

# BMJ Open Systematic review protocol of yoga therapy as a modality in occupational therapy practice for adults experiencing mood disorders

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## ABSTRACT

**Introduction** Mood disorders can have a negative impact on daily functioning because cognitive deficits are exacerbated when individuals experience associated symptoms. Nevertheless, yoga therapy has been found to have enhancing features to well-being and quality of life. Occupational therapists are well positioned to include yoga as a modality to benefit clients experiencing mood disorders. However, literature on yoga interventions for mood disorders is underdeveloped causing an inadequate understanding of the health benefits. Thus, the aim of this study is to gain further knowledge associated with the implications of yoga as an intervention to increase participation in activities of daily living and enhance the quality of life of individuals experiencing mood disorders. This review will answer the following research question: can yoga therapy be used as an effective modality in occupational therapy practice to manage symptomatology related to mood disorders through increasing engagement in daily tasks?

**Methods and analysis** OVID Medline, Embase as well as CINAHL Plus, Cochrane Library (Wiley), APA PsycINFO and Scopus will be explored to adhere to the following criteria: (1) studies discussing adults diagnosed with mood disorders, specifically bipolar and related disorders or depressive disorders as stated in the Diagnostic Statistical Manual of Mental Disorders-5; (2) studies discussing implementation of yoga therapy; (3) a correlation between mood disorders and effectiveness of yoga therapy.

**Ethics and dissemination** Ethics approval is not applicable for this study, due to obtaining data from existing research articles. The completed manuscript will be submitted in a peer-reviewed journal for publication. **PROSPERO registration number** CRD42021283157

## INTRODUCTION

Mood disorders are a form of mental health challenges (MHCs) impacting over 154 million individuals worldwide.<sup>1</sup> As indicated by the 5th edition of the Diagnostic Statistical Manual of Mental Disorders (DSM-5) and the 11th revision of the International Classifications of Diseases (ICD-11), mood disorders can be categorised into groups including bipolar or related disorders

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The Cochrane Risk of Bias Tool 2.0 will be used to incorporate a criteria list outlining bias, which will promote the credibility of the data.
- ⇒ A detailed summary of inclusion and exclusion criteria will be included to ensure the most relevant articles are selected for the review.
- ⇒ There will be various researchers and/or evaluators with expertise to gather relevant information on the topic.
- ⇒ The use of only English language articles will reduce the number of articles retrieved discussing the effectiveness of yoga therapy for mood disorders.
- ⇒ Based on the preliminary search results, there may be limited articles available with the required depth of information needed to answer the research question proposed.

(bipolar I disorder and bipolar II disorder) and depressive disorders (major depressive disorder, cyclothymic disorder, dysthymic disorder and premenstrual dysphoric disorder).<sup>2 3</sup> According to the ICD-11,<sup>3</sup> the diagnosis of a mood disorder depends on the presentation of mood-related symptoms and identified patterns over time. Nonetheless, yoga therapy is becoming a popular treatment modality to address symptoms associated with mood disorders.<sup>4 5</sup> Occupational therapists also have the expertise to incorporate yoga therapy into treatment to promote engagement in daily activities leading to improvements in function impacted by mood disorders.<sup>4</sup> Particularly, occupational therapists are holistic client-centred regulated professionals who promote health, well-being and quality of life of individuals to overcome barriers to engagement, participation and/or performance within their daily activities.<sup>6</sup> However, in healthcare settings, the evidence pertaining to the effectiveness of implementing yoga therapy is inconclusive. Therefore, the purpose of the proposed systematic



review and meta-analysis is to identify how yoga can be combined with occupational therapy to reduce symptomatology associated with mood disorders and overall increase participation in activities of daily living (ADLs) and enhance quality of life.

Yoga therapy is a client-centred partnership between a therapist and a client where compassionate care, shared decision making and the development of a therapeutic alliance are essential to the process.<sup>7</sup> The International Association of Yoga Therapists defined yoga therapy as 'the process of empowering individuals to progress toward improved health and well-being through the application of the teachings and practices of yoga'.<sup>7</sup> The eight-limbed path of yoga originating from India includes ethical practices (yamas), disciplines (niyamas), physical postures (asana), breathing practices (pranayama), sensory awareness and control (pratyahara), concentration (dharana), meditation (dhyama) and absorption (samadhi).<sup>8</sup> For the purpose of this protocol, the authors will be using the terms yoga and yoga therapy interchangeably. The practice of yoga integrates the mind and body through coordinated breathing, movement and meditation to promote well-being; inner attention to habits that play a role in the perception of pain; self-study that enhances awareness of sensation; and a reduction in stress.<sup>5 7</sup> Furthermore, occupational therapists (OTs) are well positioned to include yoga as a modality to benefit clients experiencing mood disorders as yoga exhibits mood-enhancing components.<sup>9 10</sup>

Mood disorders have led to over one-quarter of Canadian adults experiencing difficulty engaging in daily tasks.<sup>11 12</sup> According to the WHO, daily tasks are considered ADLs that individuals need, want or are expected to engage in to bring purpose to their life.<sup>6</sup> An ADL can be categorised into 'basic' ADLs involving one's ability to engage in self-care activities such as bathing, dressing, or feeding themselves or 'instrumental' ADLs involving one's ability to engage in home or community-based activities such as caring for children, finances or meal preparation.<sup>13</sup> In the Government of Canada's 2014 survey discussing lived experiences with chronic diseases, it was discovered that mood disorders had a direct correlation with decreased engagement in leisure, social and self-care ADLs. Specifically, mood disorders impacted over 50% of individuals' ability to engage in leisure, recreational activities, and socialise with family and friends.<sup>12</sup> Approximately 33% of individuals with mood disorders also experienced challenges with bathing and dressing.<sup>12</sup> Through using yoga as a modality for occupational therapy, individuals with mood disorders can participate in a mind-body practice to promote function and increase independence with ADL engagement leading to an enhanced quality of life.<sup>14</sup>

Despite the impact on engagement in daily tasks, Vollbehr and colleagues<sup>15</sup> noted that individuals with chronic mood disorders often choose to not seek help and may not respond to treatment. Additionally, mood disorders are comorbid with many other conditions such as anxiety

disorders, malignant catatonia and schizophrenia.<sup>2</sup> Correspondingly, the treatment of mood disorders has varied over time due to advances in psychopharmacology, classification of symptoms, diagnostic tools, interventions and outcome of relevant literature.<sup>1</sup> As a result, individuals with mood disorders have several treatment options including psychopharmacological and non-drug-related therapies; however, approximately 40% of individuals become resistant to these treatments due to additional comorbidities, an inability to adhere to available therapies or a lack of appropriate services.<sup>1</sup> Therefore, incorporating treatments that are effective, such as yoga therapy, will enable individuals experiencing mood disorders to receive the necessary assistance required to manage symptoms that may be impacting ADLs and enhance well-being.<sup>6 15</sup> However, there is limited research regarding the therapeutic aspects of yoga that may improve the biological mechanisms associated with mood and in turn, mood disorders.<sup>10</sup>

Mood disorders impact a wide range of individuals; however, literature on yoga interventions for MHCs, including mood disorders, is underdeveloped causing an inadequate understanding of the health benefits.<sup>7 16</sup> Ideally, yoga therapy aims to increase quality of life and well-being by reducing symptomatology related to MHCs.<sup>10</sup> However, there are gaps within the literature due to methodological limitations such as low quality and/or risk of bias, which has led to inconclusive study results regarding the use of yoga to help with MHCs.<sup>7 16 17</sup> Moreover, to the best of our knowledge, there are no systematic reviews written to examine yoga therapy as a modality in occupational therapy practice for adults experiencing mood disorder. Therefore, the systematic review and meta-analysis proposed aim to gain further knowledge associated with the implications of yoga as an intervention to increase engagement in daily activities and enhance the quality of life of individuals living with mood disorders.<sup>7 18</sup>

The purpose of this review is to answer the following research question: can yoga therapy be used as an effective modality in occupational therapy (OT) practice to manage symptomatology related to mood disorders through increasing participation in daily tasks.

## METHODS AND ANALYSIS

### Study design

The authors will be completing a systematic review of peer-reviewed literature pertaining to yoga as a modality for OT for adults experiencing mood disorders. Systematic reviews answer specific clinical questions using explicit criteria, the best evidence available and an unbiased search of relevant literature to support the use of scientific information in clinical practice.<sup>17 18</sup> A systematic review uses pre-specified eligibility criteria to identify, appraise and synthesise empirical evidence.<sup>19</sup> Specifically, the authors will use a systematic review to identify all relevant studies related to yoga as a modality for OT and yoga

for mood disorders. A systematic review and meta-analysis are the best formats for answering the research question because it will enable the authors to gather all the relevant evidence regarding yoga as a modality for OT. The authors used the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) checklist in the development of this protocol.<sup>20</sup> Accordingly, a systematic review will enable the authors to determine the most rigorous evidence on the effectiveness of the strategies that will promote the implementation of the research findings related to yoga as a modality for OT. This process will allow the authors to make an informed decision regarding yoga and its application in clinical OT practice. In comparison, other study designs may not be broad enough in focus to provide a definitive answer to the authors' research question.

### Search strategy

The data sources will be peer-reviewed literature discussing yoga therapy regarding OT and mood disorders. The research team, which consists of OT students and registered OTs, will work remotely for this project using a computer to conduct the search. The electronic databases that will be explored include OVID Medline, Embase as well as CINAHL Plus, Cochrane Library (Wiley), APA PsycINFO and Scopus.<sup>21</sup> After much consideration, these databases were chosen due to their connection with the health sciences discipline, their accessibility through various platforms and their appropriate use in systematic reviews.<sup>21 22</sup> In addition to the databases, the authors will be using grey literature sources such as white papers, database searching and targeted web searches and Google searchers. The grey literature will use the systematic approach detailed by Godin *et al.*<sup>23</sup> To keep the resources organised, the authors will use the Zotero reference management programme.<sup>24</sup> Equally, to gather further information, the research team may potentially contact the study authors. Moreover, the authors will consult with a health systems librarian to refine the search strategy.

To generate search terms, the authors will seek the expertise of a librarian. Ideally, the terms used should correlate with each other. The concept of 'yoga' can correlate with the search term 'yogic'. Regarding the concept of mood disorders, search terms would encompass the various types which include mood disorders: bipolar I disorder, bipolar II disorder, bipolar disorder, cyclothymic disorder, major depressive disorder, persistent depressive disorder, dysthymia, chronic depressive disorder, chronic depression and premenstrual dysphoric disorder. See online supplemental appendix for an outline of the search syntax.

### Eligibility criteria

This study does not require human participants as the authors will be reviewing published peer-reviewed literature to gain an understanding of how yoga therapy can be used to help adults experiencing mood

disorders. Additionally, each peer-reviewed article will have a different set of inclusion and exclusion criteria relating to the use of yoga therapy for mood disorders in adults.

### Population

Studies included should comprise an adult population of individuals ages 18 years to 65 years old diagnosed with a mood disorder as recognised by the DSM-5 or ICD-11. The purpose of focusing on an adult population is due to the likelihood of receiving a diagnosis. Bipolar and related disorders as well as depressive disorders that are highly comorbid with mood disorders can also be included; however, they will not be a focus of the review. When describing mood disorders, the authors will be referring to the following: bipolar I disorder, bipolar II disorder, major depressive disorder, cyclothymic disorder, dysthymic disorder and premenstrual dysphoric disorder.

### Intervention

There are numerous types and variations of yoga discussed within the literature; therefore, for the purpose of this systematic review, the International Association of Yoga Therapists' definition will be used. Studies must include yoga therapy as an independent intervention, not as a cointervention. Additionally, the studies will be considered regardless of whether the participants are receiving occupational therapy services.

### Type of study

The authors have chosen articles dating from 2002 to 2022, a 20-year time frame, to maintain the clinical relevance of articles.<sup>25</sup> All forms of empirical research designs are eligible for the study. This includes randomised controlled trials, observational studies, cross-sectional research and correlational studies that evaluate the effectiveness of yoga therapy in increasing participation in daily activities and improving mood disorder symptoms. All articles included must be published and/or translated into English.

### Data collection

To complete the data collection process, the authors will complete a screening of the articles to identify if they adhere to the inclusion and exclusion criteria and then remove any duplicate titles.<sup>22</sup> To complete the initial screening process of titles and abstracts of each article, the Zotero reference management programme<sup>24</sup> and Covidence<sup>26</sup> will be used, as previously mentioned. Next, the authors will manually sort the remaining titles and abstracts to ensure they meet the inclusion and exclusion criteria.<sup>22</sup> The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram will be provided to outline retrieved articles.<sup>27</sup>

### Data extraction

After the screening process is completed, the authors will use a data extraction form to independently assess and rate the quality of the articles as the form will allow for



prompt comparisons.<sup>22</sup> Additionally, to extract the data, the authors will tabulate the study's participants, interventions, outcomes, qualities and effects to identify the differences.<sup>28</sup> Through using qualitative and quantitative statistical software, the authors can determine homogeneity and/or heterogeneity. There will be two independent reviewers extracting and screening the data to reduce biases and to ensure internal validity, as well as inter-rater reliability. If necessary, a third independent reviewer from the research team will be present to resolve potential disagreements.

### Risk of bias assessment

To complete a quality assessment, the authors may use the Cochrane Risk of Bias Tool 2.0<sup>29</sup> because it is commonly used within systematic reviews, and it analyses the design and determines the believability of the results.<sup>21</sup> The Critical Appraisal Skills Programme Checklist may be used for case control studies,<sup>30</sup> and the Newcastle-Ottawa Scale for cross-sectional studies.<sup>31</sup> Completing a quality assessment will enable the authors to identify if the data has been impacted by any forms of biases which will impact the ability to answer the research question.<sup>22</sup> To assess the risk of bias within randomised control trials, non-randomised systematic intervention and/or grey literature, the authors will follow a criteria list that identifies biases including recall, observation, confirmation, publishing, selection, performance, detection, attrition and reporting. Specifically, the authors may use the Cochrane Risk of Bias Tool 2.0<sup>29</sup> as this will promote the credibility of the results informed by the design of a systematic review.<sup>22</sup>

### Data synthesis

The authors will develop a summary table used to identify parameters describing characteristics required for all included studies. Additionally, the Grading of Recommendations Assessment, Development, and Evaluations (GRADE) framework will be used for rating the strength of evidence pertaining to the relationship between yoga therapy and mood disorders.<sup>32</sup>

### Meta-analysis

The relative risk and ORs for each study reviewed will be combined using a meta-analysis to gather an in-depth understanding of the true effect of yoga therapy on mood disorders. The random-effects model will be used to test the prevalence proportion of the implementation of yoga in OT practice to manage mood disorder symptoms in adults which may impact their function. A forest plot will be incorporated to combine the results from articles that are synthesised within the review. The 'metafor' package will be used as a tool to identify the meta-analysis of proportions.<sup>33</sup> The level of heterogeneity will be measured using the I<sup>2</sup> statistic.<sup>34</sup> Lastly, the trim and fill non-parametric method will be used to complete sensitivity analyses, thus, to account for publication bias.<sup>35</sup>

### Patient and public involvement

None

## DISCUSSION

The purpose of this systematic review is to explore the use of yoga as a modality for OT to increase participation in meaningful ADLs for individuals with mood disorders. Enhanced clarity will be gained from the completion of the review and meta-analysis to determine evidence supporting the utilisation of yoga in OT practice to help adults manage symptoms associated with mood disorders. Thus, if yoga is found to be beneficial for adults with mood disorders, then yoga can be used as an effective modality for OT. For instance, yoga therapy promotes independence in activities of daily living and can potentially improve quality of life which is an area in practice OTs engage in.<sup>14</sup> OTs can potentially provide yoga therapy in practice, as an at-home therapy for clients, and/or in other non-traditional settings such as prisons, halfway houses and substance-use disorder centres, making it versatile.<sup>7 14</sup> If it is concluded that there are positive correlations between yoga therapy interventions and mood disorders based on measure of effect sizes, it will provide OTs with the opportunity to use yoga in practice in combination with conventional OT approaches. Yoga therapy is also cost-effective compared with other methods such as medication use because it can be adapted in any client-care setting with approaches and techniques that are simple and easily translated to multiple populations for long-term and short-term management of chronic conditions.<sup>7</sup> If benefits of yoga therapy are established for the target population, it may support a client-centred approach where a therapeutic alliance can be formed.<sup>7</sup> Yoga therapy, if proven effective, may also be a promising method to integrate into care plans to reduce the impact of mood disorders such as depressive symptomatology<sup>10 36</sup>; and negative emotions can be targeted by yoga which are associated with mood disorders which can impact ADLs.<sup>37</sup> As described by Lin *et al*<sup>38</sup> as cited in Gothe *et al*,<sup>38</sup> a meta-analysis was conducted to assess the impact of yoga on individuals living with cancer.<sup>38</sup> Gothe *et al* also identified that yoga had significant improvement on quality of life, physical health and psychological health, specifically a reduction in depression, anxiety and stress levels compared with the control group.<sup>38</sup> Although the aforementioned study pertains to individuals with cancer, the findings may be applicable to individuals experiencing similar mood-related symptomatology because yoga can be used as an intervention for several health conditions.<sup>38</sup> It was also noted by Harvey that mood symptoms cause greater disability in individuals with mood disorders, with the possibility of having a negative impact on daily functioning, especially given that cognitive deficits are exacerbated when individuals experience substantial symptoms associated with mood disorders.<sup>5</sup> Therefore, yoga may potentially be able to improve these negative effects and more ambitiously disabling aspects while increasing participation in ADLs.

Best practices may be promoted with the use of yoga due to the various components used in yoga therapy including exercises, movements and activities that can be

incorporated into this treatment modality. As such, yoga may be easily customised to the client, and as noted by Uebelacker and Broughton,<sup>39</sup> be of increasing interest to clinicians and clients collectively. Although OT is the field of focus for this protocol, the findings may be useful for other disciplines such as pharmacology, physicians and yoga therapists. For example, physicians and pharmacists may find the results of this systematic review useful when prescribing treatments for adults with mood disorders. Similarly, yoga therapists may be able to implement the findings of this review into their practice to engage participants with mood disorders.

Pearson *et al*<sup>7</sup> expressed that yoga therapy may be an essential player in improving patient outcomes using a multidisciplinary approach to care. There appears to be a consensus within the literature indicating that yoga-related research requires more development. For example, Jeter *et al*<sup>5</sup> found a lack of funding and methodological challenges within yoga study designs to be a reason for the limited evidence supporting the effectiveness of yoga. Nguyen-Feng *et al*<sup>16</sup> had similar findings as they recommended future studies apply a more methodologically rigorous approach to demonstrate empirical support for yoga as an effective approach to care. Thus, with the expansion of research into yoga therapy, the authors can move closer to the goal of gaining insight into all aspects of yoga therapy and how yoga can be used to address mood disorders.

**Contributors** BN-K conceptualized the project and CC and HT wrote the study protocol. BN-K and AM edited the initial protocol manuscript drafts. BN-K, AM, CC and HT all contributed to revising, reviewing and approving the manuscript. BN-K prepared the final manuscript for submission and submitted the manuscript for review.

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