulness, emotional well-being, emotional role functioning, and vitality. The group practice of mindfulness techniques with minimal external support, resulted in significant changes in perceived stress, emotional well-being, and vitality (mean and range for all outcomes except productivity: 0.8 [0.4–1.2] vs. 0.4 [0.2–0.7] at Weeks 8 and 0.7 [0.4–1.1] vs. 0.4 [0.0–0.7]) at Week 16. The derived benefits suggest that the intervention is cost-effective and easily scalable.¹⁶

In a study by Bhandari et al., meditation was a part of the yogic intervention given for a month to 50 corporate personnel (25 male and 25 female) of the Indian Telephone Industry, Raebareali, India. The results show a significant effect of the yoga intervention in managing distress ($F(3, 196) = 4.3$, $p < 0.01$, $\eta^2 = 0.061$) and enhancing work performance. The study results were applicable both at the individual and organizational levels, where-in the beneficial effects of corporate yoga was evinced in improving health, morale, harmony, performance, and productivity.¹⁷ Pandya et al. in their review of mental health interventions in India, report the evidence on health

promotional activities, psychosocial interventions along with training in stress management, which have a positive impact on mental well-being. This review reports that only 40% of organizations in India have a documented plan for employee well-being.³

In a systematic review by Janssen et al., the effects of mindfulness-based stress reduction and cognitive therapy on the mental health of employees were studied. The strongest outcomes include decreased levels of emotional exhaustion (a dimension of burnout), stress, psychological distress, depression, anxiety, and occupational stress. Further, a significant increase was found in-terms of mindfulness, personal accomplishment (which is a dimension of burnout), (occupational) self-compassion, relaxation, and quality of sleep. The results of the review suggest the beneficial effects of mindfulness-based stress reduction on the psychological functioning of employees.¹⁸ The results from an uncontrolled pilot study by Fortney et al., shows that primary care clinicians participating in an abbreviated mindfulness training course show a reduction in indicators of job burnout, depression, anxiety, and stress. The participants had significantly better scores (i) on all Maslach Burnout inventory subscales: emotional exhaustion ($p = 0.009$), depersonalization ($p = 0.005$), and personal accomplishment ($p < 0.001$), (ii) depression ($p = 0.001$), anxiety ($p = 0.006$), and stress ($p = 0.002$) on DASS-21, (iii) perceived stress ($p = 0.002$) on the perceived stress scale.¹⁹

Ball et al. report that mindfulness meditation has prominent effects on the psychological aspects of living with chronic pain, significantly reducing the associated depression (standardized mean difference -0.28 , $p = 0.03$) and improving the QoL (standardized mean difference 0.65, 95% confidence interval [CI]: $-0.27, 1.58$).²⁰ Goyal et al. review the effects of mindfulness meditation programs, reporting a moderate strength of evidence (SOE) for improvement in anxiety (effect size (ES): 0.4, CI: 0.08–0.71 at 8 weeks, and 0.22, CI: 0.02–0.43 at 3–6 months), depression (ES: 0.32; CI: -0.01 to 0.66 at 8 weeks and 0.23; CI: 0.05–0.42 at 3–6 months), and pain (ES: 0.33, CI: 0.03–0.62). The review also reports a low SOE for improvement in stress/distress and mental health-related QoL.²¹

However, the study did not reveal a substantial decrease in the levels of stress (mean difference 0.02, $p = 0.004$) for the intervention

group. Also when comparing the control and intervention groups, the study did not show the significance for changes in stress (mean difference 0.07, $p = 0.38$) and wellness indices (satisfaction with life: mean difference 0.12, $p = 0.31$ and well-being: mean difference 0.23, $p = 0.08$). The variation in trends for outcome measures could be attributed to the subjective nature of their assessment (online questionnaire). A scientific panel of 10 experts opined on the measures for content validity, which indicates the completeness of the questionnaire. The CVI and CVR were also within the range of acceptability. The study assessed internal consistency as a measure of reliability, as it is difficult to assess the inter-rater reliability for self-administered scales.²²

Neto et al. report that the incorporation of a required mindfulness course in the curriculum of a large group of medical students during their first semester of training was not associated with an improvement in their mental health measures and QoL (Cohen's $d = 0.02$ – 0.33).²³ Further, Lemay et al.'s study on college students subjected to a 6-week yoga and meditation program before the final examination, reports a decrease in stress (7.9 points, $p < 0.001$) and anxiety levels (9.6 points, $p < 0.001$) and increase in the total mindfulness scores (21.6 points, $p < 0.001$).²⁴ However, the present study reports a marginal benefit for stress management which was not statistically significant.

Meditation is a technique which enables the balance between mind and body, and increases mental alertness and concentration. This in-turn results in clarity of decision-making and efficiency.²⁵ The regularity of its practice has a definitive influence on its effectiveness. Heartfulness meditation enables realization of the deeper self and expansion of the consciousness, while mindfulness meditation enables unfolding the experiences in a nonjudgmental manner and decenter from the emotions of awareness.^{11,26} Evidence suggests the benefits of heartfulness in enhancing the well-being and sleep quality, reducing emotional exhaustion, and shifting toward a parasympathetic predominance.¹² Also, the potential of mindfulness to positively impact the psychological and physical health of individuals in both clinical and nonclinical settings is reported.²⁶

The study highlights the benefits of meditation intervention at workplace, and recommends consistent self-improvement to enhance one's lifestyle. The psychological well-being is improved by regular mindfulness meditation, as its practice facilitates symptom reduction and protection against relapse.²⁶ An employee's well-being is influenced both by individual and contextual factors, and relevant strategies will enable an improvement in their mental health.⁶ Given the logistic challenges at the workplace, certain innovative methods such as self-directed techniques are recommended. Such practices are independent of time and location in the workplace.²⁷

5 | IMPLICATIONS OF THE STUDY

The study shows the benefits of a 3-week meditation intervention in a corporate setting, towards lowering stress and improving the QoL and Wellness. Complementary and integrative approaches to health such

as yoga and meditation have been explored in corporate and community settings, as components of a healthy lifestyle. Its principles include holistic perception of an individual and assisting him/her with lifestyle changes, which are effective strategies toward addressing chronic diseases.²⁸ Research studies have proven the benefit of such techniques in reducing stress and improving wellness.¹¹

The QoL of patients with chronic diseases is often lowered due to the associated physical and psychological distress. Given the continuum of care involved in the management of NCDs, linked with a decrease in productivity and the concurrent costs of treatment, the corporate management have realized the potential return on investment following the successful programming of workplace-related wellness activities.²⁹ Such health promotional initiatives have the potential to advance the overall well-being of employees.

6 | LIMITATIONS

- The study was conducted in May–June 2021, coinciding with India's second COVID-19 lockdown period. This influenced the compliance with intervention measures and subsequent study findings
- The study subjects are respondents from an online recruitment survey, while the controls are those who did not participate. Ideally, controls need to be selected using a randomized design
- The control group did not participate in the intervention due to perceived better well-being, which could undermine the difference observed in the study
- The intervention duration of 0–3 weeks may not yield significant results, and the assessment did not measure the graded benefits for good performers in the intervention group
- Participants' preintervention levels of stress, QoL, and wellness indices were not controlled, which also requires consideration of contextual factors like occupation and environment, and their influence at different time periods.

7 | RECOMMENDATION

Evidence from the study supports the benefits of meditation intervention at workplace. Wellness programming at workplace can take many forms including disease prevention and health promotion initiatives (primary and primordial prevention), medical screening, and disease management interventions. These interventions can be channelized from a variety of sources which include health insurance plans, an outside vendor specializing in the intervention, resources from the Government, or in-house investment by the company.²⁹ The impact of workplace-based wellness interventions on employee productivity and health outcomes, should be mapped through occupational health research studies.³ Further research involving larger samples with matched controls, should focus on the mechanisms by which meditation practices enhance QoL and Wellness among the employees including the implementation challenges.

Future studies should address the gaps of logistical challenges such as consequences of COVID-19 and the lockdown period, through a strategic planning process. The evaluation plan should assess the sustained benefits of meditation practices among employees from different backgrounds.

8 | CONCLUSION

During the COVID-19 pandemic, the implementation of a 3-week meditation intervention as part of a corporate wellness program significantly improved the QoL and wellness. It is crucial to promote such techniques in workplace culture for improving the well-being of employees. Although the study showed a marginal benefit in stress management, the short-duration initiative can translate into a lifestyle practice that partakes the coping of perceived stress and distress. The results of the study indicate that meditation practices offer an accessible and efficient method to enhance the wellness of employees at their workplace.

AUTHOR CONTRIBUTIONS

Avani Radheshyam: Investigation; data collection; literature review; writing—original draft. **Vinod K. Ramani:** Investigation; methodology; project administration; supervision; writing—original draft. **Subramanyam M. T.:** Data curation; formal analysis. **Tejaswini B. D.:** Investigation; project administration; resources; writing—review and editing. **Radheshyam Naik:** Visualization; Monitoring; Resources; Approval of final draft of manuscript.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author's email: vinodramani.ah.is@msruas.ac.in. The data are not publicly available due to privacy/ethical restrictions. It contains information that could compromise the privacy of research participants.

ETHICS STATEMENT

Our study was approved by the Institutional Review Board/Ethics Committee, vide no.: zzzzEC-2021/F/104. Obtained from the participants before enrollment. They were initially oriented about the scope and objectives of the study.

TRANSPARENCY STATEMENT

The lead author Vinod K. Ramani affirms that this manuscript is an honest, accurate, and transparent account of the study being

reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained. The corresponding author takes complete responsibility for the integrity of the data and the accuracy of data analysis.

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REFERENCES

1. Fricchione GL. The challenge of stress-related non-communicable diseases. *Med Sci Monit Basic Res.* 2018;24:93-95.
2. Stein DJ, Benjet C, Gureje O, et al. Integrating mental health with other non-communicable diseases. *BMJ.* 2019;364:l295.
3. Pandya A, Khanal N, Upadhyaya M. Workplace mental health interventions in India: a rapid systematic scoping review. *Front Public Health.* 2022;10:800880.
4. World Health Organization. Mental Health and COVID-19: Early evidence of the pandemic's impact: scientific brief, 2 March 2022. 2022. Accessed August 8, 2022. https://www.who.int/publications/i/item/WHO-2019-nCoV-Sci_Brief-Mental_health-2022
5. Majumdar P, Mandi S, Biswas A, Nayak P, Sahu S. COVID-19 pandemic-imposed lockdown: impacts on the rural agrarian and the urban corporate workforce of India. *Biol Rhythm Res.* 2022;53(11):1753-1769.
6. Chung SC, Brooks MM, Rai M, Balk JL, Rai S. Effect of Sahaja yoga meditation on quality of life, anxiety, and blood pressure control. *J Altern Complement Med.* 2012;18(6):589-596.
7. Manocha R. Why meditation? *Aust Fam Physician.* 2000;29(12):1135-1138.
8. Mulder P. Conceptual framework 2017. Accessed July 10, 2023. <https://www.toolshero.com/research/conceptual-framework/>
9. Lawshe CH. A quantitative approach to content validity. *Pers Psychol.* 1975;28:563-575.
10. Streiner DL. Starting at the beginning: an introduction to coefficient alpha and internal consistency. *J Pers Assess.* 2003;80(1):99-103.
11. Thimmapuram J, Pargament R, Sibbitt K, Grim R, Risques R, Toorens E. Effect of heartfulness meditation on burnout, emotional wellness, and telomere length in health care professionals. *J Community Hosp Intern Med Perspect.* 2017;7(1):21-27.
12. Sankar Sylapan B, Nair AK, Jayanna K, Mallipeddi S, Sathyanarayana S, Kutty BM. Meditation, well-being and cognition in heartfulness meditators—a pilot study. *Conscious Cogn.* 2020;86:103032.
13. Haraldstad K, Wahl A, Andenæs R, et al. A systematic review of quality of life research in medicine and health sciences. *Qual Life Res.* 2019;28(10):2641-2650.
14. Dunlop J. Meditation, stress relief, and well-being. *Radiol Technol.* 2015;86(5):535-555.
15. Shukla R, Gupta M, Agarwal N, Bajpai A. Mindfulness meditation as adjunctive therapy to improve the glycemic care and quality of life in patients with type 1 diabetes. *Med Sci (Basel).* 2021;9(2):33.
16. Alexandre D, Bernstein AM, Walker E, Hunter J, Roizen MF, Morledge TJ. A web-based mindfulness stress management program in a corporate call center: a randomized clinical trial to evaluate the added benefit of onsite group support. *J Occup Environ Med.* 2016;58(3):254-264.
17. Bhandari R, Acharya B, Katiyar VK. Corporate yoga and its implications. 6th World Congress of Biomechanics (WCB 2010). IFMBE Proceedings, Singapore. 1-6 August 2010, 31(1):290-293.
18. Janssen M, Heerkens Y, Kuijter W, et al. Effects of mindfulness-based stress reduction on employees' mental health: a systematic review. *PLoS One.* 2018;13(1):e0191332.

19. Fortney L, Luchterhand C, Zakletskaia L, Zgierska A, Rakel D. Abbreviated mindfulness intervention for job satisfaction, quality of life, and compassion in primary care clinicians: a pilot study. *Ann Fam Med*. 2013;11(5):412-420.
20. Ball EF, Nur Shafina Muhammad Sharizan E, Franklin G, Rogozińska E. Does mindfulness meditation improve chronic pain? a systematic review. *Curr Opin Obstet Gynecol*. 2017;29(6):359-366.
21. Goyal M, Singh S, Sibinga EM, et al. *Meditation Programs for Psychological Stress and Well-Being*. Effective Health Care Program. 2023. Comparative effectiveness review No.124. AHRQ Publication No.13(14)-EHC116-EF. Accessed July 11, 2023. <https://www.ncbi.nlm.nih.gov/books/NBK180102/>
22. Yusoff MSB. ABC of content validation and content validity index calculation. *Educ Med J*. 2019;11(2):49-54.
23. Damião Neto A, Lucchetti ALG, da Silva Ezequiel O, Lucchetti G. Effects of a required Large-Group mindfulness meditation course on First-Year medical students' mental health and quality of life: a randomized controlled trial. *J Gen Intern Med*. 2020;35(3):672-678.
24. Lemay V, Hoolahan J, Buchanan A. Impact of a yoga and meditation intervention on students' stress and anxiety levels. *Am J Pharm Educ*. 2019;83(5):7001.
25. Deshpande D. A healthy way to handle work place stress through yoga, meditation and soothing humor. *Int J Environ Sci*. 2012;2(4): 2143-2154.
26. Cavanagh K, Churcharon A, O'Hanlon P, et al. A randomised controlled trial of a brief online mindfulness-based intervention in a non-clinical population: replication and extension. *Mindfulness*. 2018;9:1191-1205.
27. Brinkmann AE, Press SA, Helmert E, Hautzinger M, Khazan I, Vagedes J. Comparing effectiveness of HRV-biofeedback and mindfulness for workplace stress reduction: a randomized controlled trial. *Appl Psychophys Biof*. 2020;45(4):307-322.
28. Maizes V, Rakel D, Niemiec C. Integrative medicine and patient-centered care. *Explore*. 2009;5(5):277-289.
29. Wipfli H, Zacharias KD, (Nivvy) Hundal N, et al. Workplace wellness programming in low-and middle-income countries: a qualitative study of corporate key informants in Mexico and India. *Glob Health*. 2018;14(1):46.

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