

PILOT STUDY

Impact of Heartfulness Meditation on Perceived Stress and Mental Well-being

P. K. Jyothi^{1*}, K. B. Sudhikumar², S. K. Sreeraj¹

¹Associate Professor, School of Fundamental Research in Ayurveda (KUHS), Ernakulam, Kerala, India.

²Professor, School of Fundamental Research in Ayurveda (KUHS), Ernakulam, Kerala, India.

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ABSTRACT

The prevalence of mental illness and the impact of stress have become increasingly concerning in the context of our rapidly evolving society. As a result of the aforementioned factors, both mental and physical health are impacted, leading to the emergence of numerous lifestyle diseases eventually. To effectively address the stress experienced at the community level, the implementation of meditation has been empirically demonstrated to be an efficacious strategy for managing and adapting to various challenging circumstances. In Ayurveda classics, *Swasthavritta* (regimen for healthy lifestyle) various Acharyas are mentioned in detail to become a healthy individual in which *Dhyana* (Meditation) is essential for both psychological and physical well-being. School of Fundamental Research in Ayurveda under Kerala University of Health Sciences conducted a daily meditation session for registered participants of 30-min duration, guided by preceptors from heartfulness organization which continued for 90 days. Heartfulness meditation is a form of meditation that focuses on the heart as its central point of practice. By cultivating a sense of inner calmness, this practice aims to alleviate stress and promote overall well-being. This comprised guidelines and information regarding heartfulness relaxation, meditation, cleaning, and connecting with the source before going to bed. Among the entire group of 20 participants, only 12 individuals successfully completed the entirety of the 90-day duration. A subjective evaluation was conducted on a sample of 12 participants using a self-assessment survey that included the Perceived Stress Scale (PSS) and the WHO (Five) Well-being Score. This evaluation was given both before and after the study. A statistical analysis was conducted using the PSS and the WHO (Five) well-being questionnaire. The obtained *P*-value was found to be <0.05 , indicating a high level of significance. This suggests that the meditation program conducted was effective in reducing stress and promoting the well-being of the participants.

1. INTRODUCTION

Community-level stress has become a major threat in society occurring due to excessive pressure at work, familial relationships and financial issues, mental, and physical abuses starting from childhood. As a result, both physical and mental health deteriorate, resulting in increased stress and lifestyle diseases. One in every five students in the 12–19 age group in Kerala suffers from psychological distress and shows an analysis of various studies from across the state done by the Dept. of Psychiatry of the Amrita Institute of Medical Sciences. It has been found that of the total number of students in this age group 11% suffer from mild psychological distress and 5% each from moderate and severe psychological distress. According to 10–20% of

all adolescents worldwide experience mental disorders and half of all these mental illnesses begin by the age of 14 and three-quarters by the age of 20. The burden of depression has increased by 67% between 1990 and 2013 and by 2025, it is projected to rise by another 23%.^[1]

The prevention and management include various therapeutic and alternative formulations of which maintaining the sustainability of mind has a key role. The authenticated way to cope up stress is meditation which has a proven effect among community level stress. Heartfulness is a heart-based practice of meditation that focuses on the relationship between the heart and mind. It promotes further discovery in the science of yoga, as it relates to the body-mind complex and plays a key role in expanding upon mindfulness practice. It is a journey to the center of the heart, a place of inner silence. Tuning into the heart develops calmness from within and uncovers every individual's brilliant self. Heartfulness meditation aims to help individuals connect to their inner self to attain peace and a balanced state of mind. The

Corresponding Author:

P. K. Jyothi, Associate Professor, School of Fundamental Research in Ayurveda (KUHS), Ernakulam, Kerala, India.

Email: pk.jyothi@gmail.com

previous studies have been conducted to gain mechanistic insights into the effects of heartfulness meditation on bodily and cellular functioning as well as in enhancing one's psychological, emotional, and social well-being.^[2]

Heartfulness meditation has garnered the attention of the scientific community, resulting in several studies on the applications of this system. Several studies have been conducted on various aspects such as reducing stress, influencing in brain waves, insomnia, stress reduction in hypertensive patients, and improving the quality of life in patients with Type 2 diabetes.^[3-5]

The daily meditation session was designed to span 90 days, with each session lasting for 30 min. All participants provided informed consent. The heartfulness sessions were conducted under the guidance of preceptors who were bestowed with the authority to lead them. Before commencing the meditation session, all participants were provided with a way to unwind to help alleviate the effects of their hectic schedules. Following the practice of meditation, the individual's subjective experiences were openly discussed, and any inquiries were addressed by the preceptors.

Feedback was also collected which narrated positive outcomes from each and every participants. At the conclusion of the 90-day session, individuals demonstrated a notable ability to effectively manage their daily tasks with composure and equilibrium.

Statistical evaluation based on Perceived Stress Scale (PSS) and WHO (Five)well-being questionnaire was made in which *P* value was obtained < 0.05, highly significant which showed the meditation program conducted was effective in reducing the stress and also maintaining the well-being of participants.

2. MATERIALS AND METHODS

The Heartfulness Meditation Program was developed to be conducted offline over a period of 90 days, with each session lasting for 30 min. Informed consent was obtained from all participants. Before starting with, guidelines were given on the system of meditation. The participants were provided with instructions on relaxation before commencing the heartfulness meditation. This comprised guidelines and awareness on heartfulness relaxation, meditation, cleaning, and connect with source at night before bed.

A total of 20 participants were initially present for the meditation session. At the conclusion of the session, a total of 12 participants successfully completed the entire 90-day duration. A pre- and post-program subjective evaluation was conducted among the participants. Before the commencement of the program, participants were provided with two questionnaires, namely, the WHO well-being score and the PSS, which they were asked to complete. After 90 days, both questionnaires were given out once again to assess the participants' current status.

The PSS^[6] is a highly prevalent psychological tool utilized for assessing individuals' subjective perception of stress. The construct under consideration pertains to the quantification of the extent to which individuals evaluate circumstances in their lives as being stress-inducing. The scale additionally encompasses several direct inquiries regarding present levels of perceived stress. The PSS was specifically developed for implementation within community samples comprising individuals possessing a minimum educational background equivalent to junior high school education. In addition, the inquiries possess a broad scope, thereby lacking specific content

pertaining to any particular subgroup within the population. The inquiries within the PSS pertain to individuals' emotions and cognitions experienced within the preceding month, as well as the resultant outcomes reported by all participants involved.^[6] At the conclusion of the 90-day session, individuals demonstrated a notable ability to effectively manage their daily activities in a composed and harmonized manner.

WHO-5 Well-Being Index is a short, self-administered measure of well-being over the past 2 weeks. It consists of five positively worded items that are rated on 6-point Likert scale, ranging from 0 (at not the time) to 5 (all the time). The raw scores are transformed to a score from 0 to 100, with lower scores indicating worse well-being. A score of ≤ 50 indicates poor well-being and suggests further investigation into symptoms of depression. A score of 28 or below is indicative of depression.^[7]

2.1. Statistical Analysis

Out of the total participants 20, only 12 completed the whole duration of 90 days. Hence, subjective evaluation with the PSS and WHO well-being score was subjected to statistical analysis in these 12 participants. Data were entered into Microsoft Excel sheets and analyzed using STATA version 14. Scores were tested for normality and summarized as mean and standard deviation (SD). An independent t-test was used to compare the change in stress and well-being in the participants. $P < 0.05$ was considered statistically significant.

3. RESULTS

Table 1 shows the change in perceived stress after 90 days of heartfulness medication. Before the program, the perceived stress level had a mean of 24, a SD of 6.9, and a median of 22. The interquartile range was 19.5–27.5. After 90 days of heartfulness meditation, there was a reduction in stress with a mean difference of 12.1, which implies a significant reduction in perceived stress. The t-score was 4.4, and the *P*-value was 0.001, indicating that the decrease in perceived stress after 90 days of meditation was statistically significant.

Table 2 presents the results of a study on the change in well-being after 90 days of heartfulness meditation. Before treatment, the initial well-being level had a mean of 15.3, and after 90 days of meditation. The after-treatment well-being level had a mean of 20.8, suggesting that heartfulness meditation led to a notable increase in well-being among the participants after 90 days. The mean difference was 5.5, indicating a significant improvement in well-being ($t = 3.3, P = 0.007$).

4. DISCUSSION

Heartfulness meditation is a meditation practice that focuses on the integration of the heart and mind, placing the heart at the center of the practice. The School of Fundamental Research in Ayurveda, with the sanction from the Kerala University of Health Sciences, implemented a 90-day heartfulness meditation program led by trained Preceptors. This initiative aimed to provide individuals with an opportunity to engage in heartfulness meditation at no cost. The program was designed with the objective of facilitating the efficient and seamless management of both personal and professional activities among participants, with the aim of reducing stress.

As a part of community intervention, the program was notified among public. The registered participants were 20 in number. In due time,

only 12 were able to complete the whole duration of 90 days. As part of Research Program, Subjective evaluation was planned based on self-assessment survey before and after the program. Questionnaire for evaluation comprised the PSS and WHO (Five) Well-being questionnaire. PSS^[6] is a more precise measure designed to help measure individual stress levels. The tool remains a popular choice to understand how different situations affect our feelings and our perceived stress. The questions in this scale ask about our feelings and thoughts during the last month. In each case, we will be asked to indicate how often you felt or thought a certain way.

The World Health Organization-Five Well-being Index (WHO-5) is a short self-reported measure of current mental well-being. The WHO-5 is a short, self-administered, and positively worded scale designed to measure the level of subjective well-being over the past 2 weeks. It has been found to have adequate validity in screening for depression and in measuring outcomes in clinical trials.

Here, the statistical test for evaluation selected was paired t test. The paired t-test determines whether there is a significant difference between the means of the two groups by comparing the average difference within each pair to the variability of the differences.

Regarding the assessment of PSS, the mean value before program was 24. After 90 days of program, there was a reduction in stress with a mean difference of 12.1, which implies a significant reduction in perceived stress. The t-score was 4.4, and the *P*-value was 0.001, indicating that the decrease in perceived stress after 90 days of meditation was statistically significant.

In case of WHO-well-being score, the mean value of initial well-being was 15.3 and after program was 20.8. From this, it can be noted, there is a significant increase in well-being among participants after the program. The mean difference was 5.5, indicating an increase in well-being. The t-score was 3.3 and the *P*-value was obtained 0.007, which clearly indicates the program was statistically significant in improving well-being.

Thus, the initial aim of harnessing community level stress is achieved by this program in a minor group which is evident from the subjective evaluation of WHO-well-being score and PSS.

4.1. Further Suggestions

The effectiveness of the Heartfulness Meditation Program was evaluated in a small group, using the PSS and the WHO-wellbeing score. Therefore, it would be highly advantageous to implement this intervention as a component of community outreach, targeting a diverse range of age groups, and employing appropriate objective assessments.

5. CONCLUSION

In contemporary society, the prevalence of stress has escalated as a result of various factors such as an overwhelming workload, familial conflicts, financial difficulties, mental and physical health conditions, and experiences of childhood abuse, among others. The prevention and management of stress necessitate the implementation of strategies to enhance cognitive resilience, enabling individuals to effectively navigate their daily responsibilities. Heartfulness meditation is a well-established technique that has been shown to effectively alleviate symptoms of stress, anxiety, and depression. The meditation program was specifically developed for 90 days, during which participants were guided offline by preceptors affiliated with

the heartfulness organization. The study involved the subjective evaluation of 12 participants using the PSS and the World Health Organization's Well-being Score (5). Assessments were conducted both before and after the implementation of the program. The results of both assessments yielded a $P < 0.05$. Therefore, it can be inferred that the heartfulness meditation yielded positive outcomes in terms of stress reduction and the preservation of participants' overall well-being.

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7. AUTHORS' CONTRIBUTIONS

All the authors contributed equally in design and execution of the article.

8. FUNDING

Nil.

9. ETHICAL APPROVALS

This study not required ethical clearance as it is pilot study.

10. CONFLICTS OF INTEREST

Nil.

11. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

12. PUBLISHERS NOTE

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Table 1: Change in perceived stress after 90 days of heartfulness medication (n=12)

Assessment	Mean	SD	Median	IQR	Mean difference	t	P-value
BT	24	6.9	22	19.5–27.5	12.1	4.4	0.001
AT	11.9	4.5	13.5	9.5–15			

*Independent t-test was used

Table 2: Change in well-being after 90 days of heartfulness medication (n=12)

Assessment	Mean	SD	Median	IQR	Mean difference	t	P-value
BT	15.3	6	15.5	11.5–20.5	5.5	3.3	0.007
AT	20.8	2.1	21	19–22.5			