Yoga and mental health: A synthesis of qualitative findings

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1. Introduction

Yoga originated in India over two thousand years ago as a multi-modal discipline which sought to alleviate suffering and transcend consciousness [1,2]. There is a wide variety of yoga approaches throughout the world, although Hatha yoga represents the most commonly practiced in the western world. With a focus on the mind-body connection, Hatha yoga has an emphasis on physical postures, along with the more traditional practices of meditation and breathing techniques [2]. Several models of yoga fall under the Hatha classification, varying in the spiritual foundations, focus and approach of the practice, including Iyengar, Vinyasa, Kundalini, and more recently, Trauma Sensitive Yoga.

In contemporary times, yoga is being adopted as a “system of healing” to promote physical and mental health in the modern world [3] with participation rates continuing to grow in western countries [4,5]. In Australia, for example, data indicates yoga participation has doubled in the past ten years, with one in ten people reporting a regular yoga practice [6]. When asked about their motivations for practice, many report it helps manage physical and mental health conditions, including anxiety and depression [4].

Indeed, rates of poor mental health have been rising, with anxiety and depression estimated to affect one in four adults in a lifetime [7,8]. Post-traumatic stress disorder (PTSD) is also represented in these statistics, although clinically it is separate in the current classification system [9]. People affected by these disorders commonly experience symptoms of negative affect in the form of low or anxious mood, difficulty controlling thoughts and social withdrawal [9].

Current first line treatments typically include pharmaceuticals and psychotherapy, such as cognitive behaviour therapy (CBT) which targets affective symptoms, cognitive distortions and behaviours deemed unhelpful [10]. Although these treatments have demonstrated moderate to high efficacy there remains a significant minority of people, ranging from one fifth to one half of adults, who find it difficult to engage with standard psychological treatments [11]. The experiences of the efficacy of antidepressants vary and only half of those prescribed report a positive experience [12,13]. It is also estimated that more than half of those experiencing mental health challenges do not seek treatment to begin with [14].

Following these trends, there has been an emphasis on examining the role yoga might have addressing the increasing prevalence of common mental health conditions [15]. Evidence suggests yoga practice can reduce symptoms of anxiety, depression and PTSD through a range of biological and psychological mechanisms [16–18]. Nevertheless, some uncertainty about the effectiveness of yoga for mental health conditions remains [19], and health care professionals report feeling ambivalent to prescribe or discuss it as an adjunct treatment with their patients [20].

It is typically argued the ‘gold-standard’ for establishing evidence-based practice (EBP) is the randomized controlled trial (RCT), supported by such explications as systematic reviews and meta-analyses [10]. As such, evidence for yoga established in RCTs, systematic reviews and meta-analyses are prioritized and valued over methodologies used in this field [15]. However, studies which seek to meet these standards are often criticized for being ‘low level’ and limited by methodological drawbacks, including inconsistencies in the type and dose of yoga examined, small sample sizes and the varying outcome measures used [19,21,22].

However, it can be countered that over-reliance on quantitative methods for evaluation has meant the yoga practitioner’s views and values, integral to the individualised nature of yoga and often captured through qualitative methods, tend to be overlooked [23,24]. The alternative yet complementary approach of ‘practice-based evidence’ (PBE) may be a more appropriate framework for yoga research and yield important data to progressing an understanding of the potential benefits of yoga in the treatment of common mental health conditions, over and above the mere reduction of symptomology, as well as how yoga might be integrated safely and feasibly into treatment protocols for adults affected by these conditions.

PBE aims to incorporate information drawn from real-world practice and experience in lieu of or in addition to evidence from qualitative research studies [25]. Advocates of PBE emphasise the benefits of considering client and practitioner perspectives through qualitative
methods, since these often account for why a particular practice or intervention had the observed effects [26]. Qualitative methods of inquiry that explore the lived experience enable identification of what is significant for these stakeholders, not just the researcher. This approach can also explore what factors motivate or inhibit people from engaging in the practice, as means of exploring whether the treatment is feasible or acceptable [24]. Given yoga’s individual, experiential and holistic nature [3], if the practitioner’s experience is not considered, there might be an incomplete perspective of the acceptability and suitability of yoga for people with mental health conditions and how it could feasibly be utilised as either a primary or an adjunct treatment.

Several studies have been conducted which explore yoga through a qualitative lens. Most recently and predominantly, research is emerging regarding the experience of TSY for people across a range of demographics and presentations, including youth with a diagnosis of anxiety, depression or PTSD [27], women who have experienced inter-personal violence [28], and women with a diagnosis of PTSD based on experiencing childhood trauma [29]. TSY is a type of Hatha yoga which is specifically designed to meet the needs of people who have experienced trauma [30]. Findings from these qualitative inquiries shine a light on the role of yoga in the broader context of participants’ mental health, including benefits experienced, factors that support engagement and insights into feasibility and acceptability [27–29]. Contrary to quantitative studies which are limited by heterogeneous study designs and have limited conclusions regarding the efficacy of yoga [22], qualitative research exploring the lived experience offers greater potential to understand how yoga affects mental health conditions and might be incorporated as a therapeutic modality for people with anxiety, depression or PTSD, for example.

Despite the apparent importance of PBE and qualitative inquiry to the discourse of yoga as a therapeutic process for mental health conditions, to our knowledge there has yet to be a comprehensive exploration of studies applying this approach. Given the popularity of yoga and the limitations of more common and presently accepted approaches to the treatment of common mental conditions, particularly anxiety, depression and PTSD, such an examination is timely. Synthesizing qualitative findings of the yoga experience as a therapeutic approach for these conditions yields promise in unpacking the richness of the method [31] as well as an opportunity to explore the potential of yoga as a complementary therapy.

Accordingly, this study investigates qualitative findings arising from both singularly qualitative inquiries and mixed-methods studies into the practitioner’s lived experience of yoga as a treatment approach to mental health conditions by applying a qualitative synthesis methodology. The primary research questions are:

a) What are the key themes arising from qualitative inquiries exploring an individual’s experience of yoga practice for common mental health conditions?

b) Based on these findings, what are the implications for clinical practice?

2. Methods

A qualitative synthesis is a methodology which systematically interprets study findings to represent the meaning of the collected works [31]. To address the primary aim, a thematic synthesis methodology was followed [32], as it allows for identifying key themes across datasets. These findings were then interpreted through a clinically relevant lens to highlight important real-world implications for clinicians, healthcare professionals and program developers considering yoga as an adjunct therapy for common mental health conditions. Guidelines were followed to ensure clear and consistent reporting of the synthesis [33].

2.1. Search

A comprehensive search was conducted on 21st February 2019 using the following databases: Embase via EMBASE, Medline COMPLETE via EBSCO, PsycINFO via EBSCO, AMED via EBSCO and CINAHL via EBSCO. The search sought to identify all available qualitative studies investigating the experiences of individuals who practiced Hatha yoga as a treatment for the most common mental health conditions, identified in the literature as anxiety, depression and PTSD [15,16]. The focus was on Hatha yoga as it represents the most commonly practiced yoga approach in the western world [2].

The following search strategy was used: Yoga [Title] AND (“Mental health” OR “mental illness” OR depressive OR anxiety OR “posttraumatic stress”)[Title/Abstract] AND (“Lived experience” OR “Personal experience” OR qualitative OR “Mixed methods” OR phenomenolog*) [Title/Abstract], Excluding: Dissertations. The search strategy was adapted for each database as necessary.

Studies were excluded if they: 1) did not include clinical samples with anxiety, depression or PTSD; 2) did not assess Hatha yoga; 3) included quantitative measures only; 4) included participants aged under 18 years; 5) were reviews, meta-analyses, non-peer-reviewed articles or publications of study design, or 6) were published in languages other than English.

Titles and abstracts were screened by the first two authors. Any discrepancies in inclusion/exclusion were discussed and determined alongside the third author. The reference lists of the included articles were also cross-referenced, and any studies not identified in the initial search that appeared relevant were assessed following the criteria and included where appropriate.

2.2. Study selection and characteristics

Of the 75 articles retrieved from the initial search, 11 articles were included in the final analysis (see Fig. 1). Screening of titles and abstracts excluded 64 articles for not meeting the predefined criteria. Of the 11 articles reviewed in full-text, one was excluded for not including a clinical sample [34]. Three studies published by Kinser and colleagues report on the same sample [35–37], however all were included in all the final analysis as the findings are unique for each publication. One study was included which was identified in the reference list of another study [38].

2.3. Appraisal

Each study was assessed for validity and trustworthiness alongside the Critical Appraisal Skills Programme (CASP) qualitative research checklist [39] following Cochrane recommendations for reviewing qualitative research [40]. The checklist was completed independently by two reviewers and then compared for discrepancies. Inconsistencies were resolved through discussion with all authors. Following previous research [41], studies were scored based on each criterion. If a criterion was met, a score of 1 was assigned, 0 if not met, and 0.5 if the criterion was partially met. The appraisal scores were then considered alongside the study characteristics and overall contribution to the synthesis (see Table 1). In order to examine all available and relevant research, studies were included in the review despite quality appraisal.

2.4. Analysis

Following Thomas and Harden’s [32] methods for thematic analysis, data was identified and extracted from the results/findings sections of each article. The first author engaged in repeated exposure to the data by reading, re-reading and conducting line-by-line coding. The research team reviewed the identified codes synchronously to confirm inter-rater reliability [42], and organized them into broader categories which were then developed into ‘analytical’ themes. These steps were conducted in
an iterative process until consensus about the presentation of the findings was reached, following credibility criteria by Lincoln and Guba [43]. The final themes were cross-referenced with the original findings from the studies reviewed to ensure faithful representation of the data [44]. Bracketing was also enlisted as a process to minimize risks of bias [45].

3. Results

3.1. Study characteristics

As reported, 11 studies were reviewed for qualitative synthesis which explored the lived experience of yoga practice for people with common mental health conditions, namely anxiety, depression and PTSD. Almost all studies represented qualitative inquiries that were part of broader mixed-methods RCTs (the exceptions being the studies by Kahya and Raspin [2017] and Rhodes [2015] which were solely qualitative). Most studies sought to explore participants’ experiences of a yoga intervention and the meanings attributed to this through in-depth interviewing. As the focus of this review was on the lived experience of yoga, these studies provided greater contribution to the findings than those which utilised qualitative methods to investigate the feasibility and acceptability of a yoga intervention.

Most studies assessed the impact of a short-term (6–10 week) Hatha yoga intervention for people (mostly women) with depression. Four studies assessed the experience of people with PTSD taking part in a TSY practice. An outline of study characteristics, samples and key themes from the eleven studies reviewed are presented in Table 1.

3.2. Key themes

Three primary themes and nine subthemes were identified through analysis of the qualitative findings from inquiries of the lived experiences of yoga for people with mental health conditions (see Fig. 2 and Table 2), described below.

3.2.1. Self as an agent of change

Certain elements of yoga were identified across all studies as playing a significant role in promoting the self to experience benefits from the practice for people with mental health conditions. The subthemes described below indicate potential facilitators of change and highlight the value of yoga to positively influence the practitioner’s life both internally and externally.

Connectedness: The role of yoga in offering a space to connect with others and oneself was an important element of the practice for people with mental health conditions across all studies. This was identified by the sense of community and support offered in the safe space of the group classes. For example, a woman with depression described the power of simply being in the group, "I also got a lot out of being around the other women. There was mutual support that seemed to emerge, even though we didn’t even always talk" (p. 8) [36]. Participants with anxiety and depression also described the therapeutic effects of feeling safe in the vulnerable space alongside practitioners with similar experiences. One participant stated, "It helps you identify … you’re not the only person that goes through certain things or experiences" (p.121) [46]. Similarly, veterans with PTSD described how being in a group designed for people who have had similar experiences may encourage engagement with the practice [47]. One participant stated, “Knowing that you can be in a safe space that is open to other military veterans will help allow other veterans to practice yoga” (p. 67).

Yoga also fostered internal connectedness, through increased awareness of oneself, which facilitated external connectedness and augmented social support seeking. A woman with depression in the Kinser, Bourguignon [36] study described, “I got to have a deeper
Table 1: Summary of articles investigating the lived experiences of yoga for mental health outcomes.

<table>
<thead>
<tr>
<th>Authors Year Country</th>
<th>Yoga intervention</th>
<th>Aims</th>
<th>Study design/ qualitative methods</th>
<th>Sample</th>
<th>Data collection techniques</th>
<th>Themes identified</th>
<th>Conclusions</th>
<th>Quality appraisal* (x/10)</th>
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<tbody>
<tr>
<td>Brown, Eubanks and Keoting [40] 2017 USA</td>
<td>Hatha Yoga (not specific) Six weeks, class duration not specified.</td>
<td>To determine the efficacy of community-based yoga and explore participants' experiences of the practice.</td>
<td>Mixed-methods one-group pre/post-test: consensual qualitative research.</td>
<td>Nine** low-income women with diagnosis of anxiety, depression or PTSD. Aged 19-60 years (Mean 34).</td>
<td>Focus groups with semi-structured questions such as: - What did you think the classes? - What did you like/dislike? - Is there anything else we should know about your experience?</td>
<td>1) Improvement due to yoga, 2) Enjoyment of yoga, 3) Barriers, 4) Ways to improve classes, 5) Thoughts before yoga.</td>
<td>Preliminary evidence for the efficacy of yoga to influence the well-being of women, particularly to improve emotional stability and reduce symptoms of anxiety and PTSD. Barriers to practice also identified.</td>
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<td>Cushing, Braun and Alden [47] 2018 USA</td>
<td>Hatha Yoga (Trauma Sensitive) At least five 60 min sessions over six weeks To explore the benefits and barriers to participating in a military-tailored, trauma-sensitive yoga intervention.</td>
<td>Mixed methods (for broader study): descriptive thematic content analysis.</td>
<td>Eight** men and one military woman with PTSD (Five completed and four who did not). Aged 22-52 years (Mean 37).</td>
<td>Post-intervention interview (30-40 min) with semi-structured, open-ended questions, such as: - What was it like for you when you started out? - What physical, mental health or other benefits have you seen from yoga?</td>
<td>Perceived benefits: 1) Finding stillness, 2) Body awareness, 3) Social connection. Perceived barriers: 1) Socially unacceptable, 2) Physically unchallenging.</td>
<td>Yoga practice was found to benefit veterans with PTSD physically, mentally and socially. Several perceived barriers were identified, such as gender stereotypes, along with suggestions to overcome them.</td>
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<td>Jindani and Khalsa [49] 2015 Canada</td>
<td>Hatha Yoga (Kundalini, Trauma Sensitive) 90 min class/week for eight weeks 15 min home practice. To explore participants' experiences of a Trauma Sensitive Yoga program.</td>
<td>Mixed methods RCT with waitlist control: thematic analysis.</td>
<td>40 adults (31 women) with PTSD diagnosis. Aged 18-63 years (Median 44)</td>
<td>Post-intervention interview (30 min) with semi-structured questions. E.g.: - What are your overall thoughts/feelings about the yoga classes? - Have you noticed any shifts in your thoughts, feelings, emotions, behaviours?</td>
<td>1) Self-observed changes: emotional, cognitive, behavioural and psychosocial. 2) New awareness: medical interventions, perceptions of prior trauma, and spirituality. 3) Yoga program: program development, home practice, and group support.</td>
<td>Yoga may offer self-care skills for managing symptoms and stress-related emotions for individuals with symptoms of PTSD.</td>
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<td>Kahya and Raspin [46] 2017 UK</td>
<td>Hatha Yoga (Manualised protocol “Yoga Therapy for the Mind”) Two hour class/week for eight weeks home practice. To investigate participants' experiences of a yoga intervention and the meanings attributed to these experiences.</td>
<td>Single group post-design: IPA</td>
<td>Eight women self-identified with anxiety, depression or stress. Aged 27-62 years (Mean 46).</td>
<td>Semi-structured post-intervention interviews (40-60 min) with questions like: - How did you find the course? - Did you experience the classes? - Did you notice any changes in yourself, your thoughts, or feelings during/after the classes?</td>
<td>1) Personal journey of change: broader journey, change to self, enhanced coping/well-being. 2) Ambivalence: Barriers to practice, inconsistent/limited effects, cognitive dissonance, and resolution. 3) Mind/body connection: intellectual understanding and holistic experience. 4) The group experience: safety and vulnerability, social and emotional support.</td>
<td>Qualitative interviews revealed that participants experienced psychological benefits from yoga practice in addition to mindfulness-based cognitive therapy and highlight the potential challenges.</td>
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<td>Kinser, Bourguignon, Whaley, Hauenstein, and Taylor [35] 2013 USA</td>
<td>Hatha Yoga (not specific) 75-min weekly class, Eight weeks home practice with DVD, class handouts. To evaluate the feasibility and acceptability of a yoga intervention for women with depression.</td>
<td>Mixed-methods RCT: IPA.</td>
<td>12** women with moderate-severe diagnosis of MDD. Mean age 40 years.</td>
<td>Semi-structured interviews with open-ended questions enquiring about the participant’s general experience, parts of the program that were/weren't beneficial, what was difficult/easy and plans for future mood management.</td>
<td>1) Feasibility: Barriers to participation. 2) Acceptability of Yoga and Health Education: Decreased depression. 3) Feasibility and Acceptability of yoga: Motivators for practice.</td>
<td>Yoga was found to be acceptable and feasible for women with MDD, having a positive impact on reducing ruminations and increasing feelings of connectedness.</td>
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<td>Kinser, Bourguignon, Taylor, and Steeves [36] 2013 USA</td>
<td>As per Kinser et al. [35].</td>
<td>To understand participants’ experiences with yoga for depression and to identify mechanisms of the effects.</td>
<td>Mixed-methods RCT: IPA.</td>
<td>12** women with moderate-severe diagnosis of MDD. Mean age 40 years.</td>
<td>1) Daily logs of participants’ experiences of home practice. 2) Semi-structured post-intervention interviews (20–45 min) exploring the impact of yoga on mood; usefulness of the home practice; liked/disliked aspects of the intervention; challenges; and plans for future practice.</td>
<td>4) Participants suggestions for feasibility of future studies.</td>
<td>Participant’s experiences of yoga were understood in the context of their experience of depression; it acted as a self-care and relational technique, reducing common symptoms like isolation and rumination.</td>
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<td>Kinser, Elswick and Kornstein [37] 2014 USA</td>
<td>As per Kinser et al. [35]</td>
<td>To evaluate the feasibility, acceptability and long-term effects of a yoga intervention.</td>
<td>Mixed-methods RCT: IPA.</td>
<td>Seven*** women with moderate-severe diagnosis of MDD. Mean age 58 years.</td>
<td>Semi-structured interviews one-year post-intervention exploring experiences of the practice, aspects that were/not beneficial, mood now and over the year, use of yoga since the program.</td>
<td>1) Long term benefits of yoga practice, 2) Methods to overcome barriers to sustained practice.</td>
<td>Yoga practice has long term benefits and exposure may convey a sustained positive effect on depressive symptoms and quality of life.</td>
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<td>Rhodes [38] 2015 USA</td>
<td>Hatha Yoga specifically Trauma Sensitive Yoga. 60 min weekly class, 10 weeks.</td>
<td>To examine women’s experiences of yoga and the meaning that practicing yoga had for them over time.</td>
<td>Long-term follow up of mixed-methods RCT: hermeneutic phenomenological analysis.</td>
<td>39*** women diagnosed with PTSD who engaged in the RCT. Aged 18–58 years.</td>
<td>Semi-structured, open-ended phenomenological interview (20-60 min) exploring experiences of yoga and the potential role of yoga in the process of healing and coping.</td>
<td>1) Supporting the process of claiming peaceful embodiment: through present-oriented experience, interactive exposure, and using yoga as a coping tool. 2) New capacities: practicing pause, helpfulness, self-care, open to intimacy. 3) Facilitators and barriers.</td>
<td>The core meaning of participants’ experiences of yoga was identified as a multidimensional process of claiming peaceful embodiment through increasing connection with self and others and remaining present to their lives.</td>
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<td>Uebelacker et al. [50] 2017 USA</td>
<td>Hatha Yoga (not specific) 80-min weekly class (up to two), 10 weeks optional home practice DVD.</td>
<td>To explore experiences of yoga for people with depression, elements perceived as helpful and unhelpful.</td>
<td>Mixed-methods RCT: thematic analysis.</td>
<td>50*** adults (44 women) diagnosed with mild-moderate MDD. Mean age 47 years.</td>
<td>Post-intervention self-report questionnaire including open-ended questions such as: - What did you like/not like about the study program? - What is the most important thing that you learned?</td>
<td>1) Elements of yoga class, 2) Instructor characteristics, 3) Effects of yoga: Development of skills (i.e. breathing techniques; increased self-awareness) and experiences of improved physical and mental health.</td>
<td>Aspects of yoga that promote acceptability for depressed individuals are identified.</td>
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<td>Uebelacker et al. [51] 2010 USA</td>
<td>Hatha Yoga (Vinyasa) One-two classes per week, Eight weeks.</td>
<td>To investigate the feasibility and acceptability of a yoga intervention for people with depression.</td>
<td>Mixed-methods pilot study: editing-organising style.</td>
<td>11 adults (10 women) with mild-moderate severity MDD. Mean age 53 years.</td>
<td>Individual semi-structured interviews post-intervention, exploring what aspects participants liked or disliked and what they perceived to be helpful for managing depression.</td>
<td>1) Benefits of yoga: emotional, physical, social. 2) Barriers to attending class: busy location, scheduling, and personal/health problems.</td>
<td>This study provides preliminary evidence for yoga to reduce depressive symptoms and highlights barriers to practice.</td>
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<td>West, Liang and Spinazzola [29] 2017 USA</td>
<td>As per Rhodes [38].</td>
<td>To explore participants experience of a yoga intervention, including perceived changes.</td>
<td>Mixed-methods RCT: content analysis.</td>
<td>31*** women with PTSD related to childhood trauma. Aged 18–58 years.</td>
<td>Semi-structured post-intervention interviews (60-105 min) exploring: - What are ways where dealing with trauma shaped your life?</td>
<td>1) Gratitude and compassion, 2) Relatedness, 3) Acceptance, 4) Centeredness, 5) Empowerment.</td>
<td>The focus on mindful movement and interoceptive awareness in yoga increases ability to experience emotions safely in the present moment, helps to regulate affective arousal and</td>
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connection, mostly with myself. In yoga, the teacher said to get to know your body, what it needs today - that is really what yoga is about, helping your own body. I got to know what my body needed (p. 7). A woman with PTSD in Rhodes’ [38] study described how yoga influenced her openness to new connections, “There is something that has changed because people are coming closer to me. I am able to tolerate that better. I am reaching out more in ways that I couldn’t have done [before practicing yoga]” (p. 250). Similarly, a woman in West and colleagues’ [29] study indicated that increased connection to self “led to a whole new burst of work [in therapy]”, suggesting the utility of yoga to support engagement in other therapeutic relationships.

Empowerment: The theme of empowerment, identified across nine of the 11 studies, represents the increased confidence experienced by participants when practicing yoga as they developed a belief in themselves, and skills for managing their own mental health. From enacting the physical postures alone, yoga offered a goal that, when achieved, provided a sense of achievement. A participant in West and colleagues’ [29] study illustrated this process as she described how when she is “on one leg and … balancing and you’ve got your hands wrapped and you’re bending forward, you feel a huge sense of accomplishment … even if you do it for a millisecond” (p. 183). Feelings of being more capable in yoga often translated to a newfound sense of control over oneself and life outside of the practice [29,36,38].

Yoga offered people another ‘tool in the toolbox’ which further fostered self-empowerment to overcome difficulties that arise from mental health conditions independently. Parts of the practice, such as breathing techniques, grounding and non-judgmental awareness, were described by nine of the studies reviewed as helpful, easily accessible and without side effects, in comparison to standard treatments. For example, Kinser, Bourguignon [36] reported on one participant who was able to cease taking medication to sleep. She described, “I didn’t like the way I felt on it [the medication] or afterwards … now [I] don’t have to take it at all, and I can calm myself” (p. 5). Similarly, Kahya and Raspin [46] noted that one participant “likened the ujjayi breath to taking “tranquilizers” or “a Valium”” (p. 119), highlighting the potential of yoga to promote capacity for self-healing mental health conditions.

Compassionate awareness: Eight studies referred to an increased ‘mind-body connection’ as participants’ developed greater awareness and understanding of the connection between their physical body, emotions and thought processes through yoga. As one participant with depression in Uebelacker and colleagues’ [50] study described, the most important thing was “learning how to “feel” my body and learning how to listen to it” (p. 153). Increased awareness of mind and body seemed to facilitate a capacity to overcome symptoms of anxiety, depression or PTSD, over and above the physical, emotional and cognitive changes described. One participant with PTSD described how such newfound awareness and connection may have been confronting, but was overall helpful achieving greater wellbeing:

In the past, I was consumed by emotions. With yoga, I could breathe and link my body and mind. I could feel my legs shaking at times, my arms aching. For the first time, I could sense my breath. I noticed that with this yoga, overall, I felt better afterwards. Everywhere in me … my mind and body. (p. 406) [49]

Ingrained in this process of increasing awareness was a non-judgmental and compassionate approach which seemed to extend to people’s lives outside of their yoga practice. Many participants reported how “becoming more self-compassionate, [and] more self-aware” facilitated acts of self-care and kindness in everyday life (p.119) [46]. As a woman with PTSD described, yoga taught her to give herself “permission to take things slow … don’t have to walk to the beat of everyone else’s drum … take care of yourself and do what’s right for you” (p. 183) [29].

Appreciating a holistic approach: Eight of the studies reviewed referred to the important aspects of yoga which combine to offer an
individualised, unique experience that may be greater than the sum of the parts. The gentle physical movements, breathing, focusing the mind, and the values system, often modelled by the instructor, were all integral to the experience for people with mental health conditions. As a woman with depression reported in the Kinser, Bourguignon [36] study:

_Yoga, it’s a beautiful practice. One thing that I... liked about yoga is the fact that doing it is called practice ... which implies that it’s a unique experience for the individual ... I enjoyed the peace and surrender that comes along with it and the philosophy behind it, about connecting with something that’s greater than yourself, whatever that may be for the individual._ (p. 6)

Although a gentle, individualised approach is integral to TSY, these findings indicate that it was essential for people experiencing anxiety and depression also. The significance of the instructors was articulated by another woman in the Kinser, Bourguignon [36] study:

_I think that the instructors were good at looking at the individual as an individual and giving suggestions for them. If I couldn’t do something, I never felt anything negative, it was always like, “If you need to make an accommodation, it’s your body and it’s good to get in-tune with it ... I appreciated [that] because it’s not the normal environment I’m used to._ (p. 7)

### 3.2.2. Alleviation of suffering

This theme represents the therapeutic outcomes from yoga practice that were identified by participants in all the reviewed studies. The positive changes reported affected cognitive, emotional and physical functioning in the following ways.

**Quieting of the mind:** In all studies except one, yoga was described as a method to counteract the cognitive symptoms of anxiety, depression and PTSD, as participants experienced greater “mental stillness” [47], increased ability to control thoughts, and helpful shifts in perspective. For example, for the women experiencing depression in the Kinser, Bourguignon [36] study, yoga offered them the ability to shift their focus off persistent negative thoughts and rather than ruminating, focus on positive things. As one participant described, “[With yoga] you’re focusing in on yourself and letting the world be out there, rather than your mind ticking away at things” (p. 5). Similar experiences were described by people with PTSD and anxiety. One veteran, for example, described, “Yoga helped me find my centre. I was able to take my mind off everything. The physical part was nice to increase flexibility but really what helped was to manage what was going on in my head” (p. 66) [47]. Such shifts in thinking were described to result in greater mental clarity and were said to provide participants with “space” to engage in meaningful activities outside of yoga [29].

**Emotional stability:** The role of yoga in shifting to more stable emotional states was also prominent, expressed through the experiences of improved coping, reduced symptomology (i.e. anxiety) and relaxation across nine of the 11 studies. Indeed, Jindani and Khalsa [49] in their study of yoga for PTSD found that all participants described positive shifts in their mood and emotional states as a result of yoga practice. A common experience was described by a participant in the Uebelacker, Kraines [50] study of yoga for depression, who stated that, “Yoga can help me feel calmer” (p. 153). The utility of yoga for emotional stability was also referenced in the Brown, Eubanks [48] study, as one participant described how “it helps when I’m angry” and another described how it helps them feel “very relaxed” (p. 319).

**Physical health:** Improvement in physical functioning was also reported across nine of the studies reviewed. Changes included reduced pain and improvements in physical ailments (i.e. “the warrior pose really helps my sciatica” [p. 319]) [48]. Enhancements of physical health were also described, such as increased strength and flexibility [50] and improved posture [38]. Participants often described the increased connection to their body as facilitating these changes. Additionally, improved sleep due to yoga practice was commonly referenced in the studies reviewed [29,36,46,49,51].

### 3.2.3. Healing as a process

This theme defines the personal significance of coming up against barriers to practicing and the benefits gained from overcoming them over time.

**Barriers to practicing:** The challenges associated with developing a yoga practice were a significant part of the experience for people with mental health conditions in nine of the studies, from both practical and...
Table 2
Summary and prevalence of the themes and sub-themes identified in the eleven studies.

<table>
<thead>
<tr>
<th>Themes, sub-themes and descriptions</th>
<th>Number of studies with sub-theme</th>
<th>Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self as an agent of change</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectedness – To self and others, fostered by group support in a safe space, sharing a group identity and experiencing social cohesion.</td>
<td>11 [29,35–38, 46–51]</td>
<td></td>
</tr>
<tr>
<td>Empowerment – Increased confidence through developing a sense of achievement through the practice and learning skills to manage mental health through breathing techniques, physical exercise, lifestyle and effective communication needs.</td>
<td>9 [29,36–38, 46–50]</td>
<td></td>
</tr>
<tr>
<td>Compassionate awareness – Non-judgmental awareness of mind and body (connection), breath, emotions and thoughts, promoting self-compassion, self-acceptance, and acts of self-care and kindness.</td>
<td>8 [29,35,36,38, 46,47,49,50]</td>
<td></td>
</tr>
<tr>
<td>Appreciating a holistic approach – Physical postures, breathing, relaxation, meditation, importance of teacher, individualised approach, aesthetic environment, thematic content, and time for self.</td>
<td>8 [29,36–38,46, 49,50]</td>
<td></td>
</tr>
<tr>
<td><strong>Alleviation of suffering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quietening of the mind/Cognitive clarity – Skills in perspective, acceptance, gratitude, improved focus.</td>
<td>10 [29,35–38, 46–50]</td>
<td></td>
</tr>
<tr>
<td>Emotional stability – Improved coping and emotional experience, symptom reduction, relaxation, feeling calmer.</td>
<td>9 [29,35,38, 46–51]</td>
<td></td>
</tr>
<tr>
<td>Improved physical functioning – Greater strength and flexibility, ‘expansion’, improved sleep, weight loss, reduced pain.</td>
<td>9 [29,36,38, 46–51]</td>
<td></td>
</tr>
<tr>
<td><strong>Healing as a process</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barriers to practicing – Practical (location, cost, scheduling) and personal (physical limitations, preconceptions, beliefs about self, intrusive thoughts or emotions).</td>
<td>9 [35–38,46–51]</td>
<td></td>
</tr>
<tr>
<td>Overcoming obstacles - Integrating to routine, access, social support, using the skills.</td>
<td>9 [35,37,28, 46–51]</td>
<td></td>
</tr>
</tbody>
</table>

For a long time I actively would try not to do it [notice unpleasant internal experience] so to force my mind onto things, like looking inward to the body sensations was really hard because my mind didn’t want to do it. (p. 119)

Another barrier, although only identified in one of the studies [47], was the congruence of yoga with a person’s identity. One participant stated that “many veterans may not want to practice yoga for two reasons. [The] number one reason is that yoga is for women, and the second reason is that you will not get anything [physical benefits] out of it” (p. 67). Interestingly, this was the only study reviewed with a sample of mostly men and was specific to a military environment. Thus, raising the potential that pre-existing biases regarding gender or identity may inhibit engagement in the practice.

**Overcoming obstacles**: Barriers to practice were often countered by participants describing efforts made to overcome them, or suggestions for modifications about how the yoga programs could be delivered. The most common suggestions, identified in six studies, addressed practical barriers and focused on how yoga practitioners could more successfully build their practice into their daily lives and maintain consistency. For example, several studies mentioned the utility of practice logs or handouts to take home as reminders for participants to cultivate a home practice. A creative suggestion reported in two of Kinser and colleagues’ studies was to provide social support through a buddy system [35,37]. A participant in one study expressed how being encouraged to practice by healthcare providers would be “a helpful method … especially for those who are more externally motivated and “tend to listen to people who are in that position”” (p. 381) [37].

The instructor also played a key role in supporting participants to work through barriers of motivation and discomfort in six studies. Practitioners with depression highlighted that they were more able to engage in the practice with instructors who were “compassionate, accommodating, understanding, kind, genuinely caring, down to earth, and mellow” (p. 257) [51]. Offering a warm, welcoming and non-judgmental attitude seemed key to encourage participants to feel safe and comfortable to engage in the practice. One woman in Kinser, Bourguignon [36] described,

At first, I was feeling bad that I couldn’t do the whole [home practice] all the time … and I really appreciated that [the teacher] said you could do 30 seconds today or an hour tomorrow, it’s great. It’s not about how much you didn’t do, it’s about how your yoga helped you today. (p. 143)

Although discomfort, physical or emotional, was a barrier for some participants, three studies reported how the process of overcoming these feelings through engaging in the practice was key to experiencing the benefits. For example, a participant in the Kahya and Raspin [46] study described,

We had to focus on the pain [of the emotion in the body]. I curled up on my side and just did the breathing, really, really strongly and it took 10 minutes, when it went it was miraculous, it really felt like a ‘wooh’ moment. (p. 119)

Counterintuitively, bringing issues to the surface through the practice allowed some participants to be healed and released. Overall, the development of a routine and engaging in the practice was key for overcoming challenges and experiencing benefits. As Jindani and Khalsa [49] state, “while initially a challenge to discipline oneself, the consistency, structure, and routine of having a self-healing practice that could be done anywhere were vital to feelings of self-improvement and well-being” (p. 405).

4. Discussion

The findings of this qualitative synthesis identified three primary themes, and nine sub-themes representing key parts of the experience of yoga for people with anxiety, depression and PTSD. These themes

personal perspectives. Barriers of a pragmatic nature, identified in seven studies, were associated with attending or practicing yoga regardless of the practitioner’s motivation to do so. These include scheduling times of the group classes, integrating the practice into one’s routine, costs associated with attending yoga classes, and accessibility of the location. Responsibilities were another significant barrier to engaging in the practice for many of the participants in the studies reviewed, and things such as childcare played a key role in their engagement in the practice [48].

Personal challenges which impeded participants’ abilities to engage with yoga as a therapeutic approach to their mental health included physical limitations (i.e. injury) or other health problems and doubts which affected their motivation. These were identified in eight studies. For some people, the nature of the practice itself represented a barrier as developing increased awareness of difficult emotions or unhelpful thought patterns was uncomfortable at times. As one participant in the Kahya and Raspin [46] study reported, “The first couple of classes it brought up a lot of difficult emotions for me. I would get myself into these panic attacks, and I couldn’t breathe” (p. 120). Another described it as challenging when turning towards rather than avoiding difficult emotions.

Interestingly, this was the only study reviewed with a sample of mostly men and was specific to a military environment. Thus, raising the potential that pre-existing biases regarding gender or identity may inhibit engagement in the practice.

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4. Discussion

The findings of this qualitative synthesis identified three primary themes, and nine sub-themes representing key parts of the experience of yoga for people with anxiety, depression and PTSD. These themes
Contribute to understanding what changes are experienced as significant for the practitioner as well as the process of healing and potential mechanisms involved.

4.1. Key themes

Consistent with previous systematic reviews [17,19,52], this study provides further evidence of the positive benefits of yoga for people experiencing anxiety, depression or PTSD and indicates the clinical utility of the practice for alleviating symptomology. The changes explicated through the lived experiences unanimously related to cognitive, emotional and physical functioning, and to some extent replicate the outcomes achieved through first-line psychotherapeutic techniques, such as CBT [53]. For example, unhelpful thought patterns and irritability, key symptoms of anxiety, depression and PTSD, seem to improve as yoga promotes greater mental clarity, shifts in perspectives, increased calm and coping ability. Although not a primary outcome relevant to the symptoms of anxiety, depression or PTSD, the benefits experienced regarding physical health highlight a positive side effect of yoga for people with mental health conditions, further indicating its potential as an adjunct therapy.

The lived experiences of yoga for people with mental health conditions gives rise to potential mechanisms of change not commonly identified in the literature and suggests that they are multifaceted and interconnected. Although many studies seek to isolate parts of the practice that play a greater role in achieving therapeutic outcomes [54, 55], the holistic nature of yoga seems to be a key facilitator of change, greater than the sum of parts. This concept is consistent with the underlying philosophy of yoga which views the human system as a holistic entity [3], and highlights the utility of incorporating multiple modalities that are relevant to the individual, rather than one single approach.

The significance of connecting to self and others through yoga was another recurring finding in the qualitative synthesis. Although recent research has identified the significance of this concept for enhanced wellbeing in a community sample [56], connectedness through yoga has not yet been proposed as a mechanism of change for mental health conditions [18,57]. It seems that as people with common mental health conditions reconnected with their body, breath, thoughts and feelings through yoga, they developed capacity for introspection, in a similar way that is achieved through psychotherapy [58]. In fact, for people with PTSD in one of the studies reviewed, the effect of yoga appeared to facilitate engagement in psychotherapy through building intercognitive resilience [29]. Furthermore, connection with others in the group classes was achieved through the facilitation of a safe space. Despite sharing their identities and building outward connections, many participants identified the benefits associated with stillness and silence to be powerful therapeutic tools for transformation.

Reminiscent of the self-enhancement bias [59], the belief in oneself and development of skills to self-manage one’s mental health played a key role in experiencing benefits from yoga practice. Although these findings also reflect yoga philosophy, which hinges on empowering individuals to heal themselves [3], this concept is absent in models explaining how yoga affects positive change for mental health [18,57]. This qualitative synthesis not only highlights the importance of this concept but offers a deeper understanding of how empowerment is facilitated for people with mental health conditions through yoga. That is, through overcoming challenges associated with the practice and developing skills that effectively manage symptoms, without side-effects, that can be accessed anytime. Interestingly and importantly, these findings highlight how facing difficult sensations associated with an individual’s mental health condition, as opposed to avoiding them, was integral to developing such skills and experiencing benefits.

Following the PBE framework, this qualitative synthesis offers further insights for understanding the impact of yoga for people experiencing anxiety, depression and PTSD, and highlights the potential value of the practice as an adjunct therapy. Therapeutic outcomes identified as important to the practitioner provide further evidence for a biopsychosocial understanding of yoga [60], rather than a dualist approach [18]. Furthermore, the lived experience offers insights to why people with mental health conditions benefit from yoga practice, and how greater connectedness and a sense of empowerment are integral to therapeutic outcomes. Finally, the barriers identified in this study indicate factors that can motivate and inhibit people from engaging in yoga and are useful when considering how to integrate yoga as an adjunct therapy for the treatment of common mental health conditions.

4.2. Implications for clinical practice

The key themes identified through the lived experiences of yoga for people with mental health conditions inform clinical practice in several ways. First, it is essential that yoga is delivered in a safe space within a therapeutic framework. Sharing identity in the group classes, as opposed to going to a community setting, was highlighted as key to overcoming barriers to engagement. To meet each person’s individual mental and physical health needs, a practice that incorporates gentle physical postures, basic breathing techniques and mindfulness seems most appropriate, given the benefits associated with offering multiple approaches to health and wellbeing within a singular session. Engagement with the practice for people experiencing anxiety, depression and PTSD can be well supported by instructors who offer an individualised approach with a kind and compassionate attitude. These recommendations are consistent with findings from a recent Delphi survey [61] and is also embodied by trauma-informed yoga protocols [62, 30].

Second, supporting individuals to develop a regular home practice is crucial for overcoming barriers to engagement and promoting the experience for maximum benefits. To encourage a home practice routine, self-monitoring techniques, such as journaling, are acceptable to people with mental health conditions and effective in promoting adherence, in a similar vein to the well-known utility of “homework” in psychotherapeutic practices [63]. Indeed, techniques from psychotherapy, such as motivational interviewing and goal setting, may support engagement with yoga practice through guiding resources or education. The use of social supports, such as a buddy system amongst practitioners, is also worth considering to promote engagement in home practice.

Third, yoga program developers may benefit from considering potential barriers associated with the targeted population to support maximum engagement. Considerations regarding the time of group classes and location, for example, may differ depending on whether the participants are engaged in full time work or childcare responsibilities. Additionally, the findings of this review, in conjunction with overall participation rates of yoga in favor of women, indicate that there may be more barriers to engaging in yoga for men. These rates are contrary to the practice of yoga in the East, where male participation is very common, suggesting this imbalance is an area for further consideration.

Finally, findings from this review indicate strong acceptability and feasibility of yoga as an adjunct therapy for people experiencing common mental health conditions. Given the therapeutic outcomes, such as emotion regulation and present-moment awareness, yoga also appears to facilitate engagement in mainstream therapies. As similar benefits are achieved from yoga and psychotherapy, it is worth considering the outcomes from using the two modalities simultaneously. Yoga represents an experiential practice which promotes introspection, positive cognitive, emotional and behavioural changes, and connection to others in a similar way to the aims of many psychotherapeutic approaches [58]. Accordingly, there is potential that engagement in both yoga and psychotherapy could result in enhanced therapeutic outcomes than either modality alone.

4.3. Limitations and future directions

Although guidelines for thematic analysis and reporting were...
adhered to in this qualitative synthesis of yoga experiences for people with common mental health conditions, these findings should be considered in the context of some limitations. Critical appraisal was conducted following the CASP checklist [39] and previous research [64], however this remains a contentious issue and a difficult task to complete with rigour due to limitations of the tools available, variation in reporting requirements and study designs. To maintain scope and some homogeneity of findings, the search was restricted to the most common mental health conditions relevant to the yoga literature, namely, anxiety, depression and PTSD. Focusing on these mental health conditions may have limited the findings by not including studies that measured symptoms more generally and excluding other significant mental health conditions such as eating or psychotic disorders. Cross-referencing findings between mental health conditions was also outside the scope of this review. Future research would benefit from exploring and contrasting how people with anxiety, depression, PTSD and other mental health conditions experience yoga differently. Finally, the findings of this study give rise to two unavoidable limitations due to the nature of studies reviewed. Although yoga is described as a lifelong practice [2], most of the studies reviewed represent short-term yoga interventions. Future research on the long-term impact of yoga for mental health conditions would contribute to understanding the potential for yoga as an adjunct therapy and allow examination of sustainability of therapeutic outcomes. Potential barriers to practice for males are highlighted in these findings, as only one study reviewed included mostly male practitioners. Future research investigating the lived experience of yoga for male practitioners is needed to further understand these barriers and examine whether there are different therapeutic outcomes or mechanisms of change present for this population.

5. Conclusion

Overall, qualitative findings offered useful insights to important aspects of yoga practice and potential mechanisms of change in addition to that which have been identified through quantitative research methods. Examining the lived experience provided personal perspectives about how yoga serves as an holistic practice and promotes an individual approach to healing, that is acceptable and feasible for people with common mental health conditions. The unique combination of physical postures, breathing techniques, relaxation, meditation, social connection and positive values is what might separate yoga from other alternative healing modalities. Indeed, health professionals, including psychotherapists and yoga instructors, appear to play key roles in supporting people with common mental health conditions in complementary ways as part of a journey to wellness.

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