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Research Article

The Use of Yoga in Clinical Practice: A Descriptive Study

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Abstract

The purpose of this descriptive survey was to explore how, and for what purpose, health care practitioners use yoga in clinical practice. A survey was administered to professionals who identified as healthcare practitioners who used yoga in their practice. There were 205 completed responses from a combination of healthcare practitioners including occupational therapists, physical therapists, yoga therapists, recreational therapists, speech-language pathologists, and mental health counselors. Practitioners worked in outpatient, community, and acute rehab settings. Open-ended survey questions were analyzed using directed content analysis. Themes included how to discuss and document yoga, selecting yoga based on patient preference and clinical judgment, and finally, practitioners' recommendations for implementing yoga into practice. Implications of the study are further discussed.

Keywords
Yoga; yoga therapy; integrative health; complementary health; occupational therapy; recreational therapy; physical therapy; clinical practice

1. Introduction

The prevalence of yoga has increased dramatically over the last decade, with the latest research indicating one in seven adults in the United States practice yoga [1]. Traditionally, the ancient practice of yoga was a spiritual practice rooted in eastern philosophy, but contemporarily it is also practiced for physical and mental well-being [2, 3]. Yoga is often characterized by the combination of breath practice (pranayama), physical movement and postures (asana), and mindfulness (dhyana) [2]. Yoga therapy is defined as "the professional application of the principles and practices of yoga to promote health and well-being within a therapeutic relationship that includes personalized assessment, goal setting, lifestyle management, and yoga practices for individuals or small groups" ([4], p.2). In 2016, an official credentialing process was established for yoga therapy which has been utilized on an international level [5]. The use of yoga in clinical settings has mirrored the growth of use in the general population, with a dramatic increase in the use of yoga as a complementary and integrative practice within healthcare systems globally including Germany [6], the United Kingdom [7], the United States and others [3, 8]. Yoga is generally considered safe [9], and according to the 2017 National Health Interview Survey, yoga is the most commonly used complementary health approach in the United States [1]. In addition to yoga therapy being used in clinical practice [10], yoga has also been integrated into various clinical practices such as occupational therapy [11], recreational therapy [12], physical therapy [13], and mental health practices [14-16]. Additionally, the research on yoga has increased [10], and yoga is an evidence-based treatment for individuals with various diagnoses and symptoms including: arthritis [17]; cancer [18, 19]; chronic pain, neck pain, and low-back pain [20-22]; menopause [23]; anxiety and depression [24]; stroke [25, 26]; diabetes [27, 28]; and overall stress-management [29, 30]. However, because yoga is being used across professions, the training practitioners have received and the manner in which yoga is integrated into treatment may vary widely.

Despite the increase in use, the training requirements or credentials required to integrate yoga into clinical practice are not standardized. Currently, practitioners are not required to have any formal training to be able to use yoga in their clinical practice. Because there are no licensing regulations, healthcare practitioners may integrate yoga into their practice with any level of training or experience. Furthermore, there is no yoga credentialing body that has the data to fully describe who is using yoga in clinical practice, what they are using it for, and why.

As the field continues to grow, it is important to understand how yoga is being integrated into clinical practice. The implementation of complementary and integrative treatments involves buy-in and approval from multiple stakeholders including insurance companies, healthcare administrators, practitioners, and clients; currently, the requirements to implement yoga differ between countries and within the same country, requirements may differ across healthcare systems [3, 4, 6]. Practitioners trained in yoga may have a separate professional credentialing that allows them to work in a healthcare system within a specific scope of practice. Before recommendations or

guidelines can be made for how yoga may be used in clinical settings, or the minimum level of training and experience practitioners should have, a baseline knowledge of how and why yoga is currently being used is necessary. Therefore, the purpose of this descriptive survey was to explore how, and for what purpose health care practitioners use yoga in clinical practice. For the purposes of this study, the term "clinical practice" referenced individuals who work with clients in a healthcare setting.

2. Materials and Methods

A survey was developed by a team of healthcare professionals and yoga researchers to address the integration of yoga into clinical practice. Survey questions included closed and open-ended items and were developed to explore who is using yoga, and how and why practitioners integrate yoga into clinical practice. Summative and conventional content analyses were used to describe the open-ended items. Approval for the survey was obtained from the institutional review board at the two universities engaged in the study.

2.1 Participants

Potential participants were eligible for the study if they: identified as a healthcare practitioner, had graduated from their professional degree program, and self-reported using yoga in clinical practice. Phrases within the study inclusion criteria, including "healthcare practitioner," "professional degree program," and "using yoga in clinical practice" were not defined for participants. Rather, participants self-selected to participate in the study based on their own perception of whether they were a healthcare practitioner, had graduated from their professional degree program, and used yoga in clinical practice. Two sampling methods were employed in this study. The first approach was purposive sampling in specific social media groups, professional therapy (e.g., occupational, physical, and recreational therapy) and yoga (e.g., Accessible Yoga, Bridgebuilders to Awareness in Healthcare) listservs (an email sent through a professional organization to their subscribers), and conferences with healthcare or yoga professionals where it was likely to find healthcare professionals who were using yoga in clinical practice. In recruiting participants, the focus of this study was to get high representation from diverse professional backgrounds, and additional efforts were made to reach out to professionals from various races, ethnicities, and cultures. However, in an effort to include as many participants as possible, there were no a priori percentages set for an even distribution of demographic or professional representation. An email was also sent to the members of the International Association of Yoga Therapists, describing the study and inviting participation. Snowball sampling was also employed; study participants were asked to forward the study information to anyone they knew who was also using yoga in clinical practice.

2.2 Data Collection

2.2.1 Demographic Data

Demographic data were collected, and included age, sex, race, country of residence, and state of residence (if based in the United States). Additionally, personal and professional information related to yoga were collected from each survey respondent (if they were a trained yoga teacher or yoga

therapist, length of time teaching yoga, if they have a personal yoga practice, and length of time with a personal practice.). These data were multiple-choice, except for country of residence, which was free text.

2.2.2 Survey Data

In order to better understand the use of yoga in health care, respondents were asked to identify their area of clinical practice, their years as a professional in clinical practice, if they are currently using yoga in their clinical practice (yes/no response options), the ages of clients they use yoga with, the settings in which they integrate yoga in their clinical practice, and how they started using yoga in clinical practice. Survey respondents were then asked about what they call yoga in clinical practice (yoga or another term) and if the term 'yoga' was used consistently. Survey respondents were also asked to share information about decision-making and documentation related to the use of yoga in clinical practice. Finally, respondents were asked to share "tips of the trade" based on their experience using yoga in clinical practice. (The full survey questions are available from authors upon request.)

2.3 Data Analysis

All data were exported from Qualtrics into SPSS 24.0 and Excel for data analysis. Means, frequency counts, and percentages were included to describe the data that were categorical or summative in nature (demographic data, professional and clinical practice data [area of practice, years as a practicing professional, age of clients, settings], the current use of yoga [yes/no] with clients, how/why started using yoga in practice, and the clinical or diagnostic populations that yoga is used with).

Conventional content analysis was used to analyze the open-ended response survey data [31]. Conventional content analysis is used with questions with open-ended responses and used when the data had many meanings, for example how they would decide to use yoga with a client, how they documented the use of yoga in clinical practice, and their "tips of the trade" [31]. Conventional content analysis is an analytical approach that allows researchers to develop categories from the data. In this study, each open-ended question that had responses with many potential meanings, was downloaded into an Excel spreadsheet from Qualtrics by question and hand-coded by two authors (JV and MVP). Each response was read multiple times in order to achieve a thorough understanding of the information shared by participants. Next, similar concepts from the data were grouped together into codes. Multiple codes were collected from the data that represent important concepts and put into subcategories based on similar qualities they possessed. Next, the subcategories were sorted into categories.

2.3.1 Credibility and Trustworthiness

Prior to the summative and conventional content analyses, two authors (JV & MVP) met to discuss guidelines regarding the analytic process. Authors JV and MVP conducted the content analyses independent of one another, and then worked together to determine appropriate titles for each category. Once categories and subcategories were finalized, authors JV and MVP met to

discuss their agreement of qualitative categories and interpretation of results [32]. Finally, verbatim quotes were used to convey the findings of this study when appropriate.

3. Results

The purpose of this descriptive survey was to explore how, and for what purpose healthcare practitioners use yoga in clinical practice. Overall, 239 surveys were initiated; 34 were excluded due to incomplete or missing data, resulting in a final sample size of 205. Importantly, a number of survey questions allowed participants to not respond or to provide multiple responses, so the number of responses to questions may vary.

3.1 Who Is Using Yoga in Clinical Practice: Study Demographics

Demographic data are summarized here and presented in full in Table 1. Most survey participants were female (n = 188, 92.15%), white (n = 182, 89.2%), and were located in the United States (n = 180, 88.2%). Of those living in the United States, 74 (30.9%) resided in the western region of the country.

Table 1 Participant demographics (n = 205).

	n or Mean (SD)	*% or Range*
Age (n = 205)	43.48 (12.44)	20-69
Sex (n = 205)		
Female	188	92.15
Male	16	7.8
Other	1	0.5
Race (n = 204*)		
White	182	89.2
Asian	5	2.5
Hispanic or Latinx	4	2
African American or Black	2	1
Native Hawaiian or Pacific Islander	1	0.5
American Indian or Alaska Native	1	0.5
Other	9	4
Country (n = 204*)		
USA	180	88.2
Canada	13	6.4
Australia	4	2
Finland	1	0.5
Germany	1	0.5
Greece	1	0.5
Italy	1	0.5
Singapore	1	0.5
Sweden	1	0.5
UK	1	0.5

USA by Region (n = 112, no response from 68 participants)		
West	74	30.9
Northwest	35	14.5
Midwest	32	13.5
Southeast	25	10.4
Southwest	13	5.4
Trained Yoga Teacher? (n = 196)		
Yes	141	71.9
No	55	28.1
Yoga Therapist (C-IAYT)? (n = 196)		
Yes	62	31.6
No	134	68.4
If Yes (trained yoga teacher or C-IAYT), How Long? (n = 176)		
<1 Year	14	8
1-3 Years	23	13.1
4-10 Years	52	29.5
11-20 Years	34	19.3
>20 Years	12	6.8
N/A, Not a Trained Yoga Teacher or C-IAYT	41	23.3
Personal Yoga Practice? (n = 195)		
Yes	190	97.4
No	5	2.6
If Yes, How Long? (n = 191)		
<1 Year	3	1.5
1-3 Years	16	7.8
4-10 Years	57	27.8
11-20 Years	74	36.1
>20 Years	41	20

*sample = 205, missing data from one participant

Most participants (n = 141, 71.9%) reported they were a trained yoga teacher and 134 (31.6%) reported being a certified yoga therapist (C-IAYT). Of the 141 trained yoga teachers, 52 (29.5%) had been teaching for four to 10 years. Most participants (n = 190, 97.4%) reported having a personal yoga practice, with 74 (36.1%) having had a personal practice for 10 to 20 years.

3.2 Professional and Clinical Practice Information

The most frequently reported primary clinical practice areas participants reported working in was occupational therapy (n = 67, 33%), yoga therapy (n = 38, 18.7%), physical therapy (n = 37, 16.7%) and recreational therapy (n = 26, 12.8%) (see Table 2 for more detailed information about the professional and clinical practice settings of the sample). Participants reported having practiced in their professional disciplines for four to 10 years (n = 57, 27.9%), 11 to 20 years (n = 54, 26.5%), and more than 20 years (n = 57, 27.9%). Seventy-four participants reported using yoga in outpatient

rehabilitation settings, followed by community-based programs (n = 47), psychiatric care (n = 24), inpatient rehabilitation (n = 24) and skilled nursing facilities (n = 17).

Table 2 Professional and clinical practice information.

	n	*%*
Area of Practice (n = 204)		
Occupational Therapy	67	33
Yoga Therapy	38	18.7
Physical Therapy	37	16.7
Recreational Therapy	26	12.8
Social Work	7	3.4
Other (MD, nurse, psychologist, social worker, etc…)	31	15
Years as a Practicing Professional (n = 204)		
<1 Year	11	5.4
1-3 Years	25	12.3
4-10 Years	57	27.9
11-20 Years	54	26.5
>20 Years	57	27.9
Age of Clients (n = 199)		
All Ages	91	45.7
Adults 19-65 Years	71	35.7
Children/Youth 0-18 Years	20	10.1
Older Adults 65+ Years	17	8.5
Settings (n = 195)		
Outpatient Rehabilitation	74	38
Community-Based Programs	47	24
Psychiatric Care	24	12
Inpatient Rehabilitation	24	12
Skilled Nursing Facility	17	9
Other (Corrections, Military, Private-Practice, etc.)	19	10

Survey participants were asked to identify what populations they used yoga with. Most reported working with people with chronic pain (n = 114), mental health/substance use disorders (n = 79), and arthritis (n = 67) (Table 3). The age of clients worked with in clinical practice ranged from 0-65+ years. Ninety-one respondents (45.7%) reported working with all ages. Of the survey participants, 71 (35.7%) reported working with clients ages 19-65, 20 (10.1%) worked with youth ages zero through 18, and 17 (8.5%) worked with older adults (65+). See Table 2 for the full clinical practice information of the sample.

Table 3 Use of yoga (as reported in 205 surveys).

	n	%
Currently using yoga with clients (n = 197)		
Yes	193	98
No	4	2
How/why Started Using Yoga		
Started a Personal Practice	128	62.4
Completed Continuing Education Courses About Yoga	95	46.3
Work Supported the Use of Yoga and/or Other Integrative Health Practices	88	42.9
Saw Others Using Yoga with Clients	29	14.1
Learned About it in School	24	11.7
Involved in Yoga Related Research	23	11.2
Other (includes being a trained yoga teacher prior to healthcare professional credential, patient preference to return to yoga, or events related to yoga)	36	17.5
Clinical or diagnostic populations where yoga was used		
Chronic Pain	114	55.6
Mental Health/Substance Use Disorder	79	38.5
Arthritis	67	32.6
Stroke	57	27.8
Traumatic Brain Injury	49	23.9
Parkinson's Disease	45	21.9
Cancer	42	20.5
Multiple Sclerosis	39	19
Intellectual and Developmental Disability	33	16.1
Heart Disease	31	15.1
Pulmonary Disorders	31	15.1
Diabetes	24	11.7
Alzheimer's	20	9.8
Other (Orthopedics, Eating Disorders, Women's Health, Musculoskeletal, Neurological, Hormonal Imbalance, Inflammatory Bowel Disease, Lymphedema, Scleroderma, Pediatrics, Scoliosis, Spinal Cord, Tendinitis)	29	14.1

Note: How/why started using yoga and clinical or diagnostic populations were open-ended questions that were summarized based on response similarity.

Most participants reported that they began using yoga in their clinical practice because they had a personal yoga practice of their own (n = 128, 62.4%) (See Table 3 for information about the use of yoga in clinical practice). Ninety-five participants began using yoga in their clinical practice because they had completed continuing education courses about yoga. Eighty-eight participants started using yoga because they had a workplace that supported the use of yoga and or other integrative health practices in their clinical practice.

3.3 How Practitioners Provided Yoga in Clinical Practice

Two themes emerged from these data that describe how yoga is provided in clinical practice. The first theme focuses on the terminology used with patients; the second theme describes practitioner documentation styles.

3.3.1 Terminology Used for Yoga in Clinical Practice

Survey participants were asked if they inform the client that yoga is being integrated into the clinical sessions by using the word "yoga," or if they refer to yoga as something else. Eighty-nine participants (48.4%) reported they used both "yoga" and other terminology when describing the services used with the client. One respondent said "Both. Many yoga poses, movements and postures are not isolated to 'yoga'. I will call them by the English 'yoga' name. The postures or asana are only one branch of yoga." Another participant responded "I do often at times use the word yoga but break it down in much simpler concepts that are relatable to people. I also use the word embodiment a lot." Seventy survey participants (38.0%) used the word "yoga." Eighteen survey participants (9.8%) called it "something else," such as: balance, stretching, relaxation, breathing, mindfulness, body-based therapy, meditation or mental health therapy. A survey participant said, "Depending on location. I may call it 'mindfulness practice.'" Seven participants (3.8%) did not call it yoga or did not name their services at all.

3.3.2 Documentation of Yoga in Clinical Practice

Survey participants were asked to describe how they document the use of yoga used in clinical practice. Some study participants reported they document in electronic medical records using Current Procedural Terminology billing codes. Participants also reported that they used narrative notes (including the format of writing subjective, objective, assessment, and plan, i.e. *SOAP note*) for documentation. For example, one participant said they document "similarly to my physio practice, in SOAP format; as much detail as possible so that it could be duplicated; use both Sanskrit/yoga names as well as English descriptions and pictures." Another participant said they document "with an individualized treatment note in their medical record."

Some participants answered that their documentation was based on what activity their client performed during a session, for example: "Patient participated in standing balance activity in preparation for functional tasks with standby/CG [contact guard] assist for three minutes with no loss of balance noted." Other examples of documentation focused on the outcome, such as breathing, flexibility, strength, for example "…I just write out what I am addressing and why, such as weight bearing, balance, strengthening, gross motor control, etc…." These participants also described recording the postures/poses practiced during the client's session. For example, one study participant said, "I keep track of their sequences from week to week." Another participant said they record "with the name of the asana/pranayama, and then exampling clinical rationale." Eleven participants indicated they did not document their use of yoga with patients in any context.

3.4 Why Yoga is Provided in Clinical Practice

This section describes the findings related to why survey participants choose to use yoga with their clients in a clinical practice setting. Two themes emerged from these data: the first is patient preference and the second is based on clinical decision making.

3.4.1 Patient Preference

Many responses indicated the level of openness and willingness of the client that would determine if yoga was used. A participant stated, "when they're open to mind-body practices" and another said, "when they are open to other options." Another participant responded, "if the client is willing and I feel the practice would benefit him/her." Finally, others noted they were a yoga therapist, so the patient determined they were interested in receiving yoga by enrolling in a private or group session.

3.4.2 Clinical Decision-making

Survey participants described that deciding whether yoga was appropriate for clients was "indicated in patient assessment." The assessments were both informal and formal (standardized). A survey participant responded they use yoga "after a physical examination and taking a medical history, as well as discussing it and explaining it to the patient." A respondent stated they would use yoga with a client when they had "high scores on Beck Anxiety Inventory, interest in skills to reduce anxiety."

Participants also described that yoga was chosen as a treatment modality due to the needs of the client or the potential benefits of the practice. For example, yoga would be used with a client who was exploring coping skills, recovering from surgery, aiming to improve mental or physical health, or as symptoms such as stress or pain arise. A respondent said, "when a child has anxiety or ADHD, I have seen the benefits of how they learn to self-regulate and calm with simple yoga postures and breathing techniques." Another survey participant stated, "I also like to incorporate yoga in the later stages of post-op therapy for conditions such as biceps/tendon repair, carpal tunnel release, rotator cuff repairs." Other answers indicated that yoga intervention would be used when the client had stopped making progress with traditional approaches.

Some participant answers reflected that a client would receive services if there were no physical or mental limitation preventing or hindering the use of yoga. One survey participant said they would integrate yoga when "it is appropriate, safe and would be of benefit to the patient." Other participants stated they would use yoga "always," "every session," and "all the time." A response stated: "As a PT, I use yoga for strength, balance and embodiment. We see our patients 2-5 days/week for 1-12 weeks, so I generally incorporate yoga at some point. I also use yoga as a means to teach body mechanics and diaphragmatic breathing." One participant stated they "use it with almost all of my clients, just not always under the title yoga."

3.5 Recommendations for How to Use Yoga in Clinical Practice

Finally, survey questions asked participants to provide "tips of the trade" based on their individual experience using yoga in their clinical practice. Two themes emerged from this data: the

first is to tailor the environment to meet the client and the second is to be intentional with the use of yoga.

3.5.1 Tailor the Environment to Meet the Client

Some participants responded to "tips of the trade" with statements that noted the importance of cultivating the proper environment for the client. These responses suggested the importance of a calm environment that is encouraging, flexible, open and understanding. One responded by stating to "reinforce the importance of setting up the environment (lights, music, setting timer for savasana, turning phone/distractions off)." Some survey participants felt that all sessions should be individually tailored to the client to "meet the patient where they are." A number of responses specified to keep the sessions fun and to leave all meetings on a positive note. One stated: "Depending on the patient, I need to introduce small amounts over time." When working with children, they suggest incorporating themes, stories, animals and characters. Others mentioned writing sequences for clients to take home and practice on their own.

When working with patients, survey participants identified the importance of noticing all elements of the clinical sessions. These responses included answers that said to listen to the breath and watch alignment throughout the session with the client. One survey participant said to "give variations on postures," while another said to "keep it simple. Focus on breathing first."

3.5.2 Be Intentional with the Use of Yoga

Many survey participants responded with answers that suggested the importance of knowing the reason yoga is being used with the client. Some of the answers noted that there should always be a focus on the purpose for choosing yoga. For example, if the sessions are oriented to working towards a goal, tailor the session to circulate around said goal. For clients working on breathing, balance, muscle control, etc., the session should incorporate poses and postures that are specific to meet those needs. As one participant stated, "Assess client, gauge most useful tools, apply and retest to determine if useful. Change tactics as required. Come back to breathing and quality of movement patterns first and foremost."

Some participants stated that maintaining a personal yoga practice is beneficial when integrating yoga into a clinical setting. One response said, "You can't provide a framework of yoga nor offer practices genuine to yoga if you don't practice yourself." Another participant said to "practice what you preach."

4. Discussion

This study explored how, and for what purpose health care practitioners use yoga in clinical practice. Existing literature has explored the demographics of yoga practitioners. The vast majority of literature on yoga in the west have identified that most practitioners are both white and female [33]. In the current study of healthcare practitioners, most of the survey participants were white, female, and reported being a trained yoga teacher. The study participants appeared to be very experienced yoga practitioners, three quarters were trained as a yoga teacher and/or yoga therapist, with more than half having personally practiced yoga for 10 to 20 years, and a majority had between four to 20 years of teaching experience.

Our study found a wide array of professions linked with yoga in a clinical practice setting. While our study is consistent with previous research describing the use of yoga in occupational therapy [11], recreational therapy [12], yoga therapy [10], physical therapy [13] and mental health practices [14, 15]. A number of other clinical disciplines were also noted to use yoga including social work, speech-language pathology, medical doctors, and nurses, among others.

This survey includes questions asking participants what they called "yoga" when they used it in clinical practice. Yoga is defined as "a form of mind-body fitness" ([34], p.49) that combines muscular, mindful, and breathing activities, while the International Association of Yoga Therapists definition of yoga therapy includes assessment, goal setting and lifestyle management and yoga practice [4]. Our findings were interesting in that not all survey participants utilized the word "yoga" or "yoga therapy" when identifying the services used with patients. Many participants based their choice of language on the client, the clinical practice setting, or their individual qualifications. Our survey participants identified as yoga teachers, yoga therapists, or neither. Because of the differing populations, the use of yoga in their clinical practice setting is documented and described in a myriad of ways, using both yogic and non-yogic terminologies.

How our survey participants decided to use yoga varied based on the needs of the clients. Not surprisingly, many who identified as yoga therapists used yoga at all times. Others followed clinical decision-making steps, using two of the three legs of evidence-informed practice (clinical expertise and patient preference) to use yoga with a client. In order to add the third leg of evidence-informed practice, practitioners should also reference the best available evidence. It is worth drawing attention to the safety considerations practitioners used in clinical decision-making. While there are many styles of yoga and many modifications that can make yoga accessible to anyone, practitioners may not know alternative styles and modifications or may not have adequate training to safely implement these styles or modifications. Furthermore, when drawing on evidence-informed practices, it is possible that the efficacy of specific yoga modifications have not yet been researched in the context of the treatment outcome the practitioner is seeking, and cannot be justified as the most appropriate course of treatment. Further exploration into the clinical decision-making strategies in terms of safety and appropriateness are warranted, specifically in assessing practitioners' use of research.

Also of note, while participants most commonly referred to postures, breathwork, and meditation in their use of yoga in clinical practice, yoga does include 'Eight Limbs'. Individuals delivering yoga in clinical settings must meet clients' needs and receptivity to novel interventions. Thus, it may not be surprising that study participants indicated limiting yoga to postures, breathwork, and meditation, the limbs of yoga that may be the most acceptable or easily addressed in a clinical setting. However, Schmid et al. [35] recently determined that after a yoga intervention, participants discussed all eight philosophical limbs of yoga (e.g. yamas and niyamas), even though the intervention did not explicitly address all eight limbs, but only included postures, breathwork, and meditation.

There is much literature available on the mental and physical benefits of a yoga practice [36]. Consistent with the populations that the study respondents provide yoga to, researchers have found that yoga can benefit patients with chronic pain [21, 37-39], mental health conditions [15], musculoskeletal conditions [40], neurological conditions [41-43], cancer [19], intellectual and developmental disabilities [44, 45], and substance abuse issues [46]. In addition to the new findings

of who is using yoga and where yoga is being applied in a clinical setting, our research reflected responses on 'tips of the trade' based on experience in their personal clinical practice setting.

5. Implications for Practice and Future Research

At this time, it is not required for someone to be a trained (or registered) yoga instructor in order to teach yoga in the community or in clinical practice. However, it is recommended that any healthcare practitioner receives additional training prior to integrating yoga into practice; having a personal practice is not enough to safely integrate yoga in clinical practice. Several programs exist that may benefit the healthcare practitioner as a means to increase their knowledge and utilization of therapeutic yoga for clinical practice. These types of training could be beneficial for the healthcare practitioners to obtain a deeper knowledge of yoga's therapeutic application, and the use of trauma-informed care and terminology so as to provide a safe environment for all potential participants. Other pathways exist for healthcare professionals to increase their knowledge about yoga philosophy, the components of yoga, and the teaching of yoga.

It would be beneficial for healthcare practitioners to have a common way to document the use of yoga in clinical practice settings for more consistent terminology and practice regulation. For example, when survey participants were asked how they document the use of yoga in their clinical practice, there were a combination of yogic and non-yogic terminology, and some did not document it at all. Such differences in documentation may be due to environment, payment structures (i.e. insurance), and actual clients. As the evidence for the use of yoga grows, perhaps insurance companies will be more likely to cover the use of yoga in clinical practice, and practitioners will feel more supported to document the use of yoga.

There are many opportunities for future research endeavors based on these findings, or gaps in the knowledge of yoga as a complementary and integrative practice. Our knowledge of international clinical practices that integrate yoga is limited because this survey is written from a United States-centric healthcare perspective. In the future, more international focus on the use of yoga in healthcare should be explored with targeted recruitment strategies for reaching international participants, or focusing on specific geographic regions or systems of health care. Future investigation into the interdisciplinary treatment approach by one or more healthcare professionals would provide a unique and interesting perspective on the use of yoga as a treatment modality. Future research also may include an in-depth exploration of the clinical judgment process practitioners use to determine if yoga is safe and appropriate. Further, we should explore the international approach to yoga as a treatment modality as well. Based on the results of this survey, additional research should be considered in specific outpatient or private practice healthcare professional settings.

6. Limitations

As with all studies, our study has limitations. Our study utilized open-ended responses which resulted in various interpretations of the questions by survey participants. The answers, while beneficial to enhancing our understanding of yoga in a clinical practice, were sometimes inconsistent in nature. Clearer questions and prompts might yield more consistent responses. For example, we asked study participants to provide "tips of the trade" and received many responses that were "not sure how to answer" the question or they were "not exactly sure what is meant by

this." The varying interpretations of our open-ended questions provided us with different data within the same question set. For example, the "tips of the trade" question received responses related to being client-centric and being intentional with the use of yoga in a clinical setting. In the future we could ask more direct questions such as, "how do you keep sessions tailored to the client?" or "is it important to maintain a personal practice, and why?" Also, as we continue to work to understand healthcare practitioners' use of yoga in clinical practice, focusing on specific aspects of how and in what ways yoga is implemented is recommended. For example, yoga is a comprehensive practice reflective of the eight limbs of yoga. Future research might ask healthcare professionals about which of the eight limbs they incorporate within clinical practice, and for what purpose. Additional limitations include that despite efforts to recruit diverse participants, the majority of participants were female, white, and in the United States. While these results may be an accurate description of who is using yoga in clinical practice (considering the demographics and overrepresentation of whites are overrepresented in both yoga [33] and most health occupations [47] in the United States), the limited representation of practitioners who identify as Black, Indigenous, or People of Color (BIPOC) means these results overlook a vital perspective of the use of yoga in clinical practice. Furthermore, data was not collected to determine the demographics of the population each participant served, so it is unclear if the yoga described is being provided to clients who identify as BIPOC. To glean more insight into these vital perspectives, future studies should be conducted focusing solely on the perspectives of practitioners from specific cultural backgrounds, races and/or ethnicities. Furthermore, more pointed questions about cultural adaptations used would be helpful for follow-up studies to more clearly understand efforts being made to promote culturally competent experiences with yoga in the healthcare system. To ensure more diverse perspectives in future studies, recruitment methods may need to take a different form than online recruitment, or should include healthcare- or yoga-related organizations (e.g., Black Yoga Alliance, and Shift Yoga) focused on individuals who represent varied social-cultural demographics. Finally, because recruitment for the study utilized professional listservs including the membership of the international association of yoga therapists, the results of this study may reflect a higher proportion of practitioners with yoga therapy credentials.

7. Conclusions

The data in this study indicate that yoga is widely used as a complementary treatment in clinical practice, by a variety of practitioners who have varying levels of yoga knowledge. Importantly, the majority of participants received some level of yoga teacher training and recommended such training for the integration of yoga into clinical practice. Participants also recommended a personal yoga practice. This is encouraging data, and the growth of the use of yoga will likely fuel additional integration of yoga into practice, and additional trainings. It is important for healthcare professionals to understand how and why to best integrate yoga into practice, as well as to be able to succinctly communicate about the practice with clients and other professionals. To allow for best outcomes, it is likely important for health care professionals to develop collaborative partnerships with others who are and are not using yoga in practice. Further, yoga is being used with people of all ages in many clinical settings. While this is an important first step, more information is needed to have a full picture of yoga in clinical practice around the world.

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Author Contributions

The authors confirm contribution to the paper as follows: study conception and design: BC, MVP, AAS; data collection: BC, MVP, AAS, EVA; analysis and interpretation of results: JV, MVP, BC, AAS; draft manuscript preparation: EVA, MVP, JV, BC, AAS. All authors reviewed the results and approved the final version of the manuscript.

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Competing Interests

The authors have declared that no competing interests exist.

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