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This manuscript is Under Review

**Title: “*Yoga is a way of life*”: A qualitative study of the experiences of using yoga as a treatment for substance use.**

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## **Abstract**

**Introduction:** Yoga is used as a form of complementary medicine for substance use disorder (SUD). Randomized controlled trials involving yoga for the treatment of SUD have identified its potential to decrease the risk of relapse, improve mood and wellbeing; however, the therapeutic mechanisms outlining how this occurs is unknown. The aim of the present study was to examine the in-depth experience of yoga to inform the treatment of SUD.

**Methods:** Five semi structured interviews (self-identified as Male=2; Female=3; Mage=35.2, SD=7.60) exploring experiences of yoga among people with a prior history of substance use. Participants reported prior use of alcohol (n=4) and 'GBL' and methamphetamine (n=1). Data were analysed using Interpretative Phenomenological Analysis.

**Results:** Analysis resulted in three final superordinate themes. Yoga was reported to enhance awareness of muscle tension, reduce physical stress, increase positive emotions, and build tolerance to negative emotions. The integration of the eight-limb philosophy of yoga, notably withdrawing of the senses, helped combat internal cues and triggers (negative thoughts and emotions) for relapse. Yoga was reported to be compatible with an abstinence-based lifestyle found in 12-step mutual aid programs and helped extend social networks to support long term abstinence.

**Conclusions:** The integration of the eight-limb philosophy, notably withdrawing of the senses appears to reduce cue reactivity making it a valuable tool to integrate within mainstream group and individual relapse prevention programs. Yoga asana also appears to enhance interoceptive awareness which is useful for reducing physical stress related to triggers for relapse. Therefore, treatment programs and health policymakers may want to consider integrating a yoga-based counselling model to enhance and support long term abstinence for SUD.

**Keywords:** Yoga; Substance Use Disorder treatment; Interoception awareness; Yoga based counselling

## Introduction

Nearly 35 million individuals worldwide are affected by substance use disorder(s) (SUDs) involving alcohol and/or a range of drugs (opioid, cannabis, nicotine) (American Psychiatric Association [APA], 2022a; World Health Organization [WHO], 2020). Evidence-based treatments for SUD include cognitive behavioral therapy, motivational interviewing, mutual aid support groups such as 12-step programs contingency management, telehealth, and relapse prevention (Perry et al., 2022). Treatment services for SUD have moved towards a patient centered approach which has led to the development of innovative treatment methods (Marchand et al., 2019; Posadzki et al., 2016). This includes the integration of complementary therapies such as yoga as a treatment for SUD (Junyue et al., 2021; Public Health England, 2013). Examining the evidence-based for yoga as a treatment option for SUD will ensure comprehensive options for effective patient centered care.

Yoga is a mind body practice that uses physical postures, breath, movement, and meditation to produce relaxation and well-being (National Center for Complementary and Integrative health, 2022). In a cultural context, yoga originated from India as a philosophical system that aims to unify the mind, body, and soul with the Universal spirit (Iyengar, 1995). Unification occurs through stages known as the eight-limbs (Iyengar, 1995; Khalsa et al., 2016). The eight-limbs consist of 1) the application of ethical principles (yamas) 2) observances of one's sensations (niyama) 3) physical postures or asanas 4) breath control (pranayama) 5) withdrawal of the senses or the inner quest (pratyahara) 6) concentration (dharana) 7) meditation (Dhyana) and 8) the direct experience of oneness or truth through the process of self-realization (Samadhi) (Iyengar, 1995; Khanna & Greeson, 2013). The integration of the philosophical principles of yoga into mental health counselling such as Yoga Based Counselling (YBC) (Bhide et al., 2021; Kishan, 2020; Ramsahaye et al., 2022) and Integrated Yoga counselling (IYAT) (Nagarathna & Nagendra; 2003) has shown clinical benefit. For example, YBC has been found to reduce anxiety (Telles et al., 2009) and stress (Nosaka, 2015) while both YBC and IAT have been found to reduce depression (Vahia et al., 1966; Villacres et al., 2014). However, the application of either technique has not been applied to SUDs.

Randomized controlled studies examining yoga for behavioral and mental health outcomes related to SUDs are thus far inconclusive (Bock et al., 2012; Gaskins et al., 2014;

Hallgreen et al., 2014; Khanna & Greeson, 2013; Lotfalian et al., 2020; Mallik et al., 2019; Shaffer et al., 1997; Shahab et al., 2013; Zhuang et al., 2013). Yoga decreases negative affect and increases positive emotions for those undergoing smoking cessation compared to controls (Bock et al., 2012). A recent study by Lotfalian and colleagues (2020) found that yogic breathing reduced negative affect and promoted the reduction of smoking 24 hours after the intervention versus people who received no treatment. Other studies examining Vinyasa yoga for smoking cessation vs controls found no treatment effects of yoga (Gaskins et al., 2014) or effects that did not last past 24 hours (Shahab et al., 2013). In terms of alcohol use, yoga studies show promise with two studies identifying that yoga can lower cortisol levels and stress as well as reduce depression (Hallgreen et al., 2014). One study found that yoga increased quality of life for individuals undergoing opioid withdrawal (Zhuang et al., 2013) but another indicated that this was not the case for individuals on methadone treatment (Shaffer et al., 1997). Lastly, a pilot study examining the effects of yoga for people undergoing medication-assisted treatment for opioid use found that yoga meditation reduced reactivity to distress compared to those the treatment as usual (Mallik et al., 2019).

Qualitative studies demonstrate the benefits of yoga to assist in building tolerance to negative emotions and coping with stress (Bock et al., 2012; Holthaus, 2003; Rosen et al., 2016). The yoga philosophical system appears to be compatible to mutual aid groups such as the 12-step programs which support complete abstinence, spiritual experience, and service to others (Holthaus, 2003). The qualitative findings of a mixed methods study on yoga for smoking cessation indicate that participants used yoga for pain relief, yoga was perceived to help build awareness of the impact of breathing on the body and is a tool to cope with stress (Bock et al., 2012). However, some of the mechanisms behind these findings were not covered.

In addition to the inconclusive evidence regarding the benefits of yoga in the context of the treatment of SUD, most studies examining yoga have been heterogenous in design and theoretical approach. For example, different types of yoga have been trialed, such as Hatha yoga (Shaffer et al., 1997) and Vinyasa yoga (Bock et al., 2012; Gaskins et al., 2014; Rosen et al., 2016) which target different physical postures. Furthermore, some interventions either incorporate one element of the eight-limb yoga system such as breathing only (Lotfalian et al., 2020; Shahab et al., 2006) or three elements such as postures, breathing and meditation (Bock et al., 2012; Gaskins et al., 2014; Hallgren et al., 2014; Holthaus, 2003; Rosen et al.,

2016; Sharma et al., 2006; Zhuang et al., 2013). Moreover, the exploration of the eight-limbs of yoga for the treatment of SUD is also missing in the academic literature (Khanna & Greeson, 2013). Conceptualization of yoga also varies. It is framed as either a health improvement practice (Hallgreen et al., 2014), an alternative to physical exercise (Bock et al., 2012; Gaskins et al., 2014; Zhuang, 2013), or as part of spiritual belief system (Holthaus, 2013; Shahab et al., 2013; Sharma & Corbin, 2006), which challenges replicability and clarity of treatment outcomes. As there is inconclusive results and inconsistency in the conceptualization of yoga, the aim of the study was to explore the experience of individuals who use yoga as a method to treat substance use to understand the potential mechanisms underlining this modality as a clinical treatment method.

## **2. Methods**

### ***2.1 Design***

This study was a qualitative design using one to one semi structured interviews. The data were analyzed using Interpretative Phenomenological Analysis (Smith & Flowers, 2013).

### ***2.2 Participants & Procedures***

Participants were recruited using snowball sampling (Sadler et al., 2010). The personal contacts of the main researcher (NMM) were informed of the inclusion criteria of the study and asked if they knew of suitable individuals within their social network who would take part. These contacts then referred potential participants back to the main researcher (NMM) for more information and were screened accordingly based on the inclusion criteria. Inclusion criteria for the study included 1) being abstinent from substance use for over a year and 2) engaged in a self-directed yoga practice for over a year to reduce substance use. Participants were excluded if they were still engaged in substance use and were under psychiatric care. The focus of recruitment was on people who used yoga more than the types of substance they abstained from because yoga is not a mainstream treatment for SUD (Perry et al., 2022).

A total of five participants were recruited who self-identified as male (n=2) and female (n=3). The average age was  $M_{age}=35.2$  ( $SD=7.60$ ), with the average length of

abstinence as  $M=5$  years ( $SD=3.53$ ) and average length of yoga practice as  $M=6$  years ( $SD=4.85$ ). All participants reported being either White British ( $n=4$ ) or Caucasian ( $n=1$ ). Participants practiced either Vinyasa ( $n=1$ ), Hatha ( $n=2$ ) or Vinyasa and Yin yoga ( $n=2$ ). Alcohol was the most reported substance abstained from within the sample ( $n=4$ ) and one participant reported having used the sedative drug gamma-butyrolactone or GBL and methamphetamine.

After screening, the participants identified a time and date convenient for an interview. Interviews were conducted via the application platform Skype ID hosted by NMM University account. Written and verbal informed consent to participate and record the interview was taken at the start of each interview. Each interview was audio recorded using the app Quick Time player and ranged from 45 to 90 minutes in duration. A debriefing sheet with resources of mental health support was provided in case participants felt any distress during the interview. The study was approved from the Middlesex University Psychology department and was conducted in accordance with the British Psychological Society code of ethics (British Psychological Society, 2021).

### ***2.3 Materials***

The interviews were semi structured using open-ended questions. Questions included experiences of using yoga in general, description of motivations for using yoga to reduce substance use, and perceived impact of yoga on recovery from substance use (see Online Supplement 1 for the interview schedule). A pilot interview with a yoga practitioner who had practiced yoga for over a year and reported abstinence for over nine months was conducted to examine the quality, content, and appropriateness of the questions. The results of the pilot interview confirmed that the interview questions were satisfactory and enabled the in-depth exploration of participants' experience from substance use. Each interview was recorded and transcribed verbatim.

### ***2.4 Data analysis***

Interpretative Phenomenological Analysis was used to analyze the data (Smith et al., 2021). This approach was used to capture the social, personal, and emotional mechanisms related to the use of yoga to treat SUD. The analysis started with reading and re-reading of the transcripts, exploratory coding of the language, content, and lifeworld of each case. This



was followed by the development of emergent and superordinate themes. The superordinate themes were then checked back per each case to guarantee idiographic integrity resulting in the final superordinate themes.

## *2. 5 Reflexive account*

NMM conducted the data collection, executed the interview transcriptions, and the analysis. NMM identified as female with over five years' experience as a substance abuse counselor. They were familiar with the 12 step program Alcoholics Anonymous. The author's occupation at the time of the study was that of MSc student who was employed as a content writer for a blog on nutrition. NMM started to practice yoga eight months before data collection for the sole purpose of reducing back pain. The author had no academic knowledge of the eight-limbs of yoga when data were collected. The author acknowledged that the experience with addiction counseling and yoga provided sensitivity which supported the data interpretation. A member of the research team (PS) checked the data for idiographic integrity and if the themes were grounded in the participants' experience.

## **3. Results**

### **3.1 Themes**

The results from the analysis found three Superordinate themes: 1) *Awareness of the body, mind, and emotions* 2) *Yoga as a way of life* and 3) *Yoga and Recovery combined*.

### **3.2 Awareness of the body, mind, and emotions**

Yoga appeared to produce an awareness of physical sensations which helped with managing stress. Yoga was reported as a tool to enhance awareness of the connection between negative thoughts with mood and it assisted participants with controlling and coping with overwhelming thoughts. Yoga enhanced positive emotions such hope for the future which created a sense of well-being and was used to build tolerance to negative emotions. All these experiences provide insight into the therapeutic nature of yoga in providing tools that to assist in reducing relapse .

### **3.2.1 Body**

Participants reported that the awareness of physical sensations was noticeably different after ceasing the use of substances and starting yoga. For example, Participant 1 stated *“I didn’t realize that tension and that tightness starts coming into my being and starts to infiltrate into how I am in world...it is when I know I am getting out of my body”*. Going further, the awareness of physical tension or *“space”* (Participant 2), proved to be vital as it helped to alert participants of stress *“Rigidity and tightness in their lower back or upper neck and shoulder is often always related to stress. What we do in the yin yoga practice is we release those things...”* (Participant 2). This awareness helped participants to respond vs react to their stress, *“I get signals. I listen to the signals. I don’t force myself to do anything and I really listen to my body now”* (Participant 3). This suggests that yoga can provide a sense of control reactions to physical tension without the use of substances.

### **3.2.2 Mind**

Participants reported yoga helped enhance awareness of the connection between habitual addictive thought patterns and behaviour. For example, participants described addictive related thoughts as *“I start to get rigid and my thinking gets rigid and my way of acting and it’s all connected, and I didn’t realize it until I had a period of time where I stopped doing yoga”* (Participant 1). Through using the postures and breathing techniques learned in yoga, participants were able to observe and redirect their thoughts. This proved to be useful for combating obsessive thinking associated with substance use:

*I realized that it was just another element of the addiction coming through that obsession and compulsion, that attachment and expectation and slowly and surely those things melted away.* (Participant 2)

*I notice it tends to be an obsession that starts to be intrusive and starts to make my life a little uncomfortable. So, when I practice yoga and meditation it slows down the obsession.* (Participant 4)

Another participant reported that yoga helped to build awareness of the impact of different states of mind or “*mindsets*” (Participant 5) and its relationship to decision making. This awareness provided mental flexibility which led to a sense of agency over their life experiences:

*Coming into different postures, and putting your body in different positions... It shows you more than one mindset and you understand that there are different mindsets and then you get exposure to more than one mindset in one particular area and ask if it is serving you and if it is preventing you from a more fulfilled life.*

(Participant 5)

### **3.2.3 Emotions**

Participants described how yoga improved positive emotions, such as hope for the future. A participant stated, “*I didn’t even know that this was happening, but I could focus somewhere on some level I knew that everything was going to be ok, and I wasn’t in my head.*” (Participant 3). One participant described the experience of positive and negative emotions as an embodied experience, where the body would feel physically lighter when experiencing positive emotions. For example, “*I would feel lighter I would feel free of myself and the painful prison of myself and the negativity*” (Participant 1). While other participants reported that yoga enhanced the experience of positive emotions which supported well-being. Participants reported:

*My life would become seemingly more harmonious and peaceful and connected. And feeling those emotions that one really enjoyed.* (Participant 5)

*These types of things from yoga have helped me in my recovery too because along the way I tap into some of these emotions that sometimes when I was in my disease, I was not able to tap into. So, this is teaching me how to do this through qualities of mind and states of well-being.* (Participant 4)

Participants also described an awareness of the negative effects of avoiding emotions and how this was previously linked to addictive behavior:

*Unbalance in the hips and the sacral and when there is an imbalance in this place it is the inability to process the emotions experiences that we have in this life and the inability to process these experiences creates an avoidance experience to what these are so, just like in addiction. (Participant 2)*

More importantly, yoga was perceived to be a tool to learn how to tolerate negative emotions as opposed to using substances to cope:

*Alcohol gave me some kind of freedom and sense of release and that's what drinking really is a release, a release of all the pent-up pressure inside and yoga was a softer kind of way to release it. (Participant 1)*

### **3.3 Yoga as a way of life**

All the participants described yoga as a system that helped to support a lifestyle suitable for maintaining abstinence from using substances. This philosophical system of yoga was mentioned in some interviews, with one participant explicitly naming it as the “*eight limbs of yoga*” (Participant 4) and as a “*Yoga is a way of life*” (Participant 1). Understanding the system of yoga was important to these participants as it provided methods for a healthier lifestyle “*free of sugar, cigarettes or booze*” (Participant 4) and the connection between nutrition and thinking. “*...they started teaching us before we even did postures, they talked about our thinking and about food*” (Participants 1). Participants reported that the system of yoga helped them to use self-compassion which in turn created more optimism for maintaining abstinence :

*More concentration, more patience, practicing compassion that is one of the limbs of yoga, compassion for myself and others I have been able to take these practices that I am learning on the mat into my life and my world and my recovery. (Participant 4)*

Other tools such as “*withdrawing the sense of sight*” (Participant 4) was described as a method of observing internal sensory reactions, the perception and interpretation of these cues, and how this leads to craving. For example, this tool allowed participants to go “*...within and get a little bit quieter and not feel so drawn to those outside external things*”. (Participant 4). This tool was especially important to help reduce relapse as being able to

observe internal and external triggers allowed them to make better choices. Participant account:

*There have been times I wanted to use, and the practice allows me to breathe through the moments and I just connect with myself on a deeper level, and I see my truth and the person I think I should be or this person I think I shouldn't be because those are things that fuel my addiction. (Participant 2)*

### **3.4 Yoga and 12 step recovery combined.**

All the participants reported being active in both yoga and a 12-step program (this refers to mutual aid groups such as Alcoholics and Narcotics Anonymous). Yoga and the use of a 12-step program were reported to offer similar tools for maintaining a lifestyle free from substance use. Building further on the first theme in which yoga was perceived as a tool for coping with stress and negative emotions, yoga was seen as a valuable resource for coping with reflective activities required of some 12-step programs. For example, a participant described step work -or tasks related to 12-step program- as an intense process that requires reflection of the motivations behind addictive behaviour. Yoga was perceived as a tool that helped reduce stress related to step work:

*12 step process is very invasive and it's like self-surgery and you pick yourself apart and look at yourself inside out and get to the core of your behaviour and addictions while as yoga puts you back together and yoga helps you look at yourself exactly how you are and what you are and helps you accept. (Participant 2)*

Yoga was also reported to support the tool of meditation used in 12 step programs “*I suppose in terms of that step 11 it has really helped me and I also wasn't afraid of omg what is meditation, like I wasn't, I didn't have any concerns about it*” (Participant 4).

Yoga and engaging in a 12-step program provided additional social support that helped motivate abstinence. As both systems appeared to attract similar people “*A lot of people within the yoga community are also in a similar sort of exploratory path...it usually increased my network of people to explore ideas with*” (Participant 5). One participant noted “*True yogis don't drink. Yoga is a community of people who don't drink. So um , so it's a community that supports it*” (Participant 3). Yoga also increased social experiences which

was reported to enhance one's quality of life. *"it started to give me a life outside of drinking and using...it opened up a whole new world.* (Participant 4). In addition, both yoga and 12-step programs advocated peer support to members within the respective communities. A participant compared yoga to the 12-step program of AA:

*Similar to AA we get we clean our house and make ourselves of service for others and to help other people along their path of enlightenment towards a happier and higher goal.* (Participant 5)

Another participant identified that integrating yoga and a 12-step program as opposed to separating them helped with maintaining abstinence. One participant described a peer who separated 12 step recovery practices from yoga and were privy to their struggle for abstinence. The participant stated:

*Some of my friends said the world of yoga was all they needed ...so eventually they came back to sobriety well and were struggling... so I know that I need my recovery and my yoga as a blended world.* (Participant 3)

#### **4. Discussion**

The aim of the study was to understand the mechanisms underlining the use of yoga to treat SUD. The current study identified three themes that are consistent with both qualitative and quantitative research on yoga for SUD. As in other studies, the present results outline that yoga helped individuals to tolerate and reduce negative emotions (Bock et al., 2012; Holthaus, 2003; Lotfalian et al., 2020; Rosen et al., 2016), increase positive emotions and wellbeing (Zhang et al., 2013), help reduce stress and feelings of distress (Mallik et al., 2019) and yoga is compatible with 12 step-based treatment approaches (Holthaus, 2003). The results also demonstrate a novel finding- integrating the 8-limbs and philosophy of yoga for the treatment of SUD to reduce relapse.

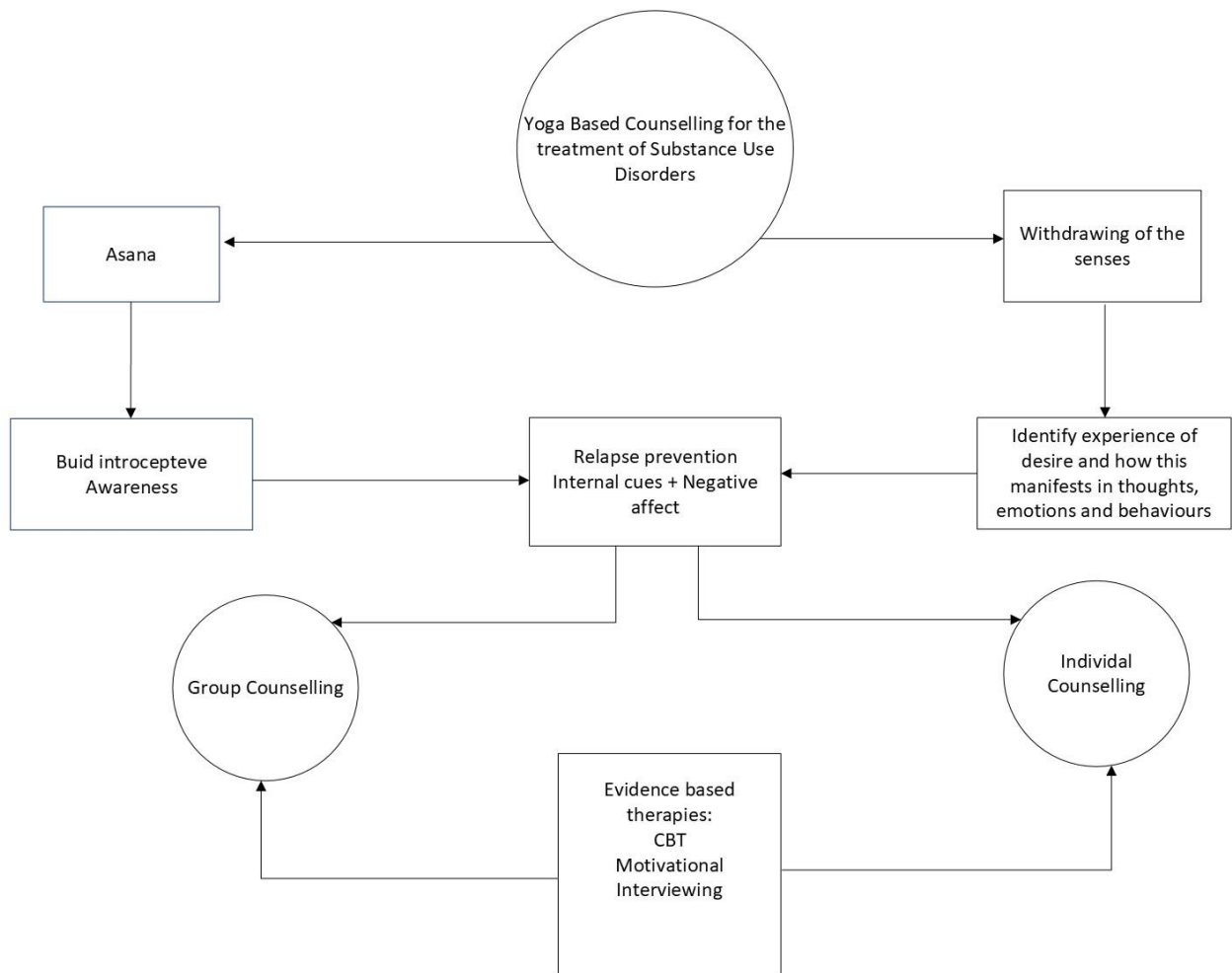
##### ***4.1 Yoga Based Counseling for the treatment of Substance Use Disorders (YBC-SUD)***

The results of this current study showcase the benefits of integrating the philosophical teachings of yoga for clinical practice - which is a unique finding not identified in previous literature (Bock et al., 2012; Gaskins et al., 2014; Hallgreen et al., 2014; Khanna & Greeson, 2013; Lotfalian et al., 2020; Mallik et al., 2019; Shaffer et al., 1997; Shahab et al., 2013;

Zhuang et al., 2013). This finding is important for programs that already use yoga in their treatment program or for counsellors who recommend using yoga as a part of SUD patient centered care. A model has been proposed (Figure 1) demonstrating how yoga may work to help with positive SUD treatment outcomes.

**Figure 1**

*Yoga Based Counseling for the treatment of Substance Use Disorders (YBC-SUD*



Yoga appears to be a useful aid for relapse prevention based on two main components, 1) withdrawing of the senses and 2) building interoceptive awareness through the asana practice. These components can be integrated into current relapse prevention models in both group and individual counselling. To start participants reported yoga helped build tolerance to negative internal cues, negative emotions, and obsessive thinking and increased self-efficacy to cope with these internal experiences to prevent relapse. This suggests yoga works like traditional models of relapse prevention which focus on helping clients adapt and build

self-efficacy to cope with perceived high-risk internal and external events that can lead to relapse (Larimer et al., 1999; Marlatt & Gordon, 1985). Most importantly this appeared to work in tandem with incorporating the tool *withdrawal of senses* as it helped participants observe internal reactions and break free of the desire to use substance to cope with these reactions. Treatment providers may start to integrate *withdrawing of the senses* as a topic within group relapse prevention with a focus on redirecting clients to observe the narrative around triggers to seek substances and process these experiences in a group setting. These experiences can also be processed in individual counselling more closely, whilst using other evidence-based therapies such as CBT by connecting thoughts to behavior or using Motivational Interviewing with a focus on how the experience of observing triggers helps to achieve goals and motivation for abstinence.

The findings also support yoga asana potential to enhance awareness of physiological cues namely, muscle tension and physical stress suggesting it can be used as a tool to build interoceptive awareness (Khalsa et al., 2008). This is an important finding as a lack of interoceptive awareness is related to increased impulsivity leading to addictive behaviour (Herman, 2023). Thus, integrating yoga asana may be helpful to reduce relapse based on its potential to bring about awareness off physiological stress and assist in rebuilding the interoceptive process that is disrupted by SUD (Wiśniewski et al., 2021). Like integrating *withdrawing of the senses* into group and individual therapy, subsequent relapse prevention groups could focus on topics related to interoceptive awareness with a focus on processing how awareness of body sensations are related to relapse prevention.

Lastly this proposed model can be adapted to fit common treatment approaches therefore, policymakers should consider this evidence to support the use of complementary medicine for the treatment of SUD in their policies. Yoga is classified under the umbrella of psychosocial interventions in the UK guidelines on clinical management of drug misuse and dependence (Department of Health, 2007; Public Health England, 2013). The findings from this study supply evidence to support its efficacy in the treatment of SUD. Yoga is also conceptualized as a form of exercise which can be easily integrated into policies that call for the use of exercise in SUD treatment (Greer et al., 2012). In this case yoga can be adapted to take a non-secular approach without the need of integrating all of the philosophical system, for example using it as a form of exercise that supports interoceptive awareness and as a form of stress reduction.



## ***4.2 Strengths and Limitations***

To the authors' knowledge, this is the first study to identify the mechanisms of the eight-limbs of yoga to support abstinence from SUD beyond a theoretical argument (Khanna & Greeson, 2013). The current qualitative study provided a detailed experience of yoga for the treatment of substance use whereby mechanisms could be captured and may be missed in a quantitative framework. The population sample was adequate for IPA method and data reached saturation with five participants. The limitations of the current study include the broad inclusion criteria. Although theoretically, SUD is diagnosed with similar criteria varying based on the psychopharmacological effects of the drugs (APA, 2022b), the motivations and experience of substance use may result in different needs and uses for yoga. The participants were recruited through snowball contacts from 12-step programs and the findings rely heavily on this type of subgroup which may have influenced the theme development. Interviews occurred using Skype software, which limited face-to-face interaction, increased the possibility of environmental interruptions (patterns, pets, intermittent bandwidth) which may have influenced comprehensive data collection. Although, qualitative work such as IPA does not involve implications for larger populations, future qualitative research may consider alternative methods (Thematic analysis, content analysis) with a larger sample size to identify if yoga helps to treat SUD differently across different types of substances and its implications for treatment. In addition, randomized controlled trials may wish to integrate a secular approach incorporating more than three elements of the eight limbs such as *withdrawing the senses* and use outcome measures that support testing for reduction in triggers based on internal cues and interoceptive awareness (Mehling et al., 2012).

## **5. Conclusion and implications: Integrative approach towards treatment of addiction**

This present study adds to the existing knowledge about the benefits of using yoga on clinical outcomes for SUD to enhance interoceptive awareness, reduce internal triggers, and provide an avenue of social support for long term abstinence. Future research may want to examine a Yoga based counselling approach to identify how relevant additional aspects of the eight-limb stages of yoga can be used to enhance the recovery process in addition to postures, meditation, and breathing. Researchers may

think about refining methods to include outcome measures relevant to the mechanisms of yoga for stress, wellbeing, relapse prevention and self-efficacy. As the spread of substance use disorders continues to rise (WHO, 2020) new methods that are evidenced-based and support long term recovery should be examined to help arrest this growing epidemic of SUD and to facilitate effective patient care.

### **CRedit Authorship contributions.**

**Nicole M Miller:** Conceptualization, Methodology, Formal analysis, Investigation, Data Curation, Writing- Original Draft, Writing- Reviewing and Editing, Project administration.

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