

Benefits of 15- and 30-Minute Integrative Medicine Regimens on the Well-Being of Healthcare Workers: A Randomized Controlled Trial

Christine Jireh M. Daduya-Atanacio, MD and Ma. Teresa Tricia G. Bautista, MD, MHA, FPAFP, FPCGM

Background: Integrative Medicine is an emerging approach that selectively incorporates elements of complementary and alternative medicine to promote health and well-being. Yet, there is no consensus on the required duration of treatment.

Objective: The effects of 15 versus 30 minutes of Integrative Medicine (IM) regimen on well-being and pain were evaluated.

Methods: The study used a single-blind, randomized, controlled design. 54 healthcare workers were randomly allocated to one of two intervention groups: a 15-minute IM regimen (3-minute meditation through guided imagery and myofascial release therapy of shoulder, back, arms with hands, and head) or the usual 30-minute IM regimen (6 minutes of each component). Well-being and muscle pain were dependent variables. Outcomes: Time-bound regimens had no effect on positive mood, but both regimens increased the vitality and general interest of participants. However, the effects of both intervention arms on overall well-being were comparable. Improvement in pain was noted in the 30-minute regimen group.

Conclusion: The general benefits of both interventions were almost similar. Hence, the duration of the intervention did not matter much unless specific treatment outcomes were expected. A 30-minute regimen is recommended if relief from muscle pain is desired. On the other hand, if improvement in well-being is desired, a 15-minute regimen is more practical.

Key words: Integrated medicine, myofascial release therapy

BACKGROUND

Integrative Medicine combines evidence-based traditional medicine with complementary and alternative medicine (TCAM) and allopathic treatment components. High-quality scientific evidence of safety and efficacy supports these approaches, while emphasizing the significance of patient involvement in health promotion, disease prevention, and health management.¹

Many studies involving TCAM interventions show a positive impact on healthcare workers. But the duration of intervention conduction varies. According to a systematic review, the duration of myofascial

release therapy used in the studies for relieving chronic musculoskeletal pain was around 30-90 minutes, once to 3 times per week for 2–20 weeks. The shortest duration used was 30 minutes, once a week for 2 weeks.² Therefore, this study aimed to determine if shortening duration and frequency into 15 minutes once a week for at least 2 weeks would still yield an effect on the participants.

Upon determining the benefits of a time-based integrative medicine intervention, the results of this study may be used as a basis for customizing a more cost-effective and practical wellness intervention. Shortening the treatment duration may afford integration into the routine check-up, adding more value to the consultation.

The study aimed to compare the effects of the 15-minute and 30-minute regimens of Integrative Medicine (IM) on the well-being of healthcare workers (HCWs). Specifically, it aimed to determine the benefits of the IM regimens in terms of experiencing aspects of well-

Department of Family and Community Medicine, Quirino Memorial Medical Center

being such as positive mood, vitality, increased general interest, and pain; determining the difference between the effects of the 15-minute and 30-minute regimens of IM on overall well-being and pain relief; and the difference between the effects of the 15-minute and 30-minute regimens of IM on overall well-being and pain relief.

METHODS

Study Design

This randomized controlled trial utilized a prospective, longitudinal, single-blind design.

Study Population

Participants were employees of a tertiary hospital recruited via an online platform and/or in-person invitation. Written informed consent forms were completed. The inclusion criteria were: those aged between 18 to 65 years, who are generally well adults or with controlled comorbidities, with no known mental disorder, able to read and write, and agreed to be available once a week for 15-30 minutes for 4 weeks. On the other hand, the exclusion criteria were those who fail to attend at least 2 out of 4 sessions, fail to follow instructions, contract a condition that could interfere with or impact the outcome of the study, develop adverse effects from the regimen, become pregnant, and decide to withdraw from the study due to personal reasons.

Study Interventions

Participants were randomly assigned to one of two groups: a 15-minute Integrative Medicine Regimen (IM) or a 30-minute IM Regimen. The study was conducted in a relaxing atmosphere enhanced by aromatherapy, relaxing music, and dimmed lights. They were instructed to answer a questionnaire for baseline findings. In the intervention area, meditation through guided imagery was initiated, followed by the myofascial release of the shoulder, back, arms with hands, and head (Table 1). Four trained massage therapists provided myofascial release therapy.

The deliberate visualization of precise mental images is known as Guided Imagery. It is an essential element of mindfulness meditation, hypnosis, and other relaxation methods used for healing, maintaining health, or treating particular conditions.³ Music interventions have

a positive impact on both psychological and physiological arousal; hence, they are also used to reduce stress.⁴ Furthermore, a fast-growing manual therapy called Myofascial Release seeks to alleviate pain by reestablishing compromised soft tissue functions. The special function of connective tissue sheets, or “fascia,” in determining musculoskeletal system function is the basis for the theory underlying the therapeutic benefits of myofascial release. Direct release or massage, which is used in the study, applies few-kilogram pressure directly to restricted tissue barriers using the therapist’s knuckles, elbows, or other tools.²

Sample Size

A sample size of 14 participants in each group was required to have a 95% confidence interval and an effect size of 1.17 8, where 17 members for each group were targeted to allow a 20% dropout rate, giving a total sample size of 34 for the study.

Randomization

Participants received their random treatment allocation assignment through draw lots at the first visit.

Blinding

The facility where the study was conducted had room partitions. The participants were initially blinded to the treatment allocation. Self-selection bias among repeat visit surveys is a limitation of the study. An independent statistician performed statistical analyses after the study was completed and the database was locked. The treatment group was not blinded to the final data analysis post-data lock. There were no reported major adverse reactions to the intervention regimens.

Data Collection

Data collection was conducted in a clinical setting. The regimen effects on the participants were monitored weekly through questionnaire responses. The questionnaire utilized included the Wong-Baker FACES Pain Rating Scale Tagalog and “WHO Talaan ng Kalidad ng Buhay” 1998 na Bersyon, Salin sa Filipino 2009 (see Appendix H). It is the Filipino translation of the “WHO-5 Wellbeing Index 5”. The World Health Organization-5 (WHO-5) Index of Well-Being is a self-administered 5-item generic global rating scale measuring subjective

Table 1. Components of integrative medicine regimen

15-minute Integrative Medicine Regimen	30-minute Integrative Medicine Regimen
3 minutes guided imagery with relaxing music	6 minutes guided imagery with relaxing music
3 minutes myofascial release of shoulder	6 minutes myofascial release of shoulder
3 minutes myofascial release of back	6 minutes myofascial release of back
3 minutes myofascial release of arms & hands	6 minutes myofascial release of arms & hands
3 minutes myofascial release of head	6 minutes myofascial release of head

well-being with high clinometric validity as an outcome measure to balance the desired and unwanted effects of treatments and can be used in various settings. The WHO-5 focuses on subjective quality of life based on positive mood (good spirits, relaxation), vitality (being active and waking up fresh and rested), and general interest (being interested in things). A percentage score greater than 50 indicates a higher level of well-being or quality of life.⁵ Responses are collected before the intervention to capture the long-term effect. The Wong-Baker FACES⁶ pain rating scale was used to assess pain; it is a validated tool designed to assist healthcare providers in measuring pain through patient self-assessment. The scale is numbered 0 to 10 and is accompanied by a 'grimace scale' of faces to help patients interpret pain, with the facial grimace increasing as reported pain scores increase. The scale has been translated and validated in 61 different languages, including Tagalog.⁷

Each participant's questionnaire responses were encoded using a special code for identification and saved in a password-protected electronic database.

Questionnaires were then kept in a locked drawer.

Statistical Analysis

Statistical analyses were performed using Statistical Package for the Social Sciences (SPSS) v29 statistical software. All statistical tests were two-sided at a 0.05 significance level. The demographic and baseline characteristics of study participants were similar by treatment group using descriptive statistics and an independent

sample t-test. Continuous variables were described as the mean and SD. In establishing equality between the two groups, the initial test in the demographics was determined using the chi-square test. To determine which intervention was more effective, a test of difference across groups was performed. A test of the difference between independent samples was done using the t-test and the Mann-Whitney test. A paired sample test was used to compare the baseline data to the final data to test the effectiveness of both interventions. Paired Sample t-tests or Wilcoxon Signed Ranked and Friedman tests were also used. The drop-outs were included in the analysis until they were systematically de-listed until the actual drop-out occurred.

RESULTS

There were 81 recruits for the study; however, 27 were excluded based on eligibility criteria. The remaining 54 were randomized into a 15-minute regimen and a 30-minute regimen. Nine participants from the 15-minute regimen and 3 participants from the 30-minute regimen were lost to follow-up (Figure 1).

Demographics

Of the 54 participants, 31 were randomized to the 15-minute regimen and 23 to the 30-minute regimen. Table 2 shows no significant group differences in demographics and aspects of well-being.

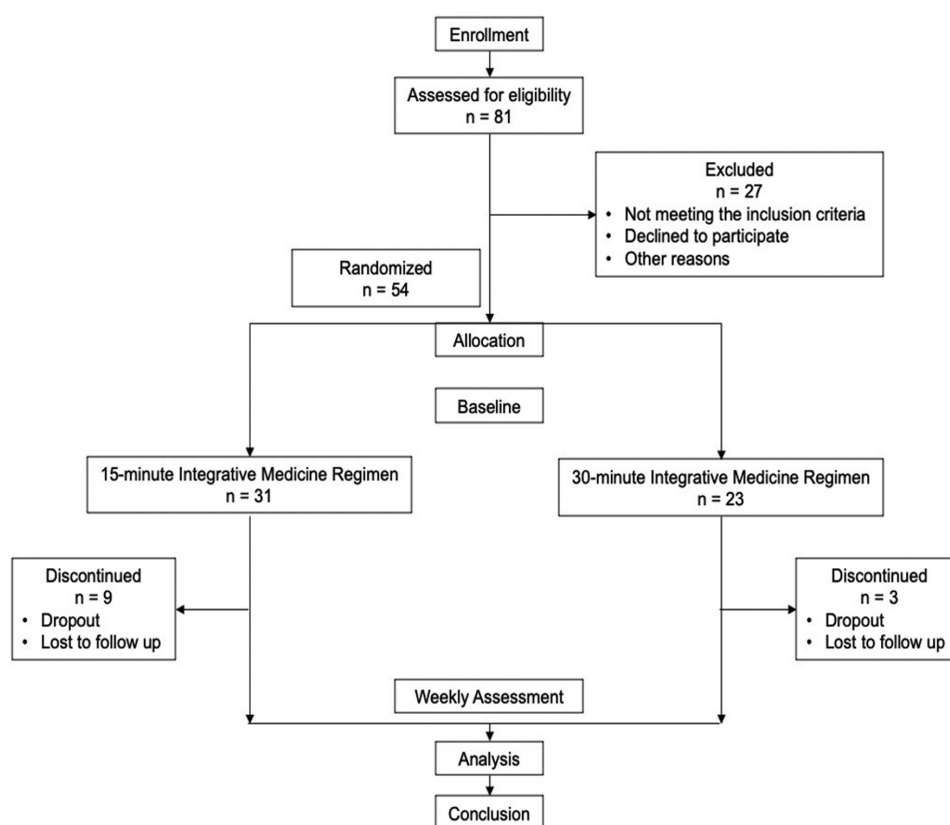


Figure 1. Flow chart of the study population at the time of enrollment, allocation, and assessments.

Table 2. Baseline characteristics of participants.

Variable	Group				Total		p-value
	15-minute Regimen (n=22)		30-minute Regimen (n=20)				
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	
	Freq	Percent	Freq	Percent	Freq	Percent	
Sex							.379
Female	17	77.3	13	65.0	30	71.4	
Male	5	22.7	7	35.0	12	28.6	
Education							.110
College Graduate	12	54.5	15	75.0	27	64.3	
High School	0	0	1	5.0	1	2.4	
PostGrad	9	40.9	3	15.0	12	28.6	
College Undergrad	1	4.5	0	0	1	2.4	
Vocational	0	0	1	5.0	1	2.4	
Religion							.715
Catholic	19	86.4	18	90.0	37	88.1	
Christian	3	13.6	2	10.0	5	11.9	
Civil Status							.231
Married	6	27.3	10	50.0	16	38.1	
Single	16	72.7	10	50.0	26	61.9	
Comorbid							.192
Hypertension	5	22.73	5	25.0	10	23.8	
Diabetes	2	9.09	2	10.0	4	9.5	
Ischemic Heart Dse	1	4.55	0	0.0	1	2.4	
Asthma	2	9.09	5	25.0	7	16.7	
Hyperthyroidism	1	4.55	0	0.0	1	2.4	
Dyslipidemia	1	4.55	1	5.0	2	4.8	
Eczema	0	0.00	1	5.0	1	2.4	
BPE	0	0.00	1	5.0	1	2.4	

Comparison of intervention Groups in Aspects of Well-being

For the 15-minute regimen, based on the test of repeated measure (Friedman test), Table 3 showed the result that there is no significant difference in the “in good spirits” aspect of positive mood ($p = 0.334$). Still, there is a significant difference in the “more relaxed” aspect of positive mood ($p < 0.001$), both aspects of vitality, such as “being relaxed” ($p < 0.001$) and “waking up feeling fresh and rested” ($p < 0.001$) and general interest ($p = 0.001$) among the participants. The 15-minute regimen did not affect the feeling of being “in good spirits” as part of a positive mood, but felt “more relaxed,” “woke up feeling refreshed,” and increased general interest from baseline.

On the other hand, the 30-minute regimen showed no significant difference in positive mood ($p = 0.387$ and $p = 0.057$) and “waking up feeling fresh and rested” aspect of vitality ($p = 0.076$). Table 4 shows that there is a significant difference in the “being more active” aspect of vitality ($p = 0.027$) and general interest ($p = 0.041$). The 30-minute regimen did not affect the positive mood or the “waking up feeling fresh and rested” aspect of the vitality of the participants. However, participants felt more active and showed increased general interest from baseline.

Effect of Interventions on Overall Well-being

Comparing the effects of both interventions on the overall well-being of the participants, the results of Table 5 showed a significant difference in the 15-minute regimen ($p = 0.001$) and the 30-minute regimen ($p = 0.033$). There is an increased overall well-being or subjective quality of life among participants in both the 15-minute and 30-minute regimens.

In Table 6, Mann Whitney U Test result showed that when the overall well-being of participants in the 15-minute group was compared against the 30-minute group, there was no significant difference ($p = 0.385$, $p = 0.062$, $p = 0.878$, and $p = 0.471$), which means the overall wellbeing is basically the same.

Effects of Intervention Groups on Pain Relief

For the 15-minute arm, the result showed no significant difference ($p = 0.316$) in the participants’ pain scales (Table 3). The 30-minute regimen revealed a significant difference ($p = 0.007$) from the baseline data to the final data (Table 4). There was increased pain relief for the participants in the 30-minute regimen, while pain was not affected for the participants in the 15-minute regimen.

Table 3. Aspects of well-being in 15-minute regimen.

15 MINUTES			
Variable	friedman	p-value	Interpretation
Pain Scale	3.54	p = 0.316	Not Significant
positive mood "in good spirits"	3.403	p = 0.334	Not Significant
positive mood "more relaxed"	24.66p	p <0.001	Significant
vitality "being active"	18.223	p <0.001	Significant
vitality "wake up feeling refreshed"	23.188	<0.001	Significant
general interest	15.982,	p = 0.001	Significant

Table 4. Aspects of well-being in 30-minute regimen.

30 MINUTES			
Variable	friedman	p-value	Interpretation
Pain Scale	12.024	p = 0.007	Significant
positive mood "in good spirits"	3.031	p = 0.387	Not Significant
positive mood "more relaxed"	7.532	p = 0.057	Not Significant
vitality "being active"	9.17	p = 0.027	Significant
vitality "wake up feeling refreshed and rested"	6.872	p = 0.076	Not Significant
general interest	8.732	p = 0.041	Significant

Table 5. Overall well-being in intervention groups.

Variable	15 MINUTES		Friedman test	p-value	Interpretation	30 MINUTES		Friedman test	p-value	Interpretation
	Mean	Std. Deviation				Mean	Std. Deviation			
WHO1	3.036	0.711	15.982	p = 0.001	Significant	3.2000	.45422	8.732	p = 0.033	Significant
WHO2	3.564	0.619				3.2100	.57115			
WHO3	3.627	0.630				3.5900	.91875			
WHO4	3.789	0.816				3.6000	.70711			

Table 6. Overall well-being 15-minute vs 30-minute regimen.

Variable	15 MINUTES		30 MINUTES		t -test	p-value	Interpretation
	Mean	Std. Deviation	Mean	Std. Deviation			
WHO1	3.036	0.711	3.200	0.454	-0.879	0.385	Not Significant
WHO2	3.564	0.619	3.210	0.571	1.918	0.062	Not Significant
WHO3	3.627	0.630	3.590	0.919	0.155	0.878	Not Significant
WHO4	3.789	0.816	3.600	0.707	0.730	0.471	Not Significant

DISCUSSION

The time-bound regimens did not affect positive mood, but vitality and general interest were increased in both regimens. Overall well-being improved in both regimens, but the effects were most likely the same, meaning no regimen was superior to the other. Furthermore, pain improvement was observed in the 30-minute regimen.

Similarly, according to a study in 2017, patients' general well-being was enhanced by a 30-minute physiotherapy program that included active exercises, myofascial release, and proprioceptive neuromuscular facilitation techniques. The program also lessened the severity of coexisting symptoms like pain, drowsiness, appetite loss, and depression.⁸ Another study in 2018, physical therapy techniques like exercise and myofascial release therapy are effective in lowering disability, enhancing emotional states, and enhancing quality of life.⁹ Furthermore, According to a study conducted in 2021, self-myofascial release improved feelings of perceived wellbeing.¹¹

Benefits of Myofascial Release therapy for pain included immediate pain relief, decreased tissue tenderness, edema and inflammation, less need for analgesics, enhanced muscle recovery after trauma, and increased range of motion in afflicted joints.¹² A 2019 study on cancer patients revealed that after four weeks of treatment, those who received myofascial release therapy had a significant reduction in short- and mid-term pain intensity, which also resulted in a general improvement in range of motion. Following the application of myofascial release, the overall quality of life and its physical well-being dimension showed significant improvements.¹⁰ On the contrary, a 2018 systematic review found that effect sizes in low back pain and fibromyalgia studies did not reach the minimally significant difference for pain and disability. As a result, the available evidence for myofascial release therapy is not strong enough to support its use in treating chronic musculoskeletal pain.²

Limitations of the study included no comprehensive monitoring for participants after the intervention schedule for the use of additional treatment modalities such as pain medications, warm or cold compresses, etc. Another is that the study did not require a specific body area of pain. Moreover, the possibility that the pain has a non-muscular origin may also limit the participants' response to the intervention.

CONCLUSION

For the aspects of well-being, the time-bound regimens had no effect on positive mood, but both regimens increased vitality and general interest. Both 15- and 30-minute integrative medicine regimens increased the well-being of the participants. However, the effects of both regimens on overall well-being were almost the same, which means that no regimen is better than the other. Hence, the duration of the intervention did not matter much unless specific treatment outcomes were expected. A 30-minute regimen is recommended if relief from muscle pain is desired. On the other hand, if improvement in well-being is desired, a 15-minute regimen is more practical.

Recommendations for future studies include having measures to monitor the simultaneous use of other additional treatment modalities comprehensively. A focused body area of pain may be investigated.

REFERENCES

1. Kretchy IA, Okere HA, Osafo J, Afrane B, Sarkodie J & Debrah P. Perceptions of traditional, complementary and alternative medicine among conventional healthcare practitioners in Accra, Ghana: Implications for integrative healthcare. *J Integr Med* 2016; 14(5): 380–8. [https://doi.org/10.1016/S2095-4964\(16\)60273-X](https://doi.org/10.1016/S2095-4964(16)60273-X)
2. Laimi K, Mäkilä A, Bärlund E, Katajapuu N, Oksanen A, Seikkula V, Karppinen J & Saltychev M. Effectiveness of myofascial release in treatment of chronic musculoskeletal pain: a systematic review. *Clin Rehab* 2018; 32(4): 440–50. <https://doi.org/10.1177/0269215517732820>
3. Giacobbi PR, Jr, Stewart J, Chaffee K, Jaeschke AM, Stabler M & Kelley GA. A scoping review of health outcomes examined in randomized controlled trials using guided imagery. *Progress Prev Med (New York, N.Y.)* 2017; 2(7): e0010. <https://doi.org/10.1097/pp9.0000000000000010>
4. de Witte M, Spruit A, van Hooren S, Moonen X & Stams G J. Effects of music interventions on stress-related outcomes: a systematic review and two meta-analyses. *Health Psychol Rev* 2020; 14(2): 294–324. <https://doi.org/10.1080/17437199.2019.1627897>
5. To Topp CW, Østergaard SD, Søndergaard S & Bech P. The WHO-5 Well-Being Index: a systematic review of the literature. *Psychother Psychosom* 2015; 84(3): 167–76. <https://doi.org/10.1159/000376585>
6. Wong-Baker FACES Foundation. Wong-Baker FACES® Pain Rating Scale. Retrieved [Date] with permission from <http://www.WongBakerFACES.org>. Originally published in Whaley & Wong's Nursing Care of Infants and Children. © Elsevier Inc. 2022
7. Court RG, Wiesner L, Chirehwa MT, Stewart A, de Vries N, Harding J, Gumbo T, McIlleron H & Maartens G. Effect of lidocaine on kanamycin injection-site pain in patients with multidrug-resistant tuberculosis. *Int J Tuberc Lung Dis* 2018; 22(8): 926–30. <https://doi.org/10.5588/ijtld.18.0091>
8. Pyszora A, Budzyński J, Wójcik A, Prokop A & Krajnik M. Physiotherapy programme reduces fatigue in patients with advanced cancer receiving palliative care: randomized controlled trial. *Supportive Care in Cancer* 2017; 25(9): 2899–908. <https://doi.org/10.1007/s00520-017-3742-4>
9. Şimşek T, Yümin T & Sertel M. Comparison of the effects of physiotherapeutic approaches and body awareness therapy on disability, fatigue, anxiety, well-being, and health-related quality of life in migraine patients. *Int J Modern Altern Med Res* 2018; 6: 1–11. http://www.bluepenjournals.org/ijmamr/pdf/2018/January/Simsek_et_al.pdf
10. Serra-Añó P, Inglés M, Bou-Catalá C, Iraola-Lliso A & Espí-López GV. Effectiveness of myofascial release after breast cancer surgery in women undergoing conservative surgery and radiotherapy: a randomized controlled trial. *Supportive Care in Cancer* 2019; 27(7): 2633–41. <https://doi.org/10.1007/s00520-018-4544-z>
11. Kerautret Y, Guillot A, Eyssautier C, Gibert G & Di Rienzo F. Effects of self-myofascial release interventions with or without sliding pressures on skin temperature, range of motion and perceived well-being: a randomized control pilot trial. *BMC Sports Sci Med Rehab* 2021; 13(1): 43. <https://doi.org/10.1186/s13102-021-00270-8>
12. Werenski J. The effectiveness of Myofascial release technique in the treatment of Myofascial pain. *Lit Rev Jun* 2011; 17; 32: 440-50.