

Integration of Conventional, Complementary, and Alternative Medical Approaches into Mental Health and Substance Use Disorder Treatment:

Definitions and Guidance

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DISCLAIMER: *The below document contains a summary of available evidence around the use of complementary and alternative medicine (CAM) in mental health and substance use disorders. Many complementary and alternative therapies exist. However, this document is not all-inclusive and is intended to provide a summary of the evidence for some of the most widely used CAM approaches in a format that is easily accessible to clinicians. It is intended for informational purposes only. The contents of this document are not meant to replace professional medical judgement, formal medical evaluation, or treatment by a healthcare provider. All treatment options outlined in this document should be discussed with an individual's unique healthcare team before being implemented. All questions related to the contents of this document and an individual's personal health status should also be directed to their healthcare provider. Furthermore, the author has no conflicts of interest to declare in the development of this document, and resources provided were based solely on their relevancy and informational value.*

METHODOLOGY

A search of published studies was conducted using the computer databases Up-to-Date, JSTOR, Science Direct/Elsevier, MEDLINE, PubMed, Stat Pearls, Cochrane Library, and Google Scholar for articles in English. The search strategy developed used a combination of terms that covered anxiety and anxiety disorders, depression, substance use disorder, complementary and alternative treatments, acupuncture, exercise, botanical medicine, systematic reviews, and clinical randomized controlled trials (RCTs). The studies that resulted from numerous searches were individually reviewed and further evaluated for inclusion. Rapid critical appraisals were used for systematic reviews and RCTs. Once this was completed, the information was synthesized into an evaluation table, and the John Hopkins Level of Evidence and Quality Rating was used to determine the evidence level and quality rating. Based on the evaluation, studies with higher levels of evidence and quality ratings were included, although the document includes studies of varying levels and quality (ranging from 1–5 and A–C respectively). Once the initial draft of the document was prepared, an internal revision occurred with the Blueprint Central Office. The revised document was then modified following review by physician leadership at the Vermont Department of Health, the Department of Mental Health, and the Department of Vermont Health Access. After several revisions, the document was externally peer-reviewed and further revised to address comments and feedback that were received. Regular internal, external and literature reviews will continue throughout the Academic Detailing pilot phase. This evolving document will provide the foundation for the continued development of an academic detailing offering for complementary and alternative therapies for mental health and substance use disorders.

INTRODUCTION

Complementary and alternative medicine (CAM) has seemingly been shrouded in mystery for a long time, with public and medical professional interests in the topic vacillating in unpredictable peaks and troughs. The intent of this paper is to explore and present fairly current research on CAM approaches for anxiety, depression, and substance use disorder (SUD) along with ways the therapies can potentially be integrated into primary care. The document provides a high-level introduction to what complementary and alternative medicine is, a snapshot of mental health in Vermont, and Vermont's general adoption of CAM, concluding with considerations when providing care.

In the US, numerous clinical studies have indicated strong associations between SUDs and anxiety and mood disorders (Grant et al. 2004). However, the implications of these associations have been poorly understood. A more recent National Institutes on Drug Abuse (NIDA) research report confirms that many individuals with SUD are diagnosed with mental illness and vice versa, and that data demonstrate high rates of co-occurring SUD with generalized anxiety disorders (GAD), post-traumatic stress disorder (PTSD), panic disorder, depression, and bipolar disorder (NIDA, 2020). An epidemiological survey on the prevalence and co-occurrence of SUD, anxiety, and mood disorders concluded that the associations between these conditions were “overwhelmingly positive and significant, suggesting that treatment for a comorbid mood or anxiety disorder should not be withheld from individuals with substance use disorders” (Grant et al. 2004). Although this need for comprehensive and integrated therapy to address comorbidity has been established, only 18% of SUD treatment programs and 9% of mental health treatment organizations have the ability or capacity to integratively treat individuals with these co-occurring conditions with support services, medications, and behavioral therapies (NIDA, 2020).

CURRENT STATE

Mental health and SUDs are prominent concerns throughout Vermont's health care system. In Vermont, approximately 27,000 adults have a serious mental illness (NAMI, 2021). In February 2021, 36.2% of adults in Vermont reported symptoms of anxiety or depression, with 20% unable to get needed counseling or therapy (NAMI, 2021). Furthermore, Vermont has some of the highest rates of substance use in the country, including higher alcohol consumption rates, and among the highest heroin use rates for people aged 18-25 (VDH, 2023).

INTEGRATED MEDICAL CARE DELIVERY

The National Center for Complementary and Alternative Medicine (NCCAM) defines complementary and alternative medicine as “a group of diverse medical and health care systems, practices, and products not presently considered to be part of conventional medicine” (Fan, 2005). The National Center for Complementary and Integrative Health (NCCIH) further delineates the terms “complementary” and “alternative,” highlighting that the terms are not interchangeable, and specifies that complementary approaches are those used *together with* conventional medicine, while alternative approaches are used *in place of* conventional medicine (NCCIH, 2021).

In 2023, approximately 24% of adults in the United States reported using herbal medicines, supplements, or teas to treat health problems (Vankar, 2023). Figure 1 shows the percentage of adults in the United States who used select types of alternative medicine to treat health problems as of 2021 (Vankar, 2023).

Vermont is one of the more progressive states regarding CAM utilization. A 1997 article stated there was 1 alternative practitioner per 652 Vermonters (McPartland, 1997), which at that time was approaching the number of Medical Doctors (Doctor of Medicine, MD) accessible to the Vermont population. This data suggests that Vermonters could have reasonable access to CAM therapies, should it be sought. Today, practitioners in Vermont that offer CAM therapies in their professional scope include Acupuncturists, Chiropractic Physicians, Dietitians, Naturopathic Physicians, Massage Therapists, Bodyworkers and Touch Professionals among others. Table 1 (below) shows the current number of active licensees for each profession as of July 16, 2024. It is worth noting that Vermont is one of seven US states that have NCQA¹ recognized patient centered medical homes (PCMHs) that are led by integrative practitioners (including Naturopathic Physicians and Chiropractors).

Table 1: Number of Actively Licensed CAM Professionals in Vermont (data from the Vermont Office of Professional Regulation) as of July 16, 2024

Profession	# of Active Licensees in VT
Acupuncturists	225
Chiropractic Physicians	259
Dietitians	317
Massage Therapists/Bodyworkers/Touch Professionals	1275
Naturopathic Physicians	420
Total	2,496

¹ National Committee for Quality Assurance

Vermont statute 18 V.S.A. § 702 outlines the composition of the Blueprint for Health’s executive committee. Pursuant to the requirement to have a member of the executive committee represent complementary and alternative medical professions, a Naturopathic Physician currently serves in this capacity on the committee.

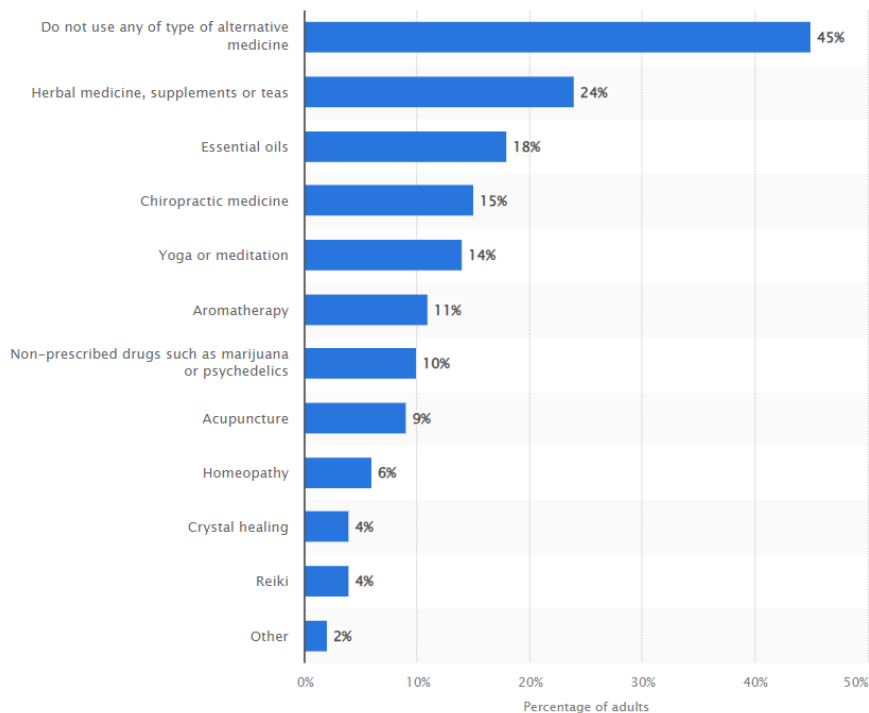
In 2019, anxiety and depressive disorders were the most common mental health disorders globally, with estimated respective increases of 26% and 28% due to the COVID-19 pandemic (World Health Organization, 2022). This can be seen in the U.S. where

anxiety disorders are the most common of all mental health concerns (NAMI, 2017). Many patients with anxiety disorders turn to CAM as an *adjunct*² to or *substitute* for mental health care. Approximately 36-43% of patients treated in primary care for anxiety use CAM remedies as at least part of their treatment (Bystritsky, 2012), which leads to the consideration that providers should be knowledgeable of CAM approaches (Barnes, 2008). When “prayer specifically for health reasons” was included in the definition of CAM therapies, Barnes found that CAM utilization among patients with anxiety was as high as 62% (Barnes, 2002).

CAM treatment methods for SUDs are expanding but more research is still needed on their effectiveness. Studies that do exist show that CAM approaches are effective therapies and are beneficial for overall psychological health and well-being, and relapse prevention (Patterson, 2023). CAM use—including acupuncture, phytotherapy, chiropractic medicine, hypnosis, homeopathy, meditation, and others—range from 34-43% in patients with SUD in the U.S., with a generally low side-effect profile and positive risk-benefit ratios (Sylvain et al. 2022).

In contrast to SUD, mental health disorders research shows almost twice the inclusion rate of CAM. For example, a 2019 study in Sweden revealed that 62% of regional, municipal, private and governmental healthcare units treating persons with psychiatric symptoms utilized CAM for symptom reduction and to meet patient requests to reduce

Figure 1 – Percentage of adults in the United States who used select types of alternative medicine to treat health problems as of 2021 (Vankar, 2023)



² The National Institute for Health (NIH) National Cancer Institute defines adjunct therapy as another treatment used together with the primary treatment, with the purpose of assisting the primary treatment.

pharmacotherapy. This is additionally significant because the utilization referenced here was by healthcare systems versus independent or stand-alone practices and practitioners. That is, hospitals and agencies were delivering CAM therapies, which included massage, acupuncture, light therapy, yoga/Qigong/Tai Chi, mindfulness, music/dance/art therapy/drama, horticultural therapy, animal-assisted therapy, and basal body awareness. The study reports successful intervention with a low side-effect profile. The only disruption of service delivery was attributed to not having appropriately trained staff, (Wemrell, 2020). This emphasizes the notion that providers should have a foundational awareness and knowledge of CAM.

Barriers to CAM Utilization

Barriers to CAM utilization have three main focal points: (i) financial barriers, (ii) skepticism and discouragement, and (iii) evaluation challenges (Chatterjee, 2023). Many CAM therapies are not covered by insurance and are paid for out-of-pocket by patients. This financial constraint is compounded by the potential high cost of some therapies, and longer course of treatments as multiple treatment sessions are often needed. As an example, acupuncture has been proven to be effective for anxiety (Li et al. 2019), usually requiring multiple treatment sessions, and can incur average out-of-pocket costs of 57.5% of total costs, if covered by insurance (Candon et al. 2021). CAM therapies may not always be more expensive than conventional therapy, but the typical lack of insurance coverage means that the entirety of costs reside with the individual.

Another compounding factor is the variation in the availability of CAM therapies across the U.S., as well as patients', providers', and clinical sites' access to certain therapies. Cognitive Behavioral Therapy (CBT) is effective for certain mental health conditions and is now considered mainstream medicine. Research indicates that for clinically representative conditions, CBT demonstrated superiority over control groups, and is an effective treatment for anxiety in clinical practice (Stewart & Chambless, 2009). It is the psychotherapy of first choice in most patients with anxiety disorders and can be covered by insurance depending on an individual's insurance plan, but it is not as readily accessible to many patients as prescription medication, for example. Patients often have limited access to CBT in primary care. Consequently, sessions focus on psychosocial support, psychoeducation, and exercise—the latter generally being recommended as an adjunctive treatment for anxiety (Servant, 2019). Along with potential out-of-pocket costs of \$100–\$200 per session, these factors can make access a challenge for many individuals (Lauretta, 2024).

Secondly, individuals who utilize CAM are often met with skepticism and discouragement. “Both conventional medical practitioners and a segment of the public exhibited a noticeable trend towards discouraging CAM use” (Chatterjee, 2023). As a result, this expectation of a negative response from providers contributes to individuals not being forthcoming with CAM use. “Most consumers shared CAM use with their providers, but when they did not, the main reasons were fear of provider judgment and provider attitudes being a deterrent” (Clossey, 2023). The lack of robust evidence-based research for many CAM therapies likely contributes to the issue of skepticism and discouragement.

Lastly, individuals who utilize CAM therapies expressed difficulty in evaluating the effectiveness of therapies received. As previously noted, some CAM therapies can be time and cost intensive. Additionally, they are not easily comparable between practitioners

and settings. Understandably, CAM utilizers would like to quantify therapeutic gains especially when the result of treatment sessions may not be quickly observed, but as Chatterjee discussed, difficulty is often experienced in this area with individuals having to use self-assessments from personal experience to gauge efficacy. Some participants approach this challenge by focusing on the long-term benefits of CAM rather than immediate or short-term outcomes.

Although not a barrier, one factor that greatly impacts the effectiveness and safety of CAM therapies is the existing variation in the levels of standardization and regulation for some therapies. This is particularly true for nutraceutical medicine³, a newer branch of CAM (Puri et al. 2022). Research and development sectors for nutraceuticals⁴ recognize that “scientific needs for nutraceuticals demand standardization of the constituents and cautious development of protocols” (Puri et al. 2022) and are working diligently to accomplish this. However, though this work of standardization and regulation is ongoing, the process of making recommendations and prescribing nutraceuticals remains complex.

Resources to aid in navigating the current CAM landscape can be found in Appendix A, Complementary and Alternative Medicine Informational Resources (page 35).

FACTORS THAT MAY INFLUENCE MEDICATION ADHERENCE

As with barriers to CAM utilization, factors also exist that affect the utilization of conventional medical approaches. Based on the World Health Organization Multidimensional Adherence Model (WHO-MAM) in patients with coronary heart disease, the following five categories influence medication adherence (Mondesir, 2019):

1. **Patient-related factors** including self-efficacy, perceived health, beliefs about the efficacy of medications, knowledge of medications, and adherence to rigorous dosing schedules;
2. **Social/economic factors** including social support, family functioning, and costs;
3. **Therapy-related factors** including side effects and dose complexity;
4. **Condition-related factors** including comorbidities; and
5. **Healthcare system/healthcare team-related factors** including support from healthcare providers, negative interactions with providers, and pharmacy access.

These categories overlap significantly with patients’ prescribed medication for depression and/or anxiety (www.informedhealth.org).

Antidepressants and Anxiolytics

Selective serotonin reuptake inhibitors (SSRIs) and selective serotonin-norepinephrine reuptake inhibitors (SSNRIs) treat both depression and anxiety disorders (Hendler, 2021). Common side effects across the drug classes include anxiety, insomnia, tremors, sexual dysfunction, gastrointestinal (GI) disturbances (nausea, vomiting, diarrhea), weight loss/

³ A branch of complementary and alternative medicine in which nutraceuticals, formulated from nutrients, are used to provide health benefits including the treatment and/or prevention of disease (Puri et al. 2022).

⁴ For the intent of this document, the term nutraceutical reflects the National Institute of Health’s National Library of Medicine (NIH NLM) definition, which states that nutraceuticals are products that have nutritional value that are also used as medicine due to physiologic benefits. (Nasri et al. 2014).

gain, anti-cholinergic effects such as dry mouth and constipation, with both classes having a black-box warning for increased suicidal thoughts and behaviors (Hendler, 2021).

Benzodiazepines are approved by the FDA for the management of anxiety and anxiety disorders (Bounds & Patel, 2024), and are indicated for seizure disorders, insomnia, tension, and procedural sedation. Common adverse reactions include respiratory depression/arrest, drowsiness, headache, impaired motor function, and GI, urinary, visual and cardiovascular disturbances (Bounds & Patel, 2024; Hendler, 2021).

With adequate pharmacotherapy, 70-80% of individuals with depression may experience a significant symptomatic reduction (Sheffler, 2023). However, data demonstrate that approximately 50% of patients with psychiatric illnesses and 50% of primary care patients prematurely discontinue antidepressant therapy—that is, they are nonadherent when assessed at six months after the initiation of treatment (Sansone, 2012). Up to 84% of patients perceive the need for antidepressant treatment, but one-third of those patients discontinue therapy within 6 weeks, and that number increases to 55% at 10–12 weeks (del Pino-Sedeño, 2019). Trivedi et al. indicate that only 25–50% of patients with major depression adhere to treatment (Trivedi et al., 2007).

EVIDENCE⁵ FOR TREATMENT OF DEPRESSION WITH CAM (TABLE 2, PAGE 21)

Prevention of Depression

An umbrella meta-analysis of randomized controlled trials (RCTs) found significant reduction in depression symptoms comparing participants on vitamin D supplements to those on placebo (Musazadeh et al. 2023). Intervention duration varied between 8 and 74 weeks. Vitamin D dosages used varied between 2500–6000IU/day. According to the analysis, the greatest therapeutic effects were seen when 4000-5000IU/day were used for ≤ 20 weeks. Meta-analyses revealed that participants with lower levels of serum vitamin D (deficiency of serum vitamin D levels <20ng/dL) were at increased odds of depression than those with higher levels of serum vitamin D (normal serum vitamin D levels >30ng/dL). The study confirmed higher serum levels of vitamin D having a potential role in preventing the onset of depression and reducing symptoms (Musazadeh et al. 2023).

Therapeutic Lifestyle Changes

Emerging evidence is finding that therapeutic lifestyle changes (TLCs) are sometimes as effective as either psychotherapy or pharmacotherapy and can offer significant therapeutic advantages (Walsh, 2011). TLCs include exercise, nutrition and diet, time in nature, relationships, recreation, relaxation, stress management, religious or spiritual involvement, and service to others.

⁵ Level of Evidence was determined using [Johns Hopkins Nursing Evidence-Based Practice Appendix D – Evidence Level and Quality Guide](#), except in instances where Sarris et al, 2022 is cited. In these instances, [The World Federation of Societies of Biological Psychiatry \(WFSBP\)](#) and [Canadian Network for Mood and Anxiety Treatments \(CANMAT\) Taskforce](#) standards are used.

EXERCISE

Although exercise is considered mainstream medicine, its inclusion in this discussion is worthwhile. Many well-designed studies, systematic reviews and meta-analyses demonstrate and discuss the positive effect of exercise in improving depression/depressive symptoms in various populations, using different exercise prescriptions. The best results were gained when exercise was supervised or accompanied. Blumenthal et al. conducted a prospective randomized controlled trial to investigate if the efficacy of aerobic exercise in patients with major depressive disorder (MDD) was comparable to patients receiving antidepressant medication. The study consisted of four groups—a supervised exercise group, an unsupervised exercise group, a medication (Sertraline 50-200mg/day) group, and a placebo group. The exercise groups had three 30-minute sessions per week targeting a 70–80% maximum heart rate for 16 weeks. At the end of the study, it was found that on average, 41% of participants achieved remission. That is, 41% of participants no longer met MDD diagnostic criteria. Remission rates were as follows: Sertraline group 47%; supervised exercise group 45%; unsupervised group 40%; placebo group 31%. All groups had decreased Hamilton Depression Rating Scale (HAM-D) scores (Blumenthal et al., 2007). One possible interpretation of the data is that exercise is comparable to antidepressant medication use.

Mather et al. conducted a randomized control trial of older adults (>53 years of age) with poorly responsive depression (to antidepressant therapy) to determine if exercise in this population should be encouraged. The control group attended 45-minute health education talks twice per week. The active group attended exercise classes for 45 minutes twice per week for 10 weeks. Both groups continued antidepressant therapy during the study. After 10 weeks, 55% of the exercise group experienced a greater than 30% decline in depression, compared to 33% in the control group experiencing a decline in depression. The change was significant compared to baseline HAM-D scores (Mather et al., 2002), resulting in the recommendation that older adults with poorly responsive depression attend group exercise activities. Furthermore, studies show that exercise provides additional health and psychological benefits to patients than medication alone (Pilu, et al, 2007). One randomized controlled trial found that yoga plus regular care was statistically significant for reducing symptoms of depression compared with regular care alone (de Manincor, 2016).

DIETARY COUNSELING

Dietary Counseling was found to be as effective as psychotherapy at *prevention* of transition to case-level depression in older adults (Stahl, 2014). One study examined seven individual nutritional consulting sessions delivered by a clinical dietician to patients diagnosed with major depressive disorder. Findings were that the dietary support group demonstrated significantly greater improvement between baseline and 12 weeks on the Montgomery-Asberg Depression Rating Scale (MADRS) than the social support control group (Jacka, 2017). Authors conclude that the RCT study findings show preliminary evidence that it is dietary improvement which led to the reduction of depression symptoms and can be utilized as an effective treatment for episodes of major depression.

DIET

Fish consumption

As apparent annual fish consumption increases, the lower the annual prevalence of major depression (Figure 2 Hibbeln, 1998, right).

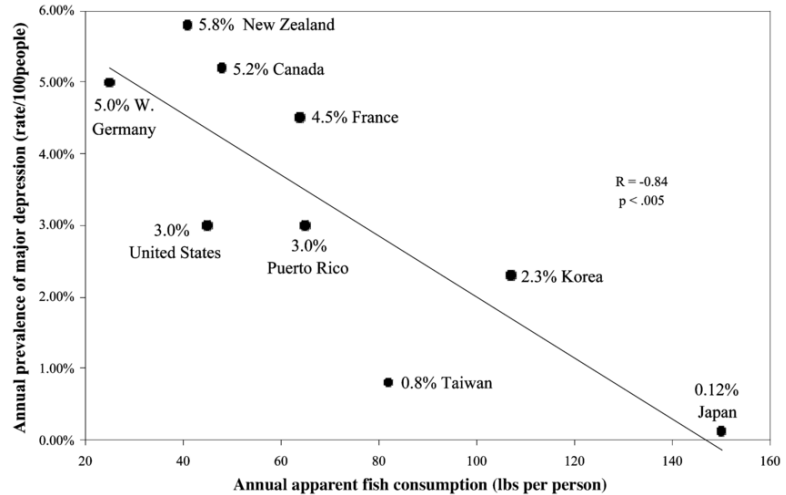
A 2014 longitudinal study on the associations between fish consumption and young adults in Australia concluded that women who ate fish two or more times per week at baseline had a 25% lower risk of depression during follow-up than those who ate fish <2 times/week (Smith et al., 2014). The study assumed that at least one serving of fish was consumed per occurrence. The most common fish consumed were varying types of canned and fresh fish. Smith et al. further determined that for women, each additional weekly serving of fish consumed at baseline decreased the risk of having a new depressive episode by 6%.

Morales et al. studied the prevalence of depression and fish consumption among first-year Spanish university students. Data was retrospectively collected from 11,485 students from 2012 to 2022. The study found that there is a relationship between low fish consumption and the presence of depression, which is consistent with other studies and previously conducted meta-analyses—a lower consumption of fish has an apparent increased incidence of depression in Spanish university students (Morales et al., 2023). No information was collected on serving size or quantity of fish consumed—only the frequency of fish consumption was collected. However, the study did find that non-adherence to the recommended dietary intake (2–3 servings per week) significantly increased the risk of depression, consequently concluding that fish consumption in this population should be promoted to prevent depression.

Low plasma concentrations of an essential fatty acid found in fish, **docosahexaenoic acid (DHA)**, predict low concentrations of cerebrospinal fluid 5-hydroxyindolacetic acid (CSF 5-HIAA). It has been widely replicated that low CSF 5-HIAA concentrations have a strong association with depression and suicide (Hibbeln, 1997). Conversely, increased CSF 5-HIAA releases due to omega-3 polyunsaturated fatty acids are commonly associated with the improvement of depression and anxiety symptoms (Su et al. 2015).

Fish intake is an important part of a nutritious and healthy diet (American Heart Association, 2021). According to the United States Environmental Protection Agency (USEPA), fish consumption does not pose a risk for most individuals, but there are health concerns (USEPA, 2024). Because toxins from the food that fish consume can accumulate in their systems, when the fish is then consumed by humans, the chemicals, if present, have

Figure 2 – Simple correlational model with Pearson product moment analysis potentially indicating that countries with increased fish consumption experience a decreased prevalence of major depression (Hibbeln, 1998).



the potential to harm the body. Heavy metals and pesticides are among the main concerns. Mercury, a heavy metal, is a neurotoxin that can harm the central and peripheral nervous systems, which can be particularly harmful to children, infants and fetuses because the body is still developing (USEPA, 2024). Polychlorinated biphenyls (PCBs), an industrial chemical that can accumulate in the fatty tissues of fish are the other concern with fish consumption. The International Agency for Research on Cancer (IARC) categorizes PCBs as Group 1 carcinogens to humans (Agency for Toxic Substances and Disease Registry, 2014). Group 1 carcinogens demonstrate “enough evidence to conclude that it can cause cancer in humans” (Scientific Committees, n.d.). Consequently, consumers should be diligent regarding the sources, quality and types of fish purchased for consumption.

Mediterranean Diet

Although there is not one specific Mediterranean diet, the diet generally avoids processed foods and red meats, comprising mainly of fresh, whole foods including fruits, green leafy vegetables, nuts, seeds, legumes, cereals, whole grains, seafood, olive oil, and wine in low to moderate amounts (American Heart Association, 2024).

An open-label randomized controlled trial provided a 12-week Mediterranean diet intervention versus a control group of “befriending⁶” therapy for moderate to severe depression in young males (age 18–25 years old). According to the authors, at the time of the article, the Mediterranean diet had the most evidence for having a positive effect on depressive symptoms, compared to other diet types (Bayes et. al 2022). A clinical nutritionist delivered the dietary intervention, and assessments were completed and scored at baseline, 6 weeks (mid-trial), and 12 weeks (end of study). The study found that Beck’s Depression Inventory (BDI-II) score improved (which is a decrease in numerical value on the scale), and Quality of Life scores were significantly higher in the diet group at week 12, indicating improvement (Bayes et al. 2022).

The Parletta et al. study was among the first RCTs to demonstrate that dietary changes can improve the mental health of individuals with depression. The study examined the impact of a Mediterranean-style dietary (MedDiet) intervention supplemented with fish oil on quality of life and mental health in individuals with diagnosed or self-reported depression for at least two months prior to the onset of the study. The study participants consisted of 105 females and 47 males between the ages of 18–65 years of age. The MedDiet group received a food hamper every two weeks, MedDiet cooking workshops for 3 months, and fish oil supplements (450mg DHA and 100mg EPA, twice daily) for 6 months. The food hamper was provided to MedDiet participants after each cooking workshop and included olive oil and a variety of fruits, vegetables, fish, legumes and nuts. The MedDiet group also received resources for recipes. The comparison group attended social groups every two weeks for three months, which included a range of social activities including group games and taking personality tests. Retention at three and six months was higher in the MedDiet group. Primary outcome measures were the Depression Anxiety Stress Scale (DASS-21) and the Assessment of

⁶ Befriending was defined as an intervention that introduces the patient to one or more individuals whose main aim is to provide the patient with additional social support through the development of an affirming, emotion-focused relationship over time. Effectiveness of befriending interventions: a systematic review and meta-analysis. [Joyce Siette, Megan Cassidy, and Stefan Priebe. *BMJ Open*. 2017; 7\(4\): e014304. Published online 2017 Apr 26. doi: \[10.1136/bmjopen-2016-014304\]\(https://doi.org/10.1136/bmjopen-2016-014304\).](#)

Quality of Life (AQoL)-8D scores. Positive and Negative Affect Scale (PANAS), a 14-item Mediterranean diet questionnaire, and the Simple Dietary Questionnaire (SDQ) served as secondary outcome measures. With the exception of the AQoL-8D pain value, all participants reported significant improvements on the DASS-21, PANAS and AQoL-8D subscales. The study found *greater* reduction in depression and improved mental health quality of life scores in the MedDiet group at three months. Improved diet and mental health were sustained at six months (Parletta et al. 2019).

A systematic review of the Mediterranean dietary pattern and depression found that 85% of studies support the Mediterranean diet for the treatment of depression (Altun et al. 2019). Authors concluded that the Mediterranean diet can be a complementary or adjunctive treatment for depression (Altun et al. 2019). The authors conclusions were based on the qualitative examination of 20 observational studies and 6 intervention trials.

Avoiding Ultra-Processed Foods

Through conducting a systematic review and meta-analysis of observational studies examining ultra-processed food (UPF) consumption and mental health, Lane et al. concluded that the greater the intake of ultra-processed foods, the greater the odds of *depressive and anxiety* symptoms, and increased risk of subsequent depression (Lane et al. 2022). The NOVA food classification system was used in the study to define and identify ultra-processed foods. NOVA's four levels of food processing are (i) unprocessed or minimally processed food; (ii) processed culinary ingredients; (iii) processed food; and (iv) ultra-processed foods. Monteiro et al. highlights that "NOVA distinguishes ultra-processed foods as industrial formulations generated through compounds extracted, derived or synthesized from food or food substrates. Ultra-processed food items are characterized as containing five or more ingredients, which typically include artificial food additives rarely or never used in home kitchens" (Monteiro et al. 2019).

RELIGIOSITY AND SPIRITUALITY

A 2023 systematic review and meta-analysis of 45 longitudinal studies and 29 intervention studies explored the role of religion and spirituality in the prevention and management of depression and anxiety (to include obsessive compulsive disorder and post-traumatic stress disorder) in younger individuals 10–24 years old. The study yielded several significant findings from moderate-to-high quality studies across multiple facets of spirituality to include participation in formal/organized religion, religious salience, religious coping and spiritual well-being. Weekly prayer, as well as attendance at a religious youth group were found to be strongly protective against new episodes of depression. Religious salience was protective against depression over a year, and spiritual wellbeing was protective against depression. Negative religious coping worsened the effects of stress while increasing the risk of depression (Aggarwal, et al. 2023).

A pilot study exploring the potential healing mechanisms of a faith-based spiritual intervention for people with depression found a significant decrease in the mean scores for depression (Patient Health Questionnaire-9) after intervention and at the 3-month follow-up. This study suggests that the faith-based spiritual intervention was effective in reducing depressive symptoms along with other positive impacts (Leung, 2023).

Nutraceutical⁷ and Supplement Studies for Depression

The World Federation of Societies of Biological Psychiatry (WFSBP) and Canadian Network for Mood and Anxiety Treatments (CANMAT) Taskforce convened an international taskforce to provide a definitive, evidence-informed approach to assist clinicians in making decisions around the use of nutraceuticals for major psychiatric disorders. The grading system and level of evidence were established via three main tenets:

- i. **Types of Evidence:** Only studies with Grade A evidence were used (meta-analyses or two or more RCTs i.e. “strong” evidence);
- ii. **Evidence direction:** Recommended (+++) to Not Recommended (-); and
- iii. **Safety and Tolerability Assessments.**

For a full description of the grading system, please refer to Appendix B (page 36).

Amongst nutraceuticals with Grade A evidence, positive directionality and varying levels of support in the treatment of unipolar depression were found for (Sarris et al. 2022):

RECOMMENDED (+++)

- **Adjunctive Omega-3 fatty acids (ALA/EPA/DHA).** Omega-3 fatty acids at doses standardized to 1–2g of eicosapentaenoic acid (EPA) are recommended for adjunctive use in MDD. Although not currently recommended for monotherapy use, it may be effective as a monotherapy in individuals with elevated inflammation and/or obesity (Sarris et al. 2022). Omega-3 fatty acids were individually considered and were associated with a lower risk of depression (Morales et al. 2023). A 2016 meta-analysis found that the risk of depression was significantly decreased with a consumption of 50g of fish per day while, for omega-3s, the risk was decreased with a consumption of more than 1.8g per day (Grosso et al. 2016)
- **St John’s Wort (*Hypericum perforatum*).** St. John’s Wort (SJW) flowers at doses of 600–1800mg (3:1–7:1 extract) per day, standardized to a dose of approximately 0.2–0.3% hypericin or 5–6% hyperforin 1–3 times per day, is recommended for monotherapy use in MDD (Sarris et al. 2022). Use of quality standardized extracts is extremely important in yielding the results observed in the study. Regarding safety, SJW is known to interact with many drugs by lowering serum levels and should not be used with SSRIs or SNRIs due to the potential to cause serotonin syndrome (Sarris et al, 2022). A 2017 meta-analysis of 27 studies found that a dose of 300–400mg/day of SJW not only had comparable response and remission rates to SSRIs for depression but had a significantly higher retention/adherence rate (Ng et al. 2017).

PROVISIONALLY RECOMMENDED (++)

- **Adjunctive probiotics.** Although the best probiotic strains for depression are not confirmed, probiotic strains (e.g. *Lactobacillus* and *Bifidobacterium* spp.) at doses

⁷ For the intent of this document, the term nutraceutical reflects the National Institute of Health’s National Library of Medicine (NIH NLM) definition, which states that nutraceuticals are products that have nutritional value that are also used as medicine due to physiologic benefits. (Nasri et al. 2014).

of 1–10 billion units per day are provisionally recommended for adjunctive use and weakly recommended for monotherapy use in MDD (Sarris et al. 2022).

- Adjunctive **zinc**. Zinc at doses of ~25mg per day is provisionally recommended for adjunctive use in MDD. However, due to its anti-inflammatory and immune modulating effects, zinc can be additionally beneficial when comorbid conditions are present. Zinc may cause nausea on an empty stomach (Sarris et al. 2022).
- **Saffron (Crocus sativa)**. Approximately 30mg of the plant's stigma, or standardized safranal or crocin isomers 1–3 times per day is provisionally recommended for monotherapy or adjunctive use in MDD (mild to moderate depression). Minor adverse effects include gastrointestinal symptoms, but saffron is considered safe (Sarris et al. 2022). Ghajar et al., found solid evidence and moderate improvements in depression for saffron use at a dose of 28–30mg/day, with concerns around quality and types of extracts in the market (Ghajar et al. 2017).
- **Curcumin (Curcuma longa)**. Curcumin extract doses of 500–1000mg per day is provisionally recommended for monotherapy or adjunctive use in MDD (mild to moderate depression), is considered safe, and has potential adjuvant benefit in patients with comorbid inflammatory conditions (Sarris et al. 2022).

WEAKLY RECOMMENDED (+)

- **Lavender (Lavandula officinalis)**. Lavender at doses of 80–160mg of essential oil via soft gels per day, or 500–1500mg of dried flower twice per day is weakly recommended for monotherapy or adjunctive use in MDD (Sarris et al. 2022).
- **Vitamin D**. Vitamin D at doses of between 1500–4000IU/day are weakly recommended for adjunctive or monotherapy use in MDD. As a note, the recommendations here (from the authors of the study) are regarding *treatment* for major depressive disorder, while the earlier discussion of vitamin D was focused on its role in *prevention*. Smaller doses on a daily or weekly basis may be more appropriate than large single doses (i.e. 50,000IU at once). Vitamin D can potentially be of greater benefit in the winter months (Sarris et al. 2022).
- **Methylfolate**. 15mg/day is provisionally recommended for adjunctive use in MDD. Folic acid however, is not recommended (Sarris et al. 2022).
- Adjunctive s-adenosyl methionine (**SAMe**). SAMe at doses of 800mg/day is not currently recommended for monotherapy use in MDD. SAMe at 1600–3200mg is weakly recommended for adjunctive use in MDD (Sarris et al. 2022).

Regarding safety and tolerability, the guidelines noted that all interventions had varying acceptable levels, and that quality and standardization of the products were a limiting factor for issuing firmer confidence in the products.

EVIDENCE FOR TREATMENT OF ANXIETY AND ANXIETY DISORDERS WITH CAM (TABLE 3, PAGE 21)

Acupuncture

Many studies and types of studies have demonstrated that acupuncture treatment reduced anxiety/anxiety symptoms. Similar to exercise, acupuncture therapy and treatment prescription can take many different forms. Factors include the acupuncture points used, the

number and frequency of sessions, length of treatments, and form of treatment. Acupuncture treatment variations have influenced the quality of studies, but Amorim concluded that even with variations and different methodologies, acupuncture treatment was still effective at decreasing anxiety symptoms (Amorim, 2018).

A systematic review of randomized controlled trials for men and women aged 18–75 years old with a clinical diagnosis of an *anxiety disorder*, compared acupuncture with a control (sham or placebo acupuncture) and pharmacological treatment (Ma et al. 2014). The study found equal benefits of acupuncture and medications (Buspirone, Fluoxetine/Paroxetine, and Lorazepam) at the second, fourth, and sixth weeks of treatment. Efficacy was evaluated with the Self-Rating Anxiety Scale (SAS) and Hamilton Anxiety Scale (HAMA). The study found that acupuncture is a safe and alternative therapy for generalized anxiety disorder (GAD), but the authors reported that the overall risk of bias for included studies was high (Ma et al. 2014).

A more recent systematic review and meta-analysis concluded that acupuncture therapy was better at treating generalized anxiety disorder (GAD) than CBT and with fewer side effects than medications (including paroxetine, Flupentixol, and Melitracen) (Li et al. 2022). The articles included in the study consisted of 900 cases in the treatment group and 882 cases in the control group. The control group received either medication, CBT, or a combination of medication and CBT. The treatment group received acupuncture alone or acupuncture in combination with medication or CBT. The primary outcome measure was the Hamilton Anxiety Rating Scale (HAM-A). Results showed statistically significant decrease in HAM-A scores (indicating improvement in the patient) in the acupuncture treatment group compared to the control group. Secondary outcome measures were the Self-Rating Anxiety Scale (SAS), Treatment Emergent Symptom Scale (TESS), and the Total Effective Rate (TER). The SAS score showing the difference in clinical efficacy between the treatment and control groups was statistically significant. Compared to the control group, the TESS showed few side effects for the acupuncture treatment group. Subgroup analysis of the TER found acupuncture to be more efficacious in treating anxiety when compared to paroxetine, Melitracen, and Flupentixol. Authors expressed the need for more RCTs to be conducted while suggesting the superiority of acupuncture as a treatment for GAD and encouraging its use to improve patients' quality of life (Li et al. 2022).

The National Center for Post-Traumatic Stress Disorder (PTSD) estimates that in any given year, approximately 5% of adults in the U.S. has PTSD (U.S. Department of Veterans Affairs, 2023). This number is slightly higher at 7% for veterans. A RCT examined the use of acupuncture in individuals with combat-related PTSD, comparing verum acupuncture⁸ (intervention group) with the control group that received sham acupuncture (Hollifield et al. 2024). Participants were randomly assigned to their groups. Of the 93 combat veterans assigned, 71 participants aged 18–55 years old completed the 15-week treatment course. Both the intervention and control groups received a total of 24 one-hour sessions over 15 weeks. The Clinician-Administered PTSD Scale-5 (CAPS-5) was the primary outcome measure, which was assessed before treatment began, mid-treatment, and once treatment ended. The study found verum acupuncture to be largely efficacious, a moderate effect for sham

⁸ Verum acupuncture is the needling of acupuncture points through the skin according to traditional meridian theory and anatomy, i.e. traditional acupuncture (Kim et al. 2019).

acupuncture, and a moderate between-group effect that favored verum. The secondary outcome measure was pre- to post-treatment fear-conditioned extinction, which was found to be significantly decreased in the verum group but not the sham group. The study's findings suggest that verum acupuncture can be implemented in clinical settings for individuals with PTSD. Additional research comparing efficacy and other factors should be conducted to increase confidence in the current findings (Hollifield et al. 2024).

Nutraceutical Studies for Anxiety

PROVISIONALLY RECOMMENDED (++)

- **Lavender (*Lavandula officinalis*)**. Lavender at doses of 80–160mg per day of an essential oil (in capsule form) or 500–1500mg of dried flower, preferably in the form of standardized formulations, twice per day is provisionally recommended (++) for monotherapy or adjunctive use in GAD and is considered safe (Sarris et al. 2022).
- **Ashwagandha (*Withania somnifera*)**. Ashwagandha root extract at doses of 300–600mg (standardized to 5% withanolides) per day is provisionally recommended (++) for monotherapy or adjunctive use in GAD and is considered safe within therapeutic guidelines (Sarris et al. 2022).

KAVA (PIPER METHYSTICUM).

A systematic review and meta-analysis of the efficacy of kava extract for treating anxiety implied the superiority of kava extract to placebo as a symptomatic treatment for anxiety (Pittler, 2000), with the ability to lower the severity of anxiety symptoms with short-term use (Smith, 2018). Robust evidence supports kava's use for acute and/or short-term management of general anxiety symptoms (Sarris, 2013). Kava's typical daily dose (unless otherwise prescribed) is 60–120mg kava pyrones (The American Botanical Council, 1990). However, the WFSBP and CANMAT do not recommend Kava rootstock extracts standardized to kavalactones at 60–250mg as an adjunctive or monotherapy for generalized anxiety disorder (Sarris et al. 2022). Hepatotoxicity is the main concern with kava, but has yet to be substantiated (Yarnell, 2014). Documented hepatotoxicity in clinical trials was rare, even at maximum doses, and if hepatotoxicity occurred, it was not a statistically significant finding (Bian, 2020). Kava should be avoided with concomitant benzodiazepine use, alcohol, and in individuals with liver issues (Sarris et al. 2022).

PASSIONFLOWER (PASSIFLORA INCARNATA).

Passionflower was found to reduce anxiety levels, and to be as effective as oxazepam (Serax) for treating anxiety with fewer side effects (Akhondzadeh, 2001). As a tea, the daily dosage is 4–8g of herb, or equivalent preparations (The American Botanical Council, 1990).

VALERIAN ROOT (VALERIANA OFFICINALIS).

Valerian is commonly used as an anxiolytic and sleep aid. When used in conjunction with St. John's Wort or other herbal partners for symptoms of depression and anxiety, increased effectiveness is seen versus monotherapy, and it is well-tolerated with no significant side-effects (Diethard, 2003). When 100mg of *Valeriana officinalis* root extract was taken orally three times per day for 21 days in patients with minor anxiety and emotional tension dis-

turbance, 81% of the valerian group had improved sleep, versus 50% of the placebo group (Bent et al. 2006). Due to the plant having several active constituents, more research is needed before conclusions can be made regarding its effectiveness and safety. *Matricaria chamomilla* (Chamomile), *Lavandula angustifolia* and *Lavandula latifolia* (Lavender), and *Melissa officinalis* (Lemon Balm) are considered “herbal partners” and are commonly used for their calming effects, and in conjunction with valerian root (Shinjyo et al. 2020).

Exercise

Regular physical exercise can have significant anxiolytic and anti-depressant effects (Wipfli et al. 2008), greatly benefiting mental and physical health (Lamego et al. 2016). Generally, high-intensity exercise was found to be more effective than low-intensity exercise in the treatment of anxiety (Aylett et al. 2018). Yoga yielded positive results as well, but more high-quality studies are needed to determine its effectiveness as a treatment for anxiety (Kirkwood et al. 2006).

A 2016 study examined the effects of aerobic exercise on ten women diagnosed with panic disorder. The women participated in 36 sessions of aerobic exercise over a period of 12 weeks. The Trait Anxiety Inventory (STAI-T), State Anxiety Inventory (STAI-S), and the Subjective Units of Distress Scale (SUDS) questionnaires were used as primary outcome measures and were measured at baseline, mid-treatment, and post-treatment. No control group existed. Results showed significant STAI-T reductions mid- and post-treatment, and STAI-S and SUDS reductions were observed at the end of treatment (Lamego et al. 2016).

Emerging evidence is demonstrating the effectiveness of aerobic exercise in decreasing negative affect and compulsions associated with obsessive-compulsive disorder (Abrantes et al. 2019). Negative affect is characterized by higher levels of anxiety and worsened mood. A final number of 55 participants with treatment-resistant obsessive-compulsive disorder (OCD) were randomized to either an aerobic exercise treatment group or a health education control group. Both groups received their respective interventions for 12 weeks. With each intervention occurrence—either aerobic exercise or health education—participants rated their negative affect, obsessions and compulsions before and after each session. Results found that negative affect and compulsions were significantly reduced in the aerobic exercise group but not the health education group (Abrantes et al. 2019). Obsessions were not impacted by aerobic exercise.

Non-pharmacological Sleep Interventions

Systematic reviews with meta-analyses that primarily investigated cognitive behavioral therapy for insomnia (CBT-I), found that non-pharmacological sleep interventions (sleep hygiene, aromatherapy, etc.) improved anxiety symptoms with pooled effect sizes mostly in the moderate to large range (Staines, 2022). Clinically, the study suggests that non-pharmacological sleep interventions could be offered to individuals with anxiety as correcting insomnia translates to improved symptoms of anxiety. The study also deemed it important to screen for anxiety (and depression) and sleep-related thought processes due to evidence demonstrating that as dysfunctional beliefs about sleep improve, improvements are also seen in insomnia, sleep efficiency, and symptoms of depression (Staines, 2022).

Psychological Interventions for Anxiety in Adult Primary Care Practices

Psychological interventions have been shown to be effective in reducing anxiety symptoms when behavioral health providers are integrated into the Primary Care Behavioral Health model (Shepardson, 2018). Psychological interventions included cognitive behavioral therapy, mindfulness-based cognitive therapy, problem-solving therapy, acceptance and commitment therapy, and psychoeducation. Emerging literature supports these findings (Shepardson, 2018).

Aromatherapy

A 2023 systematic review of randomized controlled trials and network meta-analysis examining essential oils for treating anxiety confirmed that inhalation of essential oils (aromatherapy) is effective in treating anxiety (Tan et al. 2023). *Citrus aurantium L.* (bitter orange) was the most recommended essential oil for reducing State Anxiety Inventory Scores (SAIS) and Trait Anxiety Inventory Scores (TAIS). Conditions treated with bitter orange essential oil included invasive medical procedures including surgery, fractures, acute coronary syndrome and chronic myeloid leukemia. The duration of intervention ranged from 5–360 minutes, with a dose range of 1–4 drops. Other essential oils used in the study included lavender, rose, jasmine, mint, geranium, and lemon. The method of exposure, exposure concentration, and route of administration were not controlled for, which is a limitation in drawing conclusions regarding the efficacy of essential oils for anxiety.

Breathing Techniques

DIAPHRAGMATIC BREATHING

In a quantitative systematic review of the effect of diaphragmatic breathing in reducing physiological and psychological stress, one study found improvement in the stress subscale of the Depression Anxiety Stress Scales-21 (DASS-21) after implementation of a diaphragmatic breathing intervention, and another demonstrated improvements in systolic and diastolic blood pressure (Hopper et al. 2019). Diaphragmatic breathing as utilized by the study involved focusing “on the breath and slowing the breath rate by using a process such as counting the breaths while expanding the abdomen and inhaling deeply through the nose, pausing, followed by contracting the abdomen and exhaling slowly and completely through the mouth.” While not expressly stated as a treatment for anxiety, diaphragmatic breathing has been shown to benefit mental and physical health (Ma et al. 2017). The authors concluded that diaphragmatic breathing can be a widely utilized intervention for physiological and psychological stress reduction (Ma et al. 2017).

4-7-8 BREATHING

Aktas and Ilgin utilized a pre-test post-test randomized controlled experimental research design with a control group to examine the effects of the deep breathing exercise and the 4-7-8 breathing technique on anxiety and quality of life (QoL) scores in patients who had undergone bariatric surgery. The 4-7-8 breathing technique was found to be beneficial in reducing the anxiety level of patients, while deep breathing exercise was also effective in improving the quality-of-life scores (Aktas GK, Ilgin VE 2023).

EVIDENCE FOR TREATMENT OF SUBSTANCE USE DISORDER (SUD) WITH CAM (TABLE 4, PAGE 23)

Acupuncture

According to a scientometric analyses of 3,807 global publications, researchers determined that **acupuncture and CAM psychotherapies** were the most common non-pharmacological interventions for SUD and are promising in the treatment of SUD (Junyue, 2021).

Acupuncture and its varying types—auricular, electroacupuncture, etc.—are used to treat addiction and SUD, and increases endogenous opioids which reduces the symptoms of opioid withdrawal. Electroacupuncture has the potential to be used as adjunctive therapy for patients desiring to reduce opioid consumption via tapering (Zheng, 2019).

Prevention, treatment, and harm reduction of substance use is addressed nationally and globally with **auricular acupuncture** (Lian, 2018). This method of acupuncture is known as “acudetox” and is used for alcohol, stimulant, opioid, nicotine, and other drug addictions. Furthermore, the **National Acupuncture Detoxification Association (NADA) protocol** has been used extensively to treat SUDs. A systematic review of the effects of auriculotherapy on addiction reported that 64% of studies found auriculotherapy effective for treating addictions, including opioids, cocaine, alcohol, heroin, nicotine, and gambling (Lee, 2022). Lee further determined that acupressure can be considered for the treatment of addictions. When the NADA protocol was added to traditional treatment (individual 12-step orientation and group therapies) for improving and sustaining abstinence from alcohol, drug, and tobacco use, the NADA-plus-traditional-treatment group showed statistically significant improvements at three- and six-month follow-ups compared to the traditional treatment group alone (Carter et al. 2017).

Regarding adverse effects, Davis et al. concluded that the incidence of adverse effects of acupuncture is substantially lower than that of many drugs or medical procedures used for the same conditions (Davis et al 2018). Xu et al. found that no serious adverse events were associated with acupuncture treatments. Comparison of the incidence of adverse events between acupuncture and conventional prescription drugs in primary care showed that acupuncture was a safe treatment (Xu et al. 2023).

Nutraceutical Studies for Substance Use Disorder

A double-blind randomized control trial of *Passiflora incarnata* (passionflower) and Clonidine as treatments for opiate withdrawal found that passionflower plus Clonidine, and Clonidine plus placebo were effective in treating physical symptoms of withdrawal (Akhondzadeh, 2001). However, when passionflower and Clonidine were combined, greater improvements in mental symptoms were seen versus Clonidine alone, suggesting that *Passiflora* extract may be an effective adjuvant in the management of opiate withdrawal. Passionflower extract was administered orally at 60 drops per day, and 0.8mg of Clonidine was given orally three times per day. The authors concluded that further studies are needed (Akhondzadeh, 2001).

Additional therapies for SUD, which were not explored in this document, include:

Biofeedback	Emotional Freedom Techniques
Neurofeedback	Equine Therapy
Psychodrama	Art Therapy
Yoga and Mindfulness-Based Therapies	Adventure Therapy

Complementary and Alternative Medicine (CAM) practices can improve chances of recovery from SUDs, especially when used in addition to conventional SUD treatments and mutual self-help groups (US Department of Veterans Affairs, 2023).

EDUCATIONAL HIGHLIGHTS BASED ON FINDINGS

The following points are not exhaustive based on findings included in this document but highlight CAM approaches that may be more familiar to providers and patients. They can serve as potential starting points for CAM integration into clinical practice, beginning with providers and patients having a conversation.

- Initiate conversations with patients regarding their use of complementary and alternative medicine. This can be done as a part of standardized medication reconciliation. Find discussion tips [here](#).
- Correcting abnormalities and imbalances of medical conditions that present with signs and symptoms like depression or anxiety (e.g. hypo- or hyperthyroidism, anemia, etc.) may play a role in the correct diagnosis of depression or anxiety and prove beneficial to patients.
- For patients with depression and/or anxiety, lifestyle interventions to include exercise, a Mediterranean diet, fish oil supplementation, and faith/spiritual well-being can be discussed and encouraged.
- Vitamin D supplementation has been shown to be effective in preventing the development of depression and reducing existing symptoms. Given the relative lack of sun exposure in Vermont during certain seasons, supplementation with vitamin D can be a low-cost, convenient addition to patient care.
- Consider discussing nutraceutical options for patients with an interest in using nutraceuticals, as well as for patients who have expressed disinterest in prescription medication.
- For patients with substance use disorder, anxiety, and/or anxiety disorders, acupuncture can be beneficial if patients have the time and financial resources.

The goal of presenting the above summary of research is to improve provider knowledge of CAM therapies, increase provider and patient comfort discussing CAM, and enhance CAM promotion and utilization when safe and appropriate. Ultimately, the hope is that engagement with this document will support patients receiving a wide range of effective treatments consistent with their personal values while reducing symptom burden and avoidance of substance use. Patients would have access to additional effective treatments and needed care to reduce mental health symptoms, improve harm reduction from substance use, and decrease the use of substances.

Table 2 – Summary of Interventions for Depression

Intervention Summary	Strength of Evidence	Efficacy (as determined by the study)	Safety/Potential Risk
Therapeutic Lifestyle Changes (TLC)	Emerging	Can be as effective as psychotherapy or pharmacotherapy (Walsh, 2011)	Risk inherent with the activity
Exercise	LI-B	Moderate when compared to control groups (Mather et al. 2002)	Appropriate prescription
Diet			
Fish Consumption	LIII-A	Moderate to large when compared to decreased consumption (Smith et al. 2014).	Food Allergies or sensitivity
Mediterranean Diet+ Fish Oil	LI-A/B	Large in comparison to the control groups (Parletta et al. 2019).	Food Allergies or sensitivity
Avoiding ultra-processed foods	LIII-B	Large when compared with increased intake of UPF (Lane et al. 2022).	No risks identified in the study, although cost is a consideration
Nutraceuticals	L IV-A	Recommended or Provisionally Recommended (Sarris et al. 2022): Saffron Turmeric St. John's Wort EPA/DHA Probiotics Zinc	Quality of the herbs and extracts Drug interactions Extract types Costs/affordability

Table 3 – Summary of Interventions for Anxiety

Intervention Summary	Strength of Evidence	Efficacy (as determined by the study)	Safety/Potential Risk
Cognitive Behavioral Therapy	LIII-A	Large compared to control groups (Stewart & Chambless, 2009).	Group therapy can lead to increased anxiety and feelings of inadequacy (Muschalla et al. 2020)
Acupuncture	LII-B/C	Moderate to large when compared to both placebo and pharmacological treatment (Ma et al. 2014)	The incidence of adverse events for varying types of acupuncture ranged from 6.71% to 8.6%, and the incidence of serious adverse events was about 0.001% in evidence mapping of 535 systematic reviews (Xu et al. 2023). Potential adverse events include syncope, pain, infection, organ and tissue damage, and systemic reactions.
Nutraceuticals	LI-B LI-C LIV-A	Mixed Findings: Kava Moderate Findings: <i>Valerian, Lavender & Ashwagandha</i>	Hepatotoxicity concerns with Kava General caution with CNS depressants Quality of the herbs and extracts, drug interactions extract types, and costs/affordability.
Exercise	LI-B	Moderate to large for high-intensity exercise compared to waiting list controls or low-intensity exercise (Aylett et al. 2018)	Exercise prescription should be appropriate for the patient (e.g. not being too strenuous or aggravating other medical conditions, etc.)
Non-pharmacological Sleep Interventions	LI-A	Moderate to large when compared to control groups (no treatment, treatment as usual TAU, etc.) (Staines, 2022)	Sleep restriction therapy (SRT) may lead to excessive sleepiness (Cheng, et al. 2020), memory impairment, irritability, or decreased concentration (Spielman et al. 2011).
Self-Help Interventions ⁹	LV-B	Moderate to large when compared with waitlist conditions (Cuijpers, 2007)	Interventions done without professional guidance may be done incorrectly leading to aggravation of symptoms (Cuijpers, 2007)
Psychological Interventions	LV-A/B	Large compared to TAU, waitlist control & medication without therapy (Shepardson, 2018)	Burdens caused by psychotherapy included patients feeling overwhelmed, being afraid of the therapist, undermining self-efficacy, deterioration of symptoms, emergence of new symptoms, suicidality, treatment failure, occupational problems, stigmatization, strains in personal relationships, or changes in the social network (Hoffman et al. 2008)
Aromatherapy	LI-A	Large compared to control groups (Tan et al. 2023).	Allergies to aromatic substances; specific anxiety triggers.

⁹ Self-Help interventions involve patients receiving a standardized psychological treatment protocol and working through it independently.

Table 4 – Summary of Interventions for Substance Use Disorders

Intervention Summary	Strength of Evidence	Efficacy (as determined by the study)	Safety/Potential Risks
Acupuncture (National Acupuncture Detoxification Association [NADA] Protocol)	LI-B	Large compared to traditional treatment alone (Carter et al. 2017).	The incidence of adverse events for varying types of acupuncture ranged from 6.71% to 8.6%, and the incidence of serious adverse events was about 0.001% in evidence mapping of 535 systematic reviews (Xu et al. 2023). Potential adverse events included syncope, pain, infection, organ and tissue damage, and systemic reactions.
<i>Passiflora incarnata</i> + Clonidine	LI-B	Large compared to Clonidine alone for management of opiate withdrawal symptoms (Akhondzadeh, 2001).	800mg of dried alcoholic extract of <i>Passiflora incarnata</i> for up to eight weeks is apparently safe, but drowsiness, confusion and ataxia may occur in some people (NCCIH, 2020).

DRAFT FOR REVIEW

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DRAFT FOR REVIEW

Appendix A

Complementary and Alternative Medicine Informational Resources

American Massage Therapists Association | Vermont Chapter:
<https://vt.wp.amtamassage.org/home/>

Department of Family Medicine and Community Health, University of
Wisconsin School of Medicine and Public Health – Integrative Health Content:
<https://www.fammed.wisc.edu/integrative/resources/modules/>

Herbs at a Glance: <https://www.nccih.nih.gov/health/herbsataglance>

Medline Plus – Complementary and Integrative Medicine:
<https://medlineplus.gov/complementaryandintegrativemedicine.html>

Memorial Sloan Kettering Cancer Center About Herbs: <https://www.mskcc.org/cancer-care/diagnosis-treatment/symptom-management/integrative-medicine/herbs/search>

National Center for Complementary and Integrative Health (NCCIH):
<https://www.nccih.nih.gov/>

Osher Center for Integrative Health at UVM | Osher Center for Integrative Health |
The University of Vermont: <https://www.uvm.edu/osher>

U.S. Food and Drug Administration – Dietary Supplements:
<https://www.fda.gov/food/dietary-supplements>

Vermont Academy of Nutrition and Dietetics: <https://www.eatrightvt.org/>

Vermont Acupuncture Association: <https://www.vtaa.org/>

Vermont Association of Naturopathic Physicians: <https://vtanp.com/>

Vermont Chiropractic Association: <https://vtchiro.org/>

Vermont Secretary of State | Office of Professional Regulation – Find a Professional:
<https://sos.vermont.gov/opr/find-a-professional/>

Appendix B

ADAPTED FROM THE WFSBP GRADING SYSTEM (GRADES OF RECOMMENDATIONS) (SARRIS ET AL. 2022)

Recommendation <i>FOR</i> or <i>AGAINST</i> using the intervention	Grade	Level of Evidence (LoE)
Recommended	+++	'A' LoE with robust positive data meta-analyses or meta-reviews involving underpinning RCTs, with ROBUST, ACCEPTABLE, or FAIR safety/tolerability
Provisionally Recommended	++	'A' LoE with mainly positive data from either meta-analyses or meta-reviews or ≥ 2 RCTs of good or average quality, with ROBUST, ACCEPTABLE, or FAIR safety/tolerability
Weakly Recommended	+	'A' LoE mixture of (primarily) positive and negative data from either meta-analyses or meta-reviews or ≥ 2 RCTs of good or average underpinning quality, tending towards positive findings, with ROBUST, ACCEPTABLE, or FAIR safety/tolerability
Not Currently Recommended	+/-	'A' LoE mixture of positive and negative data from either meta-analyses or meta-reviews or ≥ 2 RCTs of good or average or weak underpinning quality, with ROBUST, ACCEPTABLE, or FAIR tolerability
Not Recommended	-	'A' LoE with robust negative data from meta-analyses or meta-reviews or ≥ 2 RCTs and/or POOR safety/tolerability