

## Review Article

# Evaluating the impact of stress reduction interventions as supportive approach in patients with depressive disorder

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## ABSTRACT

Depressive disorder is widely recognized as a significant global health challenge, impacting 350 million people worldwide. Stress reduction interventions have emerged as an essential nonpharmacological approach to managing depression, complementing pharmacological treatments. This review examines how stress reduction interventions can reduce stress and depression severity among patients with depressive disorder. A wide-ranging electronic literature search identified studies that satisfied the predefined criteria using PubMed, Medline, Google Scholar and Cochrane Library. Key findings from the majority of the studies indicate relaxation techniques interventions, yoga interventions, cognitive behavioural therapy, complementary therapies, self-awareness interventions and mindfulness as predominant therapeutic strategies in the reduction of stress and depression. These interventions also improved quality of life, social adaptability, resilience and reduced anxiety. Practicing stress reduction interventions might be a useful element of multi-component treatment modalities in a patient with depressive disorder. Further research is needed to expand its application in multimodal stress reduction interventions and incorporate them into clinical practice to enhance outcomes for patients with depression.

**Keywords:** Depressive disorder, Stress reduction interventions, Supportive approach

## INTRODUCTION

Depression is a highly prevalent psychiatric illness marked by a diminished mood or pleasure in usual activities, impaired social and occupational functioning, low energy and occasionally anxiety or suicide risk.<sup>1</sup> Depression disorder is predicted to be among the second leading causes of the global burden of disease at the end of 2030.<sup>2</sup> Worldwide population living with depression is estimated to be 322 million, which is 4.4% of the total population. Furthermore, prevalence has increased by 18.4% from 2005 to 2015.<sup>3</sup> Depressive disorders impair functioning and are often recurrent, making them the leading cause of disability worldwide.<sup>4</sup>

The treatment of depressive disorders faces widespread challenges, including significant gaps in mental health

resources, particularly in less developed countries. The treatment coverage for mental illness especially depression continues to be insufficient in several regions worldwide specifically in poor and lower-middle-income nations.

The worldwide treatment gap and coverage in depressive disorder showed that 33% of treatment coverage for mental health services in high-income locations from 2000 to 2019, whereas only 8% in poor and lower-middle-income nations.<sup>5</sup> Nearly 66.33% of patients with depression disorder reported disability of different severity and an average treatment gap for the major depressive disorder was 79.1% in the Indian population.<sup>6</sup>

Depressive disorder is often considered a type of stress-related disorder.<sup>7</sup> Accordingly, exposure to adverse life

events and the severity of stress display a significant role in the course of major depressive disorders.<sup>8</sup> Furthermore, much evidence suggests that individuals with depression disorders perceive their lives as more stressful.<sup>9</sup> World Health Organisation (2021) reported people who experienced adverse life events are more susceptible to depressive disorder. Depression contributes to significant stress and dysfunction, which not only impact an individual's life circumstances but also perpetuate the condition itself.<sup>10</sup>

The most widely used treatment modalities for depression disorder are psychopharmacology, psychological therapies and electroconvulsive therapy. Many patients find it difficult to tolerate antidepressants due to their side effects or other limitations.

Consequently, clinicians and patients prefer non-pharmacological treatments including alternative therapies and psychotherapy. Whereas, in every treatment strategy, it must be possible to use the best combining treatment for better outcomes. The best treatment is the one that has less dropout, fewer side effects and the highest efficacy in recovery.<sup>11</sup>

The study aimed to identify original research on various stress reduction interventions and their role in supporting approaches for patients with depressive disorders.

## METHODS

To obtain relevant articles, Studies were searched using electronic search engines databases from PubMed, Cochrane Library, MEDLINE, Google Scholar electronic database and other sources such as reports, thesis or dissertations using the Medical Subject Heading and keywords ("stress reduction" OR "stress management" OR "stress interventions" OR "stress outcomes") AND ("patients with depressive disorder" OR "depressive disorder" "depressed patient" OR "depression disorder").

To find other pertinent studies, the references list of the selected articles was also examined. Based on the objectives of the review, inclusion and exclusion criteria were prepared and selected studies from various databases. Based on that the selected studies were checked for usefulness, clarity and content. Studies were involved in the review if they fulfil the following eligibility criteria.

### Inclusion criteria

The review includes studies that focus on reducing stress and depression as a primary or secondary outcome, involving participants diagnosed with depressive disorders. It considers articles with full texts or abstracts available in English and those recommending interventions to alleviate stress and depression.

The included studies employ quantitative methods, such as randomized controlled trials (RCTs), experimental designs and quasi-experimental approaches, examining stress reduction interventions for patients with depressive disorders limited to the year 2014 to 2022. Both individual and group-based interventions are encompassed.

### Exclusion criteria

The review excluded studies on depression combined with other medical conditions, such as cancer or diabetes, as well as subjects with other psychiatric disorders or substance abuse. Articles lacking methodological details or focusing on other than stress reduction outcomes were also excluded.

## RESULTS

In this literature review, multiple studies were analysed to evaluate the effectiveness of stress reduction interventions in patients with depression disorder. Table no. 1 summarizes the research study including author/publication year, authors of the study, country, research design, number of participants, treatment type, intervention session, scale and outcome measures. The review consists of five (45.4%) randomized control trials.<sup>13,18,20-22</sup>

Six (54.4%) quasi-experimental studies.<sup>12,14-17,19</sup> As per the number of participants concerned, in the RCTs, the total number of patients with depressive disorder ranged from 19 to 171, whereas 23 to 60 in quasi-experimental studies. Out of a total of 11 studies, the majority were done in Egypt (n=3), followed by one study each from India, United states, Iran, Hong Kong, Greece, Thailand, Netherlands and Switzerland (Table 1).<sup>12-18,22</sup>

The most commonly employed tools to assess depression and stress were Depression Anxiety Stress Scale (DASS) in six studies, the Perceived Stress Scale (PSS) and Hamilton Depression Rating Scale (HDRS) scale used in three studies, the Beck depression inventory (BDI) in two studies and Patient Health Questionnaire (PHQ-9) used in one study.<sup>12-22</sup>

It is noted that relaxation techniques intervention, cognitive behaviour therapy, relaxation techniques intervention, self-awareness, stress management and resilience strategies, music therapy and mindfulness meditation training appear to be more effective for the reduction in stress and depression levels.

Overall, the literature suggests that stress reduction interventions are effective in alleviating stress and the severity of depression, while also improving self-efficacy, reducing anxiety and enhancing the quality of life in patients with depressive disorder within a supportive setting (Table 1).

**Table 1: Studies focused on stress reduction interventions in patients with depressive disorder (n=11).**

| Author and year of publication              | Country       | Research design                                                 | No. of participants                            | Treatment type                                                              | Treat-ment session                                                  | Scale                                                                    | Result                                                                                                                                                                              |
|---------------------------------------------|---------------|-----------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Atia et al, 2020<sup>12</sup></b>        | Egypt         | Quasi-experimental one-group pre-post-test design               | 34 depressed patients                          | Mindfulness training techniques                                             | session: 8 consecutive weekly sessions and each for 120 minutes     | DASS                                                                     | The mean stress score was $18.8 \pm 3.14$ and the depression score was $27.8 \pm 3.85$ found to be statistically significant at post-mindfulness intervention at $p > 0.001$        |
| <b>Bressington et al, 2019<sup>13</sup></b> | Hong Kong     | Parallel group randomized control group design                  | 50 people with depressive disorder             | Group-based laughter yoga intervention.                                     | <b>Session:</b> 8 sessions in 4 weeks, each for 45 minutes          | DASS Short Form 12-item Health Survey                                    | The group-based laughter yoga group had a statistically significant decrease in depression levels at $p = 0.023$ , however, no significant differences in stress and anxiety        |
| <b>Amsavahin et al, 2020<sup>14</sup></b>   | India         | Quasi-experimental non-randomized control group design          | 60 patients with depressive disorder           | The psychiatric nurse initiated complementary therapy.                      | <b>Session:</b> 5 sessions on three consecutive days                | PSS<br>PSS<br>PSQI                                                       | The mean stress level improvement of the experiment group was 7.17 ( $t = 9.36$ ) and was found to be significant at $p < 0.001$                                                    |
| <b>Malky et al, 2015<sup>15</sup></b>       | Egypt         | Quasi-experimental design (one group pre-test-post test design) | 30 patients with depression disorder           | Stress Management Programme                                                 | <b>Session:</b> 8 consecutive weekly sessions, each for 120 minutes | DASS                                                                     | Mean improvement in post-stress management programme in depression and stress scores were found to be significant at $p < 0.05$                                                     |
| <b>Seshadri et al, 2020<sup>16</sup></b>    | United States | Pre-test post-test design                                       | 23 patients with depressive disorder           | Stress Management and Resiliency Training                                   | Session: 8 sessions of SMART therapy and each for 75-90 minutes     | PSS<br>HDRS-17<br>PHQ-9<br>CD-RISC.                                      | The SMART interventions showed a significant reduction in the mean stress score of 19.4 and an improvement in the mean depression HDRS score of 9.1 at a 0.05 level of significance |
| <b>Ibrahim et al, 2017<sup>17</sup></b>     | Egypt         | Quasi-experimental one-group pre/post design                    | 45 patients with the first episode of MDD      | Cognitive Behavioral Nursing Intervention                                   | Session: 9 sessions for 3 months, each for 120 minutes              | DASS<br>GSEI<br>Inventory of cognitive distortions                       | The statistically significant differences in pre and post-intervention in depression level $t = 17.53$ , ( $p = 0.000$ ) and stress level $t = 14.13$ at $p = 0.000$                |
| <b>Psarraki et al, 2021<sup>18</sup></b>    | Greece        | Two-arm randomized controlled trial                             | 69 participants with Major depressive disorder | Holistic stress management program, Pythagorean Self-Awareness Intervention | Session: 8 sessions for eight weeks each for 60-120 minutes         | BDI- II<br>HLPCQ<br>PANAS<br>PSQI<br>DASS<br>BICAMS<br>Salivary cortisol | The PSAI group showed significant reductions in depression level ( $p = 0.001$ ) and stress severity ( $p = 0.040$ ) compared to the control group                                  |
| <b>Abbasian et al, 2014<sup>19</sup></b>    | Iran          | Quasi-experimental design                                       | 40 patients with depressive disorder           | Stress training through cognitive-behavioral techniques                     | Session: 8 education sessions for 8 weeks and each for 90 minutes   | Cooper's stress questionnaire.<br>HDRS<br>BSAQ                           | The modified mean stress ( $F = 12.45$ , $p < 0.001$ ) and depression ( $F = 5.36$ , $p < 0.02$ ) were statistically significant at $p < 0.001$                                     |

Continued.

| Author and year of publication     | Country     | Research design                       | No. of participants              | Treatment type             | Treat-ment session                                                 | Scale                                                                   | Result                                                                                                                                                      |
|------------------------------------|-------------|---------------------------------------|----------------------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gaewlai et al, 2018 <sup>20</sup>  | Thailand    | Prospective randomized control trial  | 19 patients with MDD             | Active group music therapy | Active group music therapy for 1.5 hours/session/ week for 7 weeks | PSS-10<br>Thai - MADRS<br>Thai-PSQI<br>WHOQoL<br>Thai-HADS<br>Thai-RSES | Perceived stress score significance decreased by 12.25 (p value 0.001) and depression scores were decreased by 6.88 (p=0.001) at 0.05 level of significance |
| Gerber et al, 2020 <sup>21</sup>   | Switzerland | Two-armed randomized controlled trial | 25 participants with MDD         | Aerobic exercise training  | Session:3 times/week for 6 weeks. Each session for 40-50 minutes   | BDI<br>TSST<br>IPAQ-SF<br>Salivary Cortisol                             | Depressive symptom severity decreased but no significant difference in patterns of cortisol response at baseline to post-interventions                      |
| Vollbehr et al, 2022 <sup>22</sup> | Netherlands | Randomized controlled trial           | 171 young women diagnosis of MDD | Mindful Yoga interventions | Session: 9-week group training with 1.5-hr weekly sessions         | HDRS,<br>DASS,<br>WSAS,<br>WHO QoL                                      | In depressive patients, the addition of mindful yoga did not appear to be more effective than TAU alone in alleviating depression symptoms                  |

DASS: Depression Anxiety Stress Scale, BDI: Back Depression Inventory, PSS: Perceived Stress Scale, HDRS: Hamilton Depression Rating Scale, PHQ-9: Patient Health Questionnaire. HLPCCQ: Healthy Lifestyle and Personal Control Questionnaire, GSFI: Generalized Self-Efficacy Scale, CD-RISC: Connor Davidson Resilience Scale. MADRS: Montgomery-Åsberg Depression Rating Scale, PSQI: Pittsburgh Sleep Quality Index, HADS: Hospital Anxiety and Depression Scale, WHOQOL: World Health Organization Quality of Life. TSST: Trier Social Stress Test. MDD: Major Depressive Disorder. HADS: Hospital Anxiety and Depression Scale. RSES: Rosenberg self-esteem scale. BICAMS: Brief International Assessment of Cognition for Multiple Sclerosis. IPAQ-SF: International Physical Activity Questionnaire Short Form. BSAQ: Bell's Social Adaptability Questionnaire. PANAS: Positive and Negative Affect Schedule. WSAS: Work and Social Adjustment Scale. Purpose and Personal Growth scales of the Ryff Scales of Psychological Well-Being-short form.

## DISCUSSION

### Summary of the main result

This review aimed to examine whether stress reduction intervention can be a supportive or complementary approach among patients with depressive disorder. The majority of the existing research evidence on stress reduction among patients with depressive disorder is available in Western studies (90.9%) and very few available in the Indian setting (9.09%) in defined criteria for critical appraisal of this review.<sup>12-22</sup>

### Stress reduction interventions for depressive disorder

Findings from the meta-analysis revealed elevated levels of stress biomarkers, such as salivary and hair cortisol, in individuals with depressive disorder compared to those without the condition.<sup>23</sup> Patients with depression reported reduced physical activity, increased substance use, poor sleep quality, weight gain, a sedentary lifestyle and inadequate nutrition. These factors disrupt homeostasis and elevate stress levels, posing significant challenges in managing depressive disorder.<sup>24</sup> Several measures were used to evaluate the effectiveness of stress reduction interventions in the review.

### Effectiveness of cognitive behavior therapy

Two quasi-experimental studies reported that cognitive behavior therapy was effective in reducing stress and depression among depressive patients.<sup>17,19</sup> The cognitive-behavioral nursing intervention (n=45) for outpatients with the first episode of depressive disorder, which included psycho-education, cognitive restructuring, social skills training, problem-solving, anger and stress management and compliance to treatment which was achieved through 9 sessions of CBT nursing intervention and each session for 120 minutes. The participants reported that there was an improvement in cognitive distortions and self-efficacy and also, highly statistically significant differences in levels of stress, depression and anxiety level between before and after CBT nursing intervention.<sup>17</sup> Abbasian et al, examined the efficacy of stress management training through cognitive-behavioral techniques. These interventions delivered 9 sessions on stress awareness, cognitive reconstruction communicative skills self-expression skills anger management skills breathing skills relaxation skills and problem-solving skills. The cognitive-behavioral techniques interventions were effective in decreasing stress, depression and the development of social adaptability.<sup>19</sup>

### ***Effectiveness of relaxation techniques intervention***

Evidence from a systematic review supported the positive impact of relaxation techniques on depression and stress outcomes in depressive patients. The progressive muscle relaxation, yoga and music intervention had a greater impact and most effectively reduced depression and anxiety and stress.<sup>25</sup> Malky et al, conducted eight consecutive weekly sessions, each for 120 minutes on stress management through progressive muscle relaxation and deep breathing exercises among 30 patients with depressive disorder in a hospital setting.

The mean improvement in depression and stress before and after intervention programs was found to be significant at  $p < 0.05$ .<sup>15</sup> A randomized control trial by Evgenia et al, on 69 participants with major depression received 8 sessions of Pythagorean self-awareness intervention.

The intervention group had significantly greater reductions in depression with a moderate effect size and stress with a low effect size.<sup>18</sup> The other randomized control trial by Bressington Deniel et al, evaluated Group-based laughter yoga reduces depression but the findings contradicted, that the intervention does not produce any significant improvement in stress levels among depressive patients.<sup>13</sup>

### ***Effectiveness of mindfulness training techniques***

Studies indicate that practicing mindfulness can be effective in individuals experiencing less stress, depression severity and anxiety. M. Atia et al, evaluated the efficacy of hospitalized depressed patients using 8 weekly sessions consisting of mindfulness training body scan, mindfulness, mindfulness breathing, practicing, mindfulness meditation, mindfulness eating and meditation.

Differences favoring the participants were found positive effects in reducing stress, anxiety level and depression levels in individuals with depression disorder.<sup>12</sup> Whereas, a randomized control trial conducted on 171 patients with depression revealed that Mindful Yoga Intervention showed no significant improvements in depression symptoms, MDD diagnosis rates or quality of life, except for an indirect effect on self-compassion compared to treatments as usual group.<sup>22</sup>

### ***Stress management and resiliency training***

Seshadri, et al, described the impact of stress management and resiliency training on resilience, stress and depression levels in depressive patients. A total of 8 sessions of SMART therapy each for 75-90 minutes. The study concluded, there was a significant improvement in resilience, reduction in stress and improvement in depression in the participants.<sup>16</sup>

### ***Other stress reduction interventions***

The complementary therapy initiated by a psychiatric nurse with relaxation interventions, socialization, yoga intervention, sleep enhancement interventions, breath focus body scan, drug compliance and follow-up demonstrated a significant reduction in stress levels and sleep deprivation.<sup>14</sup> A RCT by Gerber et al, used an aerobic exercise for 6 weeks of the intervention consisting of engaging in coordination and stretching activities for all major muscle groups among the depressive patients.

Standardized stretching and mobility program for the control group with 3 months of follow-up. These interventions were effective in reducing Depressive symptom severity and stress level from baseline to post-intervention but no significant difference at  $p < 0.05$  level of significance.<sup>21</sup> Another RCTs more Gaewlai et al, 2018 used Active group music therapy in a hospital setting for 1.5 hours in each session for 7 weeks. Active group music therapy was effective in reducing the perceived stress and depression score.<sup>20</sup>

### ***Other psychological impacts of stress reduction interventions***

The stress reduction interventions play a significant role in terms of the development of social adaptability ( $p < 0.001$ ) and reduction of anxiety among patients with depression. While laughter yoga intervention had statistically greater improvement in mental health-related quality of life ( $p = 0.034$ ) in post-intervention.<sup>13,15,19</sup> Furthermore, Mindfulness training intervention showed a significant reduction in the mean anxiety score of  $16.6 \pm 2.42$ , at  $p > 0.001$ .<sup>12</sup>

A smart intervention showed primarily significant improvement in resilience (mean resilience score = 61.1,  $p = 0.03$ ).<sup>16</sup> Whereas, sleep quality and healthy lifestyle showed improvement as contributed by holistic stress reduction interventions.<sup>18</sup> While nurse-initiated complementary therapy interventions reveal a statistically significant difference in sleep quality score the difference is 2.84 ( $t = 4.85$ ,  $p = 0.001$ ).<sup>14</sup> While music therapy interventions improve sleep quality and quality of life ( $p = 0.010$  and  $0.008$ , respectively).<sup>20</sup> Although, changes in depression severity were not associated with variations in the cortisol response.<sup>21</sup> The self-efficacy showed a significant difference in post-intervention as an impact of stress reduction interventions in patients with depression disorder.<sup>17</sup>

This review has some limitations. First, this review involved only published literature in the English language. Second, regarding the intervention, the review included stress reduction interventions related to stress and depression among patients with depressive disorder. Third, the small sample size of intervention studies. Therefore, it may limit the representativeness of and generalizability among patients with depressive disorder.

Yet, stress reduction interventions are of most importance in depressive disorder, due to the strong association between stress and depression in patients with depression disorder.

## CONCLUSION

The review shows consistent and significant efficacy of stress reduction intervention (relaxation techniques interventions, mindfulness, cognitive behavioral therapy, self-awareness interventions, complementary therapy, laughter yoga interventions, active music therapy and aerobic exercise etc) in reducing stress, depression and other outcomes in patients with depressive disorder. The health professionals may blend stress management intervention into standard care for patients with depressive disorder in clinical settings and policymakers consider this while preparing health care policy.

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## REFERENCES

1. Townsend M. Essential of psychiatric mental health nursing, concept of care in evidence-based practice. 4th ed., Davis company, Philadelphia. 2008: 335-36.
2. Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. PLoS Med. 2006;3(11):442.
3. Friedrich M. Depression Is the Leading Cause of Disability Around the World. JAMA. 2017;317(15):1517.
4. World Health Organization 2012. Depression A Global Public Health Concern. Depression: A Global Crisis World Mental Health Day, October 10 2012. depression A Global Public Health Concern. Available at [https://www.who.int/mental\\_health](https://www.who.int/mental_health). Assessed on 02 April 2023.
5. Moitra M, Santomauro D, Collins PY, Vos T, Whiteford H, Saxena S, et al. The global gap in treatment coverage for major depressive disorder in 84 countries from 2000–2019: A systematic review and Bayesian meta-regression analysis. PLoS Med. 2022;19(2):1003901.
6. Arvind BA, Gururaj G, Loganathan S NMHS collaborators group. Prevalence and socioeconomic impact of depressive disorders in India: multisite population-based cross-sectional study. BMJ Open. 2019;9:27250.
7. Qin, Dong-Dong. Prolonged secretion of cortisol as a possible mechanism underlying stress and depressive Sci Rep. 2016;6:30187.
8. Hammen, Constance. "Stress and depression." Ann Rew of Clin Psychol. 2005;1:293-319.
9. Monroe SM, Harkness KL. Life stress, the "kindling" hypothesis and the recurrence of depression: considerations from a life stress perspective. Psychol Rev. 2005;112(2):417–45.
10. World Health Organisation. Contributing factors and prevention. 2021 Available at <https://www.who.int/new>. Assessed on 07 March 2013.
11. Anderson, Heather D. Rates of 5 common antidepressant side effects among new adult and adolescent cases of depression: a retrospective US claims study. Clinical therapeutics. 2012;34(1):113-23.
12. Merfat. M. Atia, Lobna E. Sallam. The effectiveness of mindfulness training techniques on stress, anxiety and depression of depressed patient. American J Nurs Res. 2020;8(1):103-13.
13. Bressington D, Mui J, Yu C, Leung SF, Cheung K, Wu CS, Bollard M, Chien WT. Feasibility of a group-based laughter yoga intervention as an adjunctive treatment for residual symptoms of depression, anxiety and stress in people with depression. J Affec Disord. 2019;248:42-51.
14. Amsavahini. M. A study to assess the effectiveness of psychiatric nurse-initiated complementary therapy on stress and sleep deprivation among depressive clients attending outpatient department at the psychiatric tertiary care center, Chennai. The Tamilnadu Dr.M.G.R. Medical University, Chennai. 2020. Assessed on 05 April 2023.
15. M. I. El Malky, M. M. Atia, S. H. El-Amrosy. The effectiveness of stress management programme on depression, stress and anxiety of depressed patients. J Nurs Sci. 2015;2(1):15-24.
16. Seshadri A, Clark MM, Kung S, Fuller-Tyszkiewicz M, Sood A, Dammen KC, et al. Feasibility Study of Stress Management and Resiliency Training (SMART) in Patients With Major Depressive Disorder. Prim Care Companion CNS Disord.. 2020;22(3):2556.
17. Ibrahim FM, Adam SS. The Effect of Cognitive Behavioral Nursing Intervention on Cognitive Distortions and Self-Efficacy among Patients with First Episode Major Depressive Disorder. Egyptian Journal of Health Care. 2017;8(4):286-304.
18. Psarraki, Evgenia E. The effects of Pythagorean Self-Awareness Intervention on patients with major depressive disorder: A pilot randomized controlled trial. J Psychiatr Res. 2021;138:326-34.
19. Abbasian F, Najimi A, Meftagh SD, Ghasemi G, Afshar H.. The effect of stress management training on stress and depression in women with depression disorders: Using cognitive-behavioral techniques. J Educ Health Promot. 2014;3:70.
20. Gaewlai P, Vallibhakara SA, Perkins KM, Chantira M, Jaitieng N, Sephu S, et al. Comparative effectiveness of active group music therapy in major depressive disorder compared to standard group psychotherapy: a randomized controlled trial. J Med Assoc Thai. 2018;101:529-35.
21. Gerber M, Imboden C, Beck J. Effects of aerobic exercise on cortisol stress reactivity in response to the trier social stress test in inpatients with major

- depressive disorders: a randomized controlled trial. *J Clin Med*. 2020;9(5):1419.
22. Vollbehr NK, Hoenders HJR, Bartels-Velthuis AA, Nauta MH, Castelein S, Schroevers MJ, et al. Mindful yoga intervention as add-on to treatment as usual for young women with major depressive disorder: Results from a randomized controlled trial. *J Consult Clin Psychol*. 2022;90(12):925-41.
  23. Knorr U, Vinberg M, Kessing LV, Wetterslev J. Salivary cortisol in depressed patients versus control persons: a systematic review and meta-analysis. *Psychoneuroendocrinology*. 2010;35(9):1275–86.
  24. Lopresti AL, Hood SD, Drummond PD. A review of lifestyle factors that contribute to important pathways associated with major depression: diet, sleep and exercise. *J Affect Disord*. 2013;148(1):12–27.
  25. Klainin-Yobas P, Oo WN, Suzanne Yew PY, Lau Y. Effects of relaxation interventions on depression and anxiety among older adults: a systematic review. *Aging & mental health*. 2015;19(12):1043-55.

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