THESIS

THE INTEGRATION OF YOGA INTO OCCUPATIONAL THERAPY PRACTICE FOR PEOPLE WITH MULTIPLE SCLEROSIS

Submitted by

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ABSTRACT

THE INTEGRATION OF YOGA INTO OCCUPATIONAL THERAPY PRACTICE FOR PEOPLE WITH MULTIPLE SCLEROSIS

The purpose of this study was to fill a research gap, by providing initial insight into the use of yoga in occupational therapy practice (OT) for people with multiple sclerosis (PwMS). More specifically, this study aimed to answer how and why occupational therapists (OTs) integrate yoga into clinical practice for PwMS. Eight OTs, residing across the United States, completed an online survey and semi-structured telephone interview. Telephone interviews were transcribed verbatim and inductively open coded. Themes, answering the questions of how and why OTs use yoga for PwMS, emerged through thematic data analysis including: (1) OT and yoga are a natural and complementary fit; (2) holistic benefits for clients beyond therapy; (3) leveraging personal ties to yoga; and (4) use of yoga is dependent on client factors and clinical environment. Since OTs use activities to promote health and well-being, yoga may be appropriate for PwMS because its use is context- and client-centered and allows for shared engagement in a meaningful activity for clients and therapists. Furthermore, as yoga and OT together are a natural and complementary fit, OTs use of yoga may be holistically beneficial to PwMS during and after being discharged from occupational therapy. Future research needs to establish the efficacy of integrating yoga into clinical OT practice as well as qualitatively assess PwMS' experience of engaging in yoga during occupational therapy.

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P.S. Mom, I'm sorry we kept my study population a secret from you for the sake of research. But thank you for being a great role model to me and an inspiration to others that live with MS.

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CHAPTER 1: INTRODUCTION

Multiple sclerosis (MS) is an autoimmune disease that attacks the central nervous system (CNS) and results in demyelination of nerves in the brain and spinal cord (Hauser et al., 2015). This demyelination creates plaques, also known as lesions, in the CNS and can cause a multitude of motor, sensory, and cognitive impairments (Hauser et al., 2015). An estimated one million adults are living with this chronic, progressive disease in the United States of America (Wallin et al., 2019). Every case of MS presents differently, as there is a wide range of symptoms and symptom severity, which can be attributed to varying plaque location and tissue damage in the CNS (Cohen & Rae-Grant, 2012; Deangelis & Miller, 2014).

In occupational therapy (OT), the term 'occupation' consists of everyday life activities that hold value and meaning to a client and contribute to their sense of competence and identity (American Occupational Therapy Association [AOTA], 2014). During intervention sessions, occupational therapists (OTs) adapt, modify, and engage clients in occupations and activities as a means to achieve the end goal of OT, participation in a clients' occupations.

Occupations that OTs help clients participate or engage in include: activities of daily living; instrumental activities of daily living; rest and sleep; education; work; play; leisure; and social participation. For completion, occupations may require the execution of multiple activities.

Activities can enhance occupational participation through the development, use, and practice of selected actions and skills (AOTA, 2014). Participation is comprised of active engagement in life situations as well as satisfaction and personal meaning resulting from this engagement (Hammel et al., 2008).

Although people with MS (PwMS) may each present differently, many common symptoms act as barriers to performance and participation in daily occupations (Bouchard et al.,

2017). Use of interventions that address physical impairments, compensatory strategies, fatigue, and balance have been suggested to improve the illness intrusiveness experienced by PwMS (Bouchard et al., 2017). Authors of a systematic review, on 'OT-related' interventions, found that PwMS benefit from individualized and goal-directed treatments that address functional performance and promote participation (Yu & Mathiowetz, 2014a). However; more research regarding OT interventions for PwMS is needed as much of the research available has been conducted by other professions (Yu & Mathiowetz, 2014b). This finding is similar to the conclusions made in a systematic review regarding the efficacy of yoga as a modality within, or an adjunct to, 'OT interventions' for neuromuscular populations at risk for falls (Green et al., 2019). While the authors found strong evidence to support the use of yoga to improve balance in MS, the included studies were not conducted by an OT practitioner and did not integrate OT into the interventions (Green et al., 2019).

Originating on the Indian subcontinent, yoga is an ancient mind-body practice that can be utilized as a holistic and individualized intervention. Aspects of yoga, such as the physical postures, breath control techniques, and meditation have been suggested as valuable tools for modern OT interventions (Mailoo, 2005). Physical postures can improve strength and flexibility, and breath control techniques as well as meditation have the potential to facilitate adaptation and relaxation of the nervous system (Mailoo, 2005). Yoga, in itself, can also be one of a clients' meaningful occupations. Specifically in MS, yoga has improved fatigue levels, mood, functional strength, and balance (Cramer et al., 2014; Green et al., 2019a; Salgado et al., 2013). Improvements in step length, walking speed and walking endurance have also been found after yoga intervention in PwMS (Ahmadi et al., 2013; Guner & Inanici, 2015). Additionally, yoga intervention has decreased blood pressure, anxiety level, and pulse-rates in PwMS (Janalipour et

al., 2018). While these results suggest yoga is a beneficial intervention for MS, it is important to note that none of these studies were conducted with an OT practitioner present.

Currently OT practitioners are using yoga for PwMS, evidenced by responses to the 'Yoga in Clinical Practice' online survey (Schmid & Van Puymbroeck, 2017). Since there is little research about OTs use of yoga for MS, the purpose of this study was to gain initial insight into (1) how and (2) why occupational therapists are using yoga with their clients who have MS. It is important to understand OT practitioners' perceptions about their integration of yoga into OT interventions to establish evidence-based practice for, and promote further knowledge and use of, these beneficial treatments. Therefore, this exploratory study conducted semi-structured interviews with OT practitioners, regarding their use of yoga with clients who have MS, until saturation of the data occurred.

Research Question

How and why are occupational therapists integrating yoga into their intervention sessions with clients who have MS?

CHAPTER 2: LITERATURE REVIEW

Introduction

There are an estimated one million adults living with multiple sclerosis (MS) in the United States of America (Wallin et al., 2019). MS can cause sensory, cognitive, and motor impairments that significantly hinder performance and participation in daily and meaningful activities (Sutliff, 2010; Zwibel, 2009). PwMS can experience high levels of disability and impaired quality of life, requiring OT interventions to minimize impairments and promote occupational performance and participation (Melcon et al., 2014; Yu & Mathiowetz, 2014a, 2014b). Researchers suggest that yoga has the potential to ameliorate different symptoms of MS, however none of these studies have been conducted with an occupational therapist (OT) or in conjunction with occupational therapy (OT) interventions (Green et al., 2019).

Overview of Multiple Sclerosis

MS is a chronic, progressive, disease that attacks the central nervous system (CNS) and disrupts the flow of information within the brain as well as between the brain and body (Hauser et al., 2015). There is not a specific laboratory test to diagnose MS (Deangelis & Miller, 2014). Diagnosis requires exclusion of other conditions that resemble MS, as well as demonstrating signs and symptoms correlated with brain and/or spinal cord white matter lesions identified on magnetic resonance imaging (MRI) (Cohen & Rae-Grant, 2012). The exact cause of MS is unknown (Goodin, 2014; Koch-Henriksen & Sørensen, 2010). However, the disrupted flow of information is caused by demyelination of nerves, and the subsequent creation of white matter lesions, located in the brain and spinal cord (Hauser et al., 2015).

Prevalence of MS

The National MS Society funded a series of studies to estimate the prevalence of MS, and other chronic neurological conditions, using an algorithm to review health claims data (Wallin et al., 2019). The resulting study estimated that nearly one million adults live with MS in the United States of America. This finding is almost double the number of reported adults living with MS, derived from a previous national study in 1975 and its subsequent updates (Wallin et al., 2019). This may be predominantly due to the longer survival of PwMS (Koch-Henriksen & Sørensen, 2010). MS is two to three times more common in women than men (Hauser et al., 2015). Since the female-to-male sex ratio as well as overall prevalence has increased over time, it has been suggested that environmental influence may increase one's risk of developing MS (Koch-Henriksen & Sørensen, 2010).

Initial symptoms and diagnosis of MS commonly occur between the ages of 20 and 40 years, with men experiencing onset of symptoms slightly later then women (Hauser et al., 2015). Potential environmental risk factors of MS are: Epstein-Barr virus; low vitamin D levels; residing in a latitude >40 degrees north; southern Canada, northern United States, Europe, New Zealand, Russia, or Southeast Australia ethnic descent; migration before adolescence to a high-risk MS area; and migration after adolescence from a high-risk MS area (Goodin, 2014; Koch-Henriksen & Sørensen, 2010). In addition to environmental risk factors, genetic and intrinsic factors have also been identified as potential contributors. Potential genetic and intrinsic risk factors include: first-degree relative with MS; maternal first-degree relative; presence of a HLA-DB1 allele on chromosome 6; birth in May; obesity; and smoking (Goodin, 2014; Koch-Henriksen & Sørensen, 2010).

Common Symptoms of MS

Plaques, also known as lesions, are part of the disease process and a pathological hallmark of MS that can be identified on MRI (Hauser et al., 2015). They are typically located in the periventricular white matter and appear small, gray or pink, and with an ovoid shape. Lesions are produced by neuronal/axonal damage and demyelination, which is spurred by an inflammatory immune-mediated attack on structural components of the CNS (Hauser et al., 2015). In MS, the wide range of signs, symptoms, and symptom severity can be attributed to differing lesion locations and tissue damage in the CNS (Cohen & Rae-Grant, 2012; Deangelis & Miller, 2014).

One or more of the following are commonly experienced as initial symptoms of MS: a sensory disturbance; ataxia; reduced dexterity or weakness in at least one limb; gait instability; diplopia; and optic neuritis (Hauser et al., 2015). Poor postural control of balance and fatigue are also usually present as some of the first manifestations of the disease, and worsen with disease progression (Cohen & Rae-Grant, 2012; Deangelis & Miller, 2014; Hauser et al., 2015). Heat sensitivity, muscle stiffness, and bladder dysfunction often arise as MS progresses as well (Cohen & Rae-Grant, 2012; Deangelis & Miller, 2014; Hauser et al., 2015). Cognitive deficits may also present in some cases and as the condition advances (Hauser et al., 2015). Cognitive deficits may include: problem solving difficulties; memory loss; slowed information processing; and impaired attention (Hauser et al., 2015). Additional clinical manifestations of MS include: weakness, pain, brief tonic spasms, vertigo, swallowing dysfunction, spasticity, tremor, decreased libido, comorbid mental health conditions, and compression fractures (Cohen & Rae-Grant, 2012; Deangelis & Miller, 2014; Hauser et al., 2015). While extensive, this is not an exhaustive list of possible MS signs and symptoms.

MS Progression and Phenotypes

Since early MS symptoms can be minor, some individuals may not seek medical attention for months or years after their first symptoms arise (Hauser et al., 2015). Approximately 85% of PwMS experience a sudden onset, with either minor or severe initial symptoms. After onset, MS gradually progresses, switches between periods of relapse and remission, or a combination of the two ensues. MS relapses are also known as attacks, episodes of worsening, or exacerbations (Hauser et al., 2015).

There are four phenotypes, or clinical patterns, of MS that are recognized internationally (Hauser et al., 2015). Seventy to eighty percent of individuals with MS are initially diagnosed with relapsing-remitting MS (RRMS). RRMS is characterized by episodes of worsening and periods of remission, with or without complete episodic recovery, as well as no disease progression. It is estimated that after 15 years of RRMS, 50% of individuals will then convert to secondary-progressive MS (SPMS). The disease continues to progress in SPMS and occurs with or without plateaus or periods of relapse and remission. Approximately 15% to 20% of individuals with MS have primary-progressive MS (PPMS). PPMS is characterized by a gradual progression towards disability from onset of the disease. Progressive-relapsing MS (PRMS) is less common, as only 1% to 2% of individuals with MS experience this gradual progression of disease combined with at least one or more relapses (Hauser et al., 2015).

Treatment of MS

The three goals of medical treatment for MS are to 1) stop brain inflammation, 2) prevent brain inflammation, and 3) alleviate symptoms caused by previous inflammation attacks (Fox, 2004). To slow disease progression, medical treatment of MS mainly consists of disease modifying drugs (Zwibel, 2009). The US Food and Drug Administration has approved many

drug therapies, specifically prophylaxis for relapses, that fall under three categories: first-generation injectable therapies; newer oral therapies; and infusion therapies (Hauser et al., 2015). First-generation, subcutaneous or intramuscular injectable therapies have modest efficacy and are targeted for individuals with relapsing forms of MS. Most newer oral therapies have moderate efficacy and aim to improve disease severity. Infusion therapies are highly effective to slow disease progression but come with significant risks, such as the manifestation of infusion reactions, serious infections, malignancies, and autoimmune diseases. Treatment of progressive disease is less extensive and an unmet need for many individuals with progressive MS. Highdoses of the protein IFN-β, pulse therapy, or a chronic immunosuppressant are recommended for individuals with SPMS. Specifically for PPMS, no effective therapies exist (Hauser et al., 2015). To alleviate symptoms in all four phenotypes, an individual may also use or receive assistive devices, dietary changes, occupational therapy, physical therapy, and counseling (Fox, 2004).

Impact of MS on Activity and Participation

High levels of impaired quality of life and disability can be experienced by those living with MS (Melcon et al., 2014). It has been suggested that the following symptoms of MS negatively impact quality of life: spasticity; pain; depression; bladder, bowel, and sexual dysfunction; fatigue; and impaired mobility (Zwibel, 2009). Spasticity has been reported to affect the daily activities of 44% of individuals with MS, and prevent daily activities in 4%, of individuals living with MS (Rizzo et al., 2004). Independence and participation in activities of daily living are also negatively impacted by the pain experienced by individuals with MS (Grasso et al., 2008; Khan & Pallant, 2007). More specifically, almost half of individuals with MS and pain report it interfered with sleep, work, as well as social and recreational activities (Beiske et al., 2004; Ehde et al., 2003; Hadjimichael et al., 2007; Svendsen et al., 2003).

Mobility impairments are common, and reported by almost 85% of PwMS (Larocca, 2011). An estimated 40% of PwMS will need a walking assistive device 15 years after diagnosis (Myhr et al., 2001). Additionally, mobility impairments are suggested to be an important contributing factor to decreased quality of life, as well as reductions in physical activity, productivity, and activities of daily living (Sutliff, 2010; Zwibel, 2009).

Authors of a meta-analysis found that in any three-month period, 56% of individuals with MS experience at least one fall (Nilsagard et al., 2015). Significant social, physical, and psychological morbidity have been associated with falls in this population (Coote et al., 2013; Matsuda et al., 2012; Peterson et al., 2008). The pathology of diseases, like MS, predispose individuals to mobility impairments and falls (Giannì et al., 2014). For example, researchers who investigated the pathophysiology of MS balance disturbances suggested that individuals with MS may use less proprioceptive feedback when maintaining balance (Fling et al., 2014). Results led the researchers to consider that PwMS may rely upon other sensory systems, such as the visual and vestibular systems, more heavily than their proprioceptive system to maintain balance (Fling et al., 2014). Since the nature of mobility impairments and falls is complex and not well understood, fall prevention strategies need to incorporate promotion and maintenance of safe mobility (Sosnoff & Sung, 2015). Authors of a systematic review, regarding postural control deficits in individuals with MS, suggest that an individualized approach needs to be taken in balance and fall prevention interventions (Comber et al., 2018).

Participation in different life activities and situations is important for the health of every person. This is especially important for individuals living with chronic diseases, like MS, when symptoms of their condition can act as barriers to participation (Bouchard et al., 2017). In an attempt to establish the direct and indirect effects of MS emotional, cognitive, and physical

impairments, physical symptoms were found to also affect the symptom of fatigue. Additionally balance confidence, general health perception, and depression largely contributed to the illness intrusiveness of MS. The authors suggested that interventions need to address fatigue, physical impairments, compensatory strategies, and balance to improve fatigue and illness intrusiveness (Bouchard et al., 2017). Improving the fatigue and illness intrusiveness experienced by people living with MS could also have a significant positive impact on their overall quality of life as well as engagement and participation in daily occupations and activities.

Occupational Therapy

Definition of Occupational Therapy

In occupational therapy, the term 'occupation' consists of everyday life activities that hold value and meaning to a client and contribute to their sense of competence and identity (AOTA, 2014). Occupations that an OT may help a client participate or engage in include: activities of daily living; instrumental activities of daily living; rest and sleep; education; work; play; leisure; and social participation. For completion, occupations may require the execution of multiple activities. OTs engage clients in both activities and occupations during intervention sessions as a means to achieve the end goal of occupational therapy, participation in meaningful occupations (AOTA, 2014). AOTA (2014) defines engagement in occupation as the performance of motivating and meaningful occupations within a supportive environment and context.

Participation is defined by the World Health Organization (WHO; 2002, p. 10) as "involvement in a life situation." To promote optimal health and independence in daily occupations, occupational therapists use a holistic and client-centered rehabilitation approach to view clients as occupational being with an innate drive to do, or engage in occupations (Hooper et al., 2015; Yerxa et al., 1989). Re-engaging and participating in meaningful occupations that a client

previously had to give up, may subsequently benefit their overall health, well-being, and quality of life as well (AOTA, 2014).

Occupational Therapy Interventions for MS

Occupational performance and participation can be greatly affected by MS symptoms, such as cognitive impairment, fatigue, paralysis of extremities, muscle stiffness, low balance confidence, and other physical impairments (Bouchard et al., 2017; Yu & Mathiowetz, 2014a). If an individual is experiencing decreased performance and participation in daily and meaningful occupations, a client's quality of life, overall health, and well-being are likely impacted as well. This population could greatly benefit from OT services as occupational performance, health and wellness, quality of life, participation, and well-being are all intervention outcomes within OT's scope of practice (AOTA, 2014). Yet for MS, there is insufficient evidence to support OT interventions (Steultjens et al., 2005). To combat this, Yu and Mathiowetz (2014a; 2014b) completed two systematic reviews on the effectiveness of 'occupational therapy-related' interventions for people living with MS. The first review focused on 'occupational therapy-related' interventions targeted to improve activity and participation (Yu & Mathiowetz, 2014a). The second review was completed using 'occupational therapy-related' interventions that focus on remediating impairments (Yu & Mathiowetz, 2014b).

While 70 studies reported on 'occupational therapy-related interventions' for PwMS, only 28 had activity and participation at the core of the intervention (Yu & Mathiowetz, 2014a). The results of these 28 studies suggest that goal-directed and individualized interventions, that promote participation and address functional performance, benefit PwMS. More specifically the 'occupational therapy-related interventions' consisted of ADL training, health promotion programs, fatigue and stress management courses, and multidisciplinary rehabilitation programs

(Yu & Mathiowetz, 2014a). Although it is slightly contrasted from OT's holistic perspective, performance and participation in activities can be improved through remediating impairments (Yu & Mathiowetz, 2014b). Yu and Mathiowetz found 42 'occupational therapy-related' interventions with a goal of improving impairments in PwMS. These interventions targeted specific mental functions, such as cognition and emotional regulation, as well as motor and praxis skills. As most of the 42 studies were conducted by various disciplines outside of OT, the authors concluded that there needs to be more research regarding the effectiveness of impairment level OT interventions (Yu & Mathiowetz, 2014b).

Yoga

Yoga may be a holistic and individualized intervention, used by OT practitioners, for PwMS. Physical postures can improve strength and flexibility, and breath control techniques as well as meditation have the potential to facilitate adaptation and relaxation of the nervous system (Mailoo, 2005).

Definition of Yoga

Originating on the Indian subcontinent, yoga is an ancient practice consisting of eight limbs (Büssing et al., 2012). The most commonly practiced today are breathing techniques (pranayama), physical postures (asanas), and meditation (dhyana). Historically, the focus of this mind-body practice surrounds inner development to bolster health and well-being. Achieving a state of unified consciousness is the fundamental goal of yoga (Büssing et al., 2012). More specifically, yoga is a Sanskrit word which means 'union' and a unified consciousness consists of unification between the mind, body and soul (Mailoo, 2005). Although yoga is most commonly practiced in the West to improve physical and mental strength, endurance, flexibility, and relaxation (Mailoo, 2005).

Yoga and Occupational Therapy

Aspects of yoga can function as valuable tools for modern OT practice (Mailoo, 2005). Mailoo explains how two components of yoga, physical postures and breathing exercises, have been adopted as therapies by Western health care. Yoga postures have been recommended for people with musculoskeletal and cardiopulmonary pathology, as postures improve flexibility and strength. Mailoo suggests that occupational therapists should also consider adapting breath control techniques or meditation, to facilitate relaxation and adaptation of the nervous system (Mailoo, 2005). Yoga not only addresses physical balance, but a person's occupational balance as well when practiced as a meaningful leisure occupation.

The use of complementary health approaches and integrative health (CHAIH) practices and products has been acknowledged, by AOTA, as permissible when employed by a competent occupational therapist (AOTA, 2016). CHAIH practices and products, previously known as complementary and alternative medicine (CAM) include those that exist outside of traditional medicine such as mind and body practices and natural products. Integrative health is defined as the incorporation of CAM into usual health care. AOTA considers yoga a CHAIH that may be used by OTs in clinical practice as a preparatory method, occupation, and activity to improve participation and engagement in a client's meaningful occupations. However, AOTA also acknowledges a need for more research to support the efficacy of and describe interventions by OTs when CHAIH practices have been integrated into treatment (AOTA, 2016).

Yoga as an intervention for MS

There is a fair amount of research, from various disciplines and professions, that yoga can benefit PwMS. Multiple researchers have shown significant improvements in fatigue levels after yoga interventions (Ahmadi et al., 2010; Guner & Inanici, 2015; Oken et al., 2004). Balance,

walking speed, walking endurance, step length and functional strength have improved in participants with MS post yoga intervention (Ahmadi et al., 2010; Guner & Inanici, 2015; Salgado et al., 2013). According to the Multiple Sclerosis Quality of Life -54 questionnaire, a thrice weekly, 8-week Hatha yoga class was found to improve: emotional well-being; physical function; energy; cognitive function; physical and mental health; and overall quality of life (Ahmadi et al., 2010). Additionally, one month of yoga therapy significantly improved participants' physical pain management (Doulatabad et al., 2013).

Selective attention performance increased by 17% after participants with MS attended a weekly Hatha yoga class for ten weeks (Velikonja et al., 2010). Post-void residual urine, incontinence impact, uro-genital distress, and urination frequency significantly improved in participants that received a 21-day integrated yoga intervention designed for MS with hyperactive bladders (Patil et al., 2012). Pulse-rate, blood pressure, and anxiety level decreased significantly and social functioning increased after three sessions of yoga a week, for twelve weeks (Hasanpour-Dehkordi et al., 2016). Participants in three months of yoga therapy also showed significant improvements in self-efficacy (Janalipour et al., 2018). These studies suggest that yoga is a feasible intervention for MS and can help improve some of the most notable symptoms, that hinder performance and participation in meaningful activities and occupations.

Integrating Yoga into Occupational Therapy for MS: A Literature Gap

Occupational therapy can provide a multitude of individualized interventions to improve performance and participation in daily activities, overall quality of life, as well as cognitive, motor, and sensory impairments in PwMS. Yoga also has been found to be a beneficial intervention to alleviate symptoms of MS that commonly interfere with activity engagement. However, the use of yoga by OTs, for individuals with MS, has not been researched extensively.

A systematic review was completed on the efficacy of yoga as an adjunct to, or modality within, OT interventions for community-dwelling neuromuscular populations at risk for falls (Green et al., 2019). Four articles, specific to MS, were included and the conclusion was made that there is strong evidence to support the use of yoga to improve balance for PwMS. However, three of the studies were performed outside of North America and OT interventions were not present or integrated into any of the four studies (Green et al., 2019). This appears to be a trend, as researchers of another systematic review of 'occupational therapy-related' interventions for MS concluded that a majority of the studies, especially at the impairment level, were conducted by other disciplines (Yu & Mathiowetz, 2014a, 2014b). Furthermore, no existing research regarding how or why occupational therapists are using yoga, to benefit their clients with MS, could be found at the time of this writing. This is an important gap in the literature to address, as nearly one-million adults living in the United States with MS could experience improvements in their performance and participation of daily occupations from the combination of these interventions.

Conclusion

In summary, individuals with MS experience a multitude of cognitive, motor, and sensory symptoms and impairments (Hauser et al., 2015). Some of these may be alleviated through yoga interventions (Cramer et al., 2014; Green et al., 2019; Salgado et al., 2013). Occupational therapy can also help improve the performance and participation of daily occupations, for PwMS, through individualized and holistic treatments (Yu & Mathiowetz, 2014a, 2014b). Although the best treatment for PwMS may actually be yoga integrated into occupational therapy interventions. There is very little research regarding the use of yoga by OTs for PwMS. Therefore, this exploratory study aimed to gain initial insight into how and why occupational therapists use yoga with clients who have MS.

CHAPTER 3: METHODS

Research Design

This was an exploratory qualitative study, designed to better understand how and why occupational therapists use yoga practices in their interventions for PwMS. Exploratory qualitative studies seek insight regarding subjects that are not well understood (Savin-Baden & Major, 2013). Participants in this study completed an online survey and volunteered for an interview. The online survey examined 'Yoga in Clinical Practice' (Schmid & Van Puymbroeck, 2017).

Lead Author's Positioning Statement

Four authors on this study (HC, CK, AF, and AS) practice yoga regularly. The lead author, HC, practices yoga to maintain physical strength and occupational balance as well as manage symptoms of anxiety and kyphosis. Additionally, HC's mother has been living with and managing the symptoms of MS for thirty-five years, with a positive life outlook and consistent exercise routines. HC values both positivity and exercise for MS, as her mother has not experienced an exacerbation or increased CNS tissue damage in almost twenty-five years.

Despite HC's interest in yoga, her mother does not engage in a yoga practice. However, HC still believes in the power of yoga for MS because it embodies exercise and positivity.

To combat biases, HC did not discuss her research with her family until all data collection and analysis was complete. HC also kept a journal to promote self-awareness as well as monitor how personal beliefs and attitudes towards yoga, exercise, and MS may have influenced the findings.

Recruitment and Participants

The 'Yoga in Clinical Practice' online survey launched in 2017 and was created to gain insight into how and why clinicians incorporate yoga into their treatments. The research team developed the survey, asked three therapists to review the survey, and integrated recommended changes. The team then asked three more therapists to complete the survey, made final adjustments and then distributed the survey widely via the internet, listserves, etc. The survey was distributed to credentialed occupational therapists, physical therapists, recreational therapists, yoga therapists, physicians, nurses, counselors, and social workers. Two-hundred and thirty-six practicing clinicians completed the survey.

Respondents were required to complete a consent form prior to beginning the online survey. Of the 236 survey respondents, 67 (28% of survey respondents) indicated that they are OT practitioners who use yoga in treatment sessions. Of the 67 OT respondents, 14 (6% of survey respondents) indicated they use yoga with clients who have MS and provided contact information to participate in further research. These 14 individuals were contacted to ask for their participation in a telephone interview and 8 scheduled an interview time. At the beginning of each telephone interview, participants provided verbal consent to participate in this study, which was approved by Colorado State University's IRB.

Data Collection

One week prior to the scheduled interview, participants received a reminder email with a link to a SurveyMonkey questionnaire. Questions on the SurveyMonkey asked participants for their: age; city and state of residence; yoga certifications if any; number of years personally practicing yoga; OT certification; number of years as an OT practitioner; current OT practice setting; previous OT practice settings; and number of years using yoga in their OT practice.

While some of this information was provided in the initial 'Yoga in Clinical Practice' online survey, the second SurveyMonkey questionnaire was used to obtain up to date information regarding answers to questions that may have changed over the last three years.

The telephone semi-structured interview questions were adapted from a prior study regarding the use of yoga among OTs with clients who sustained a stroke (Andrews et al., 2020). To further increase this study's rigor, a pilot interview was conducted prior to initiating telephone interviews. This interview was reviewed to ensure that the questions prompted sufficient information and unique data. Changes were made to the interview questions, and the question order, prior to the first interview. One change was also made to the ordering of the questions after four interviews were completed. Further information regarding the creation of, piloting of, and changes made to the interview questions were kept in an audit trail.

The lead author took a neutral stance in order to conduct each interview. A neutral stance requires interviewers to avoid sharing their opinions and evaluating participants' responses (Fontana & Frey, 2005). It also aids in negating the influence of the lead author's biases on the results (Fontana & Frey, 2005). On average, interviews lasted approximately 20-30 minutes and were recorded with a voice-recorder. Additionally, the interviews were transcribed verbatim and double-checked for accuracy by HC and AF.

Data Analysis

Participants' demographics were obtained from the SurveyMonkey questionnaire as well as the online 'Yoga in Clinical Practice' survey. This information is presented using descriptive statistics in Tables 4.2 and 4.3.

All transcribed data was entered into NVivo 12, qualitative software, to assist in data analysis and organization of codes and themes. To begin the iterative coding process, HC and AF

read the transcripts to become familiar with the data and discuss initial impressions. Then HC and AF independently inductively open coded the interviews, allowing for codes to emerge out of the data (Savin-Baden & Major, 2013). Codes were initially highlighted and written in the margins of the transcripts, prior to their inclusion in the codebook. HC and AF met to discuss and update the codebook after each interview was coded. Thematic analysis was used to identify, analyze, and group patterns found in codes across interviews (Savin-Baden & Major, 2013). Themes appeared through the combination of codes into similar but larger categories (see Table 3.1). HC and AF began to see saturation within codes while entering interviews 7 and 8 into the codebook. Four authors on this study agreed that saturation of the data had occurred, therefore data collection was terminated.

To ensure quality, HC and AF engaged in triangulating analysis to discuss, agree upon, and finalize codes and themes used in the research process. In the rare occasion that AF and HC had a disagreement on codes or themes, discussion occurred until consensus was reached. Peer review of codes and themes was conducted by KA with HC and AF as well.

 Table 3.1. Sample Inductive Codes and Themes

Example Quote	Inductive Code	Theme
"I think [clients] definitely appreciate the education component of what they can control with their breath quality." - Christy	How: education to clients	OT and yoga are a natural and complementary fit
"Both are extremely holistic. I think OTs see the big picture all the time, and yoga kind of looks at the big picture as well. Like the whole philosophy of yoga is very big picture oriented." -Emma	Why: good fit between OT and yoga	
"[Yoga is] a real great way to get your brain and your body listening to each other." - Andrew	Why: mind/body	Holistic benefits for clients beyond therapy
"So, teaching them to do these larger movements, slowly, using the breath. They feel like they're working their body without heating it up. And then they find ways to be more active again." -Zoey	Why: improvements in other occupations	_
"Once I started doing yoga, I found myself just naturally incorporating it in. It wasn't really a choice." -Julia	How: natural integration	Leveraging attachments to yoga
"even if they're unsure, I'll have them try five minutes of [yoga] and I can usually sway them." -Emma	Why: once clients try yoga, most continue	_
"I would do [yoga] about half the session and then the other half would be functional tasks." -Emma	How: half the session	Use of yoga is dependent on client factors and clinical environment
"In the setting that I am in there's a lot of autonomy." -Christy	Why: autonomy	-

CHAPTER 4: MANUSCRIPT

Introduction

Multiple sclerosis (MS) is an autoimmune disease that attacks the central nervous system (CNS), resulting in demyelination of nerves in the brain and spinal cord (Hauser et al., 2015). Demyelination creates plaques, also known as lesions, in the CNS and can cause a multitude of motor, sensory, and cognitive impairments (Hauser et al., 2015). An estimated one million adults live with this chronic, progressive disease in the United States (Wallin et al., 2019). Every case of MS presents differently, as there is a wide range of symptoms and symptom severity, which can be attributed to varying plaque location and tissue damage in the CNS (Cohen & Rae-Grant, 2012; Deangelis & Miller, 2014). Many common symptoms that people with MS (PwMS) experience act as barriers to performance and participation in daily occupations, such as fatigue, depression, imbalance, and pain. (Bouchard et al., 2017). However interventions that address those barriers, through compensatory strategies and remediation of physical impairments, have been suggested to lessen MS-related illness intrusiveness (Bouchard et al., 2017)

Occupational therapists (OTs) can assist PwMS to participate in occupations including: activities of daily living; instrumental activities of daily living; rest and sleep; education; work; play; leisure; and social participation (AOTA, 2014). Participation involves active engagement in life situations as well as the satisfaction and personal meaning resulting from this engagement (Hammel et al., 2008). Authors of a systematic review on 'OT-related interventions' found that PwMS benefit from individualized and goal-directed treatments that address functional performance and promote participation (Yu & Mathiowetz, 2014a). However; more research regarding OT interventions for PwMS is needed as much of the research available has been conducted by other professions (Yu & Mathiowetz, 2014b). This finding is similar to the

conclusions made in another systematic review, by OTs, for neuromuscular populations at risk for falls (Green et al., 2019). Although more specifically, the authors studied the efficacy of yoga as a modality within, or an adjunct to, OT for this population. While the authors found strong evidence supporting the use of yoga to improve balance in MS, the included yoga studies were not conducted by OTs or situated within an OT intervention (Green et al., 2019).

Originating on the Indian subcontinent, yoga is an ancient mind-body practice that can be utilized as a holistic and individualized intervention. Aspects of yoga, such as the physical postures, breath control techniques, and meditation have been suggested as valuable tools for modern OT interventions (Mailoo, 2005). In general, physical postures can improve strength and flexibility, and breath work as well as meditation have the potential to facilitate adaptation and relaxation of the nervous system (Mailoo, 2005). Yoga, in itself, can also be one of a clients' meaningful occupations. More specifically for PwMS, yoga improves fatigue levels, mood, functional strength, balance, and gait parameters (Ahmadi et al., 2013; Cramer et al., 2014; Green et al., 2019a; Guner & Inanici, 2015; Salgado et al., 2013). Additionally, in PwMS, yoga interventions have decreased blood pressure, anxiety level, and pulse-rates (Janalipour et al., 2018). While these results suggest yoga is a beneficial intervention for MS, it is important to note that none of these studies were conducted with OTs present.

It is unknown how or why OT Practitioners use yoga in practice for PwMS. Thus the purpose of this study was to gain initial insight into (1) how and (2) why occupational therapists are using yoga with their clients who have MS. It is important to understand OTs perceptions' about their integration of yoga into OT interventions to establish evidence-based practice for, as well as promote further knowledge and use of, these treatments. Therefore, this exploratory study conducted eight semi-structured interviews with OTs, regarding their use of yoga for PwMS.

Methods

Research Design

This was an exploratory qualitative study, designed to better understand how and why occupational therapists integrate yoga practices in their interventions for PwMS. Exploratory qualitative studies seek insight regarding topics that are not well understood (Savin-Baden & Major, 2013). Participants in this study completed an online survey and volunteered for an interview. The online survey examined 'Yoga in Clinical Practice' (Schmid & Van Puymbroeck, 2017).

Lead Author's Positioning Statement

Four authors on this study (HC, CK, AF, and AS) practice yoga regularly. Additionally, the HC's mother has been managing the symptoms of MS for thirty-five years, with a positive life outlook and consistent exercise routines. HC values both positivity and exercise for MS, as her mother has not experienced an exacerbation or increased CNS tissue damage in almost twenty-five years.

To combat biases, HC did not discuss her research with her family until all data collection and analysis were complete. HC also kept a reflexive journal to promote self-awareness as well as monitor how personal beliefs and attitudes towards yoga, exercise, and MS may have influenced the findings.

Recruitment and Participants

Participants for this study were recruited from occupational therapists (OTs) and occupational therapy assistants (OTs) who had completed the 'Yoga in Clinical Practice' online survey. The survey launched in 2017 and was created to gain insight into how and why clinicians incorporate yoga into their treatments. The survey was distributed to credentialed occupational

therapists, physical therapists, recreational therapists, yoga therapists, physicians, nurses, social workers, and counselors. Two-hundred and thirty-six practicing clinicians completed the survey.

Respondents were required to complete a consent form prior to beginning the online survey. Of the 236 survey respondents, 67 (28% of survey respondents) indicated they are OTs who use yoga in treatment. Of the 67 OT respondents, 14 (6% of survey respondents) indicated they use yoga with clients who have MS and provided contact information to participate in further research. These 14 individuals were contacted to ask for their participation in a telephone interview and 8 replied to schedule an interview time. At the beginning of each telephone interview, participants provided verbal consent to participate in this study, which was approved by Colorado State University's IRB.

Data Collection

One week prior to the scheduled interview, participants received a reminder email with a link to a SurveyMonkey questionnaire. Questions on the SurveyMonkey asked participants for their: age; city and state of residence; yoga certifications if any; number of years personally practicing yoga; OT certification; number of years as an OT practitioner; current OT practice setting; previous OT practice settings; and number of years using yoga in their OT practice. While some of this information was provided in the initial 'Yoga in Clinical Practice' online survey, the second SurveyMonkey questionnaire was used to obtain up to date information regarding answers to questions that may have changed over the last three years.

The telephone semi-structured interview questions were adapted from a prior study regarding the use of yoga among OTs with clients who sustained a stroke (Andrews et al., 2020). The lead author took a neutral stance in order to conduct each interview, with questions surrounding how and why the participant uses yoga in clinical practice for PwMS. A neutral

stance requires interviewers to avoid sharing their opinions and evaluating participants' responses (Fontana & Frey, 2005). It also aids in negating the influence of the lead author's biases on the results (Fontana & Frey, 2005). On average, interviews lasted approximately 20-30 minutes and were recorded with a voice-recorder. Additionally the interviews were transcribed verbatim and double-checked for accuracy.

Data Analysis

Participants' demographics were obtained from online survey data and presented using descriptive statistics (see Tables 4.2 and 4.3). All transcribed data were entered into NVivo 12, qualitative software, to assist in data analysis and organization of codes and themes. To begin the iterative coding process, two researchers read the transcripts to become familiar with the data and discuss initial impressions. Then they independently inductively open coded the interviews, allowing for codes to emerge out of the data (Savin-Baden & Major, 2013). Codes were initially highlighted and written in the margins of the transcripts, prior to their inclusion in the codebook. The two researchers met to discuss and update the codebook after each interview was coded. Thematic analysis was used to identify, analyze, and group similar codes together that were found across all interviews (Savin-Baden & Major, 2013). This process, of combing codes into similar but larger categories, allowed themes to emerge from the data (see Table 4.1). Saturation within codes was observed as interviews 7 and 8 were entered into the codebook. Four authors on this study agreed that data saturation had occurred, therefore data collection was terminated.

To ensure quality, data triangulation occurred throughout the analysis phase with HC and AF working together to create and discuss all codes and themes. When AF and HC did not agree on a code or theme, a discussion was held until consensus was reached. Prior to terminating data analysis, KA conducted a peer review of codes and themes with HC and AF. To further increase

this study's rigor, a pilot interview was conducted before initiating data collection. This interview was reviewed to ensure that the questions prompted sufficient information and unique data. Changes were made to the interview questions, and the question order, prior to the first interview. One change was also made to the ordering of the questions after four interviews were completed. Further information regarding the creation, piloting, and changes made to the interview questions were kept in an audit trail.

Table 4.1. Sample Inductive Codes and Themes

Example Quote	Inductive Code	Theme
"I think [clients] definitely appreciate the education component of what they can control with their breath quality." - Christy	How: education to clients	OT and yoga are a natural and complementary fit
"Both are extremely holistic. I think OTs see the big picture all the time, and yoga kind of looks at the big picture as well. Like the whole philosophy of yoga is very big picture oriented." -Emma	Why: good fit between OT and yoga	
"[Yoga is] a real great way to get your brain and your body listening to each other." - Andrew	Why: mind/body	Holistic benefits for clients beyond therapy
"So, teaching them to do these larger movements, slowly, using the breath. They feel like they're working their body without heating it up. And then they find ways to be more active again." -Zoey	Why: improvements in other occupations	
"Once I started doing yoga, I found myself just naturally incorporating it in. It wasn't really a choice." -Julia	How: natural integration	Leveraging personal ties to yoga
"even if they're unsure, I'll have them try five minutes of [yoga] and I can usually sway them." -Emma	Why: once clients try yoga, most continue	
"I would do [yoga] about half the session and then the other half would be functional tasks." -Emma	How: half the session	Use of yoga is dependent on client factors and clinical environment
"In the setting that I am in there's a lot of autonomy." -Christy	Why: autonomy	-

Results

The average age of participants (N=8) was 42.9 years, the majority (87.5%) were female, and all identified as white. One (12.5%) participant was a certified occupational therapy assistant (COTA) and the remaining 7 (87.5%) were registered and/or licensed occupational therapists (OTs). Half (50%) of the participants were registered yoga teachers and 25% had obtained a certification in yoga therapy. Participants worked in a variety of practice settings including, but not limited to: inpatient rehabilitation; outpatient; home health; adult day programs; and higher education. The names of participants have been replaced with pseudonyms. See Tables 4.2 and 4.3 for additional information on participants' demographics.

Table 4.2. Demographic Information

Name	Age	State	Gender Identity	Racial Identity
Andrew	41	Colorado	Male	White
Julia	43	Washington, D.C.	Female	White
Christy	52	Colorado	Female	White
Paige	39	Florida	Female	White
Mandy	30	Colorado	Female	White
Emma	44	Massachusetts	Female	White
Zoey	32	Arizona	Female	White
Joan	62	Maryland	Female	White

The following key themes emerged through thematic data analysis and answer the questions of how and why OTs use yoga for PwMS: (1) OT and yoga are a natural and complementary fit; (2) holistic benefits for clients beyond therapy; (3) leveraging personal ties to yoga; (4) use of yoga is dependent on client factors and clinical environment. Two subthemes are embedded in each key theme (Table 4.4). Relevant quotes from participants are used to illustrate each theme in the following sections.

 Table 4.3. Practitioner Experience

Name	OT or OTA	Current practice setting	Yoga instructor	Yoga therapist	Years practicing yoga	Years as an OT/ OTA	Years using yoga in OT
Andrew	OT	Home-health, Outpatient, School-based	No	No	5	3	3
Julia	OT	Inpatient rehabilitation	Yes	No	12	20	10
Christy	OT	Outpatient	No	No	5	29	5
Paige	OT	Private practice	Yes	Yes	10	16	4
Mandy	OT	Outpatient	No	No	5	5	4
Emma	OTA	Inpatient rehabilitation, Inpatient psychiatric, Community- based, Higher education	Yes	No	15	16	10
Zoey	OT	Home health	No	No	18	5	5
Joan	OT	Adult day program	Yes	Yes	>40	<40	15

Table 4.4. Key Themes and Subthemes

Key Theme	Subtheme
OT and yoga are a natural and	Alignment of viewpoints
complementary fit	Integration of OT and yogic knowledge and skills
Holistic benefits for clients beyond	Client factors
therapy	Activity and participation
Leveraging personal ties to yoga	Occupational therapists' yoga practice
	Clients' connection to yoga
Use of yoga is dependent on client	Explanation of yoga
factors and clinical environment	Yoga intervention

Key Theme: OT and Yoga are a Natural and Complementary Fit

When discussing how or why OTs integrate yoga into practice, every participant described their use of yoga in OT as a seamless match, for many reasons. Yoga's adaptability and use as a modality within OT interventions were most commonly acknowledged. Three participants stated:

It makes perfect sense...some therapists use water, they do aquatic therapy. Some therapists use horses and they do hippotherapy. I just happen to use yoga as my modality. (Paige)

Both yoga and OT lend themselves really well to adapting modification. (Joan)

You can use it as a preparatory method and then still get in occupation-based treatment beyond that and focus on ADLs or IADLs... (Mandy)

This natural and complementary fit is further illustrated by two subthemes: (1) alignment of viewpoints; and (2) integration of OT and yogic knowledge and skills.

Alignment of viewpoints. Participants explained that OT and yoga utilize similar views and approaches. Overwhelmingly, OTs spoke about the holistic view of the individual shared between OT and yoga. Joan stated:

[OTs] are almost like yogis in that [we] really do look at the whole person...yoga therapy looks at the whole person and as yoga therapy wants to, and is, becoming more mainstream...I feel like in some ways [yoga therapy is] borrowing some of the phrases [OT] always has used, with regard to the whole person and spiritual aspect.

Additionally, yoga's holistic view and adaptability also align with OT's client-centered treatment approach. OTs employed a client-centered approach to yoga by: considering clients' interests and goals; asking clients if they would like to engage in yoga; and adapting the activity to match client abilities. To match yoga with clients' abilities, every participant reported using modified yoga poses and teaching classes that 'look non-traditional.' As two participants said:

Everybody who has MS could benefit from yoga. With that said, not everybody wants to do it...I would inform people that there were so many similarities and that people could

benefit from it. And then it was up to them, it's like consent...depending on their interest, we would do more or less of it. (Joan)

You still have to take a very client-centered approach with it. You might have this grand plan of all of these different poses...and maybe that person can't do what you're asking them after the first ten minutes. You have to be flexible and willing to change that, willing to modify. (Mandy)

Integration of OT and yogic knowledge and skills. Participants spoke to a natural and complementary fit when integrating knowledge and skills from OT with yoga. For example, every participant mentioned using activity analysis to create yoga interventions. As Julia stated:

[OTs] are looking at that beautiful occupational profile and really finding out what peoples' needs, interests, and goals are...maybe being in a wheelchair is new to [a client]. So now there is a new meaningful activity I can bring to them. Or maybe this is an activity they did before, that I can now adapt in a new way. And as an OT, activity analysis...that's what I do. So as an OT, I find that I'm the perfect person to adapt yoga poses for somebody who may have done this practice before.

In addition to activity analysis and adapted yoga poses, participants listed other skills and knowledge specific to OT as helpful or used in conjunction with yoga. These include, but are not limited to: anatomy and physiology; pathology and diagnosis; traditional OT evaluations and assessments; client education; grading the activity of yoga; traditional OT outcomes and goals; and neurodevelopmental treatment (NDT) techniques. Exemplified by four participant's quotes:

Some of it just goes hand in hand if you've had education in...utilizing interventions in regards to posture, and strengthening, and closed-chain positions... (Christy)

It's the...ability to grade [yoga] to something that's attainable. So everyone sees successes. (Andrew)

One of the things I think is so similar and complementary between OT and [yoga], they both emphasize good body awareness, breath, stress management. Those kinds of things can cross over to both... (Joan)

[When I began] incorporating my NDT skills, I found myself incorporating my yoga practice into my clinical practice...looking at core strengthening, efficient movement, justifying accessible movement for people looking at stress management, breathing. And I just found myself incorporating all of those together and then using it with the people that I work with. (Julia)

Additionally, participants developed and shared yogic knowledge through books, trainings, certifications, and colleagues. Three participants shared:

Build a yoga library. There are tons of books, that you can reference. I have a whole shelf just of yoga books...if a client tells you, 'hey I'm having difficulty bending over to tie my shoes.' Look at what muscle groups, like what is really happening, that activity analysis. And then go to a book...you can figure out what poses would be really good for that person. (Zoey)

I definitely recommend...having [a personal yoga] practice and then doing a couple of continuing ed courses before bringing it into [OT practice]. (Emma)

I think there does need to be some baseline knowledge...But what I'm trying right now is a train the trainer model...and all of a sudden we now have so many more [OTs] that are feeling comfortable to teach the [group yoga class]. (Julia)

Lastly, the integration of OT and yogic knowledge and skills led to specific and slightly different uses of yoga. Showcased by four OTs:

I usually will start with [the client] in more of a supine position. I use some proprioceptive input to begin with just diaphragmatic breathing. And have them even kind of do contract, relax, contract, relax. Through various body parts, depending on what their presentation might be. But I always start with the breath quality, and then once they slowly get into utilizing or engaging their diaphragm, I'll go into some gentle stretching...and then a slow gradual transition into body supported positions. (Christy)

I usually start in a seated position, either on the floor or in a chair. Just closing the eyes, tuning into the breath. If they're ready to be taught a breath I'll start with a pretty basic breath, like a general belly breath or three-part breath. I've also taught alternative nasal breathing...and ujjayi breath...then the session progresses from breathing to gentle movement, just against gravity, lifting the arms, basically like a modified mountain. Um, maybe a forward fold, moving into twisting. (Zoey)

I always start with warming up the body a little bit...we'll start with a little breath work and grounding...And then I'll move into...some standing postures that work on balance and if they have difficulty with range of motion I'll work on some of those [postures]. If they have difficulty with strength I might work on some strengthening postures. But I always refer back to the breath as well. (Emma)

There's always breath work, both singing and actual physical breath exercises or pranayamas...especially if the physical postures are not accessible. We try to do some movement and it may not look like your standard class...it may look like assisted range of motion or helping the person move with their breath...And then there's always guided

relaxation at the end of the session for stress reduction, stress increases MS symptoms. And it's a form of meditation so I always make sure to put it in there. (Paige)

Key Theme: Holistic Benefits for Clients Beyond Therapy

When asked why they use yoga for PwMS, every participant listed a multitude of benefits. These benefits tended to be achieved and sustained both within and outside of therapy. This was exemplified by Andrew's statement:

Just being able to sit up straight and do some arm movements, gives them more strength...without tiring them out for the rest of the day. And then, they're able to move a little better to take off their shirt or put their shirt back on...So they can see improvements in their actual strength...but they also see it in 'oh yeah, I was able to wheel myself back from lunch without getting tired today.'

The holistic benefits clients received were differentiated into two levels or subthemes: (1) client factors; and (2) activity and participation.

Client factors. Overwhelmingly, participants spoke about the benefits to clients from engaging in breath work. For reference, the term 'breath' and its stemmed words ('breaths,' 'breathe,' 'breathing,' etc.) were mentioned 85 times across interviews. The term 'strength' and its stemmed words were most frequently mentioned next, at 41 times. Participants' use of yogic breath work appeared to increase with yoga experience. Additionally, it was often coupled with reducing symptoms of MS or other comorbidities such as pain, spasticity, and decreased range of motion. Three OTs, who are also yoga instructors, illuminated how breath work benefits PwMS:

[PwMS] work so hard just to move. The first thing that goes is the breath. Automatically when something is effortful, people start to hold their breath. So teaching people how to find a more efficient way to breathe. Or, how to remember to breathe. Modeling the breathing, teaching different pranayamas. So if it's a counter breath, or if it's a cleansing breath, or a cooling breath, if it's three part diaphragmatic breathing. So teaching these different options and just remembering to breathe. (Julia)

[PwMS] often have trouble with body temperature regulation. So yoga is really good because you can actually do some cooling breaths that help regulate the temperature of the body...So I love that I can start with and teach that cooling breath, that they can incorporate throughout the session if they feel they're starting to get too warm. (Emma)

So they'll come to me because they want to move better. But then to move better you've got to breathe better, and the circle goes around. (Paige)

As Paige alluded to above, benefits pertaining to movement and mobility as well as body awareness and control were commonly cited reasons to engage PwMS in yoga. Exemplified by two participants:

[Yoga in OT] can possibly give them some sense of control over, or awareness of, their body when there is such a disconnect. (Christy)

Their trunk is weak, their endurance is not that great. So, as soon as they start doing these postures on a daily basis, all of a sudden they're able to get off of their chairs for longer periods of time and have better control of their body. And...when you don't have control of your body because of your illness, that's really powerful. (Julia)

Similarly, benefits related to energy and endurance as well as strength and stability were also frequently mentioned by participants. As two OTs said:

[Yoga] gives them a tool for strength, a tool for balance, a tool for endurance for sure. For self-regulation. (Emma)

What I teach first is posture and core strengthening...It's all about stability and finding your stability from the inside, finding that rooting through the feet, growing up as you find that inner strength...Once you've found that inner stability...you'll find that your trunk, or your core, gets stronger. That just automatically translates into your arms and your legs, and functions just become so much easier. (Julia)

Benefits to clients were not only physical, but comprised many mental health benefits as well. These benefits that participants discussed include, but are not limited to: tools for coping, stress and anxiety management, relaxation, "to make a client feel better", and mindfulness. As two participants touched on:

[MS is] really hard on their mental health...I find that [yoga is] really useful for helping, relaxation certainly, but more just coming to terms with disability. (Julia)

People are going through this grief of who they used to be...[Yoga is] truly this mind-body therapy that creates space for people to just examine. And they can cry, they can feel empowered. But it's really that time to be like, "okay, I can't lift my arm as high as I used to be able to, but I'm still lifting my arm as high as I am and that's where I'm at today." (Zoey)

Activity and Participation. Every participant drew a connection from benefits obtained at the level of client factors to improved activity and participation in occupations. Two salient quotes include:

It's easier to engage in occupation if you have that stability. (Julia)

I do notice that everyone's shoulders get stronger...their upper body movements get a little smoother. Which means things like dressing or reaching or using objects gets a little bit easier. (Andrew)

More broadly, Andrew also elaborated on how yoga motivates, builds confidence, and encourages activity and participation:

Just the fact that they're doing something is so important. What I see in MS is, they stop doing everything. The things they like, the things they used to do. They just stop. Because it's harder...So getting them into a mindset where they can do something. Whether it's even yoga or not...if I can show them some things, and that motivates them to engage, that's the win.

Christy detailed how she educates clients to use yoga in their daily lives outside of therapy:

I think breath quality for every patient, and them utilizing that throughout their day, I believe, is helpful. And also for pain management.

In reference to utilizing yoga in OT sessions, Zoey more simply connected yoga to engagement in other occupations by saying:

It's a practice that's preparing you for your activity.

Key Theme: Leveraging Personal Ties to Yoga

When discussing how and why they use yoga in OT practice for PwMS, participants alluded to leveraging their own and clients' personal ties to the activity of yoga. While every participant shared the belief that it is not necessary to be a yoga teacher, most participants recommended that OTs have a personal yoga practice prior to integrating it into their OT practice. Additionally, participants spoke about sharing their personal yoga practice with clients and having a desire for clients to share their yoga practice with others. As Andrew told clients:

...[yoga] is something you can do, that's connecting with other people that do it.

Two subthemes emerged in regards to leveraging attachments to yoga: (1) occupational therapists' yoga practice; and (2) clients' connection to yoga.

Occupational therapists' yoga practice. In addition to advising it, every participant had a personal yoga practice and said that it influenced their decision to use yoga in OT. This was reflected in some participants' professional identities as well. In response to what leads her to make the decision to use yoga for PwMS, Julia said:

I just naturally incorporate it into all of my sessions. So if it's doing the physical postures or facilitating breathing in some way, modeling breathing, or offering some sort of mindfulness meditation to help calm the mind or calm the body...it comes with practice and just sort of naturally has become part of who I am. Anyone who knows me is like 'oh Julia, the yoga person'.

Some participants had personal illness or injury experiences, which influenced their integration of yoga into OT. As one participant shared:

I've seen [a family member] go through this physical decline progression, but still find a way to incorporate the benefits of yoga into her life. And so for me, that's a front row seat to realize how somebody who is living with a disability, especially a chronic disability like MS, can still benefit from yoga. (Zoey)

Clients' connection to yoga. Some of the participants' clients engaged in yoga prior to OT. In many cases, participants introduced their clients to yoga. Regardless, OTs valued and leveraged their clients' connections to yoga to support treatment goals. As exemplified by three participants:

A lot of [PwMS] aren't mobile...it's hard to do exercises...[yoga] has a richness to it that is simple...it's deeper. It has more ability to be connected with a client that feels like they can't move, in many cases. (Andrew)

I'm going to incorporate [their] mind, I'm not going to leave [their] brain out of it. I'm not going to passively have [them] do range of motion, or lift weights...[they're] an active participant in this...The will is a very strong thing. And if they're not willing, or able to will themselves in that direction, then I can show them all the tools in the world and it's not going to work. (Paige)

...[yoga] really kept her engaged in treatment. She looked forward to it...if we didn't have enough time to go through everything...she would often opt to just do that part. Because she would say, 'I feel really good after I do it, I feel like I sit up taller, like I'm stronger.' And so I know it was important to her. (Mandy)

Like Mandy alluded, yoga was described by participants as fun and motivating to clients.

OTs shared that clients ask to engage in yoga and almost always continue once they try it. Julia explained using yoga with a client one-on-one as well as in her daily group yoga class:

I have a client...with MS, a very severe stroke, and what they call locked-in syndrome. And basically, her cognition was intact but she had absolutely no movement in her body...through eye gaze and other modes of communication, we discovered she had done yoga previously...I would come in every day and do just mental imagery, visualization, with her. A kind of a yoga nidra-y mental practice...Even though she couldn't move a muscle, every day she wanted me to come back.

When I introduce it, I generally will get 'mmm, I don't do yoga, I don't know how I feel about that.' But as soon as they come to class...98%, and I'm not exaggerating the figure, I have very few people who either don't come back to class or say they never want to do yoga again because the benefits are almost instantaneous.

While most participants only had the opportunity to use yoga one-on-one, almost all of them spoke to a desire for their clients to engage in a group yoga class. Participants provided many benefits of group yoga, including but not limited to: building a community, support, and empowerment. Three participants shared:

I like [PwMS] to move toward a group setting because then it becomes more of a community and social thing...there's some kind of comfort in knowing that you're not alone. (Paige)

That comradery and space that is made...when people come together to share in that common practice, is really powerful. And especially...people who have MS, like it can become really empowering and they can create relationships that are supportive. (Zoey)

Being in the hospital can be very isolating. You're busy going from one therapy to the other and you don't really have the opportunity to speak with other people who are going through something similar to you. So the development of those relationships is really powerful...at the end of [group yoga class], I've had people give out room numbers like a phone number saying, 'Come visit me, watch the game tonight.' So there is this development of community, and I love that aspect of it. (Julia)

Key Theme: Use of Yoga is Dependent on Client Factors and Clinical Environment

When answering how and why they use yoga for PwMS, every participant acknowledged that sometimes client factors and the clinical environment change the way they talk about, use, and even what they call yoga. This discussion was often accompanied with: others myths about yoga; a perception of yoga as unattainable; and a growing acceptance for adaptive yoga. As exemplified by Zoey's statement:

Sometimes other peoples' perceptions [are a barrier]...even though it's becoming more mainstream in general. People are understanding that yoga is not...all hot yoga and styles that nobody else can do. That it's more for everybody and that even you can do it in a chair, you can do it in your bed, you can pretty much do it anywhere.

Client factors and the clinical environment were identified, by participants, to influence the use of yoga in two ways, or subthemes: (1) a therapist's explanation of yoga; and (2) the yoga intervention.

Explanation of yoga. Each participant described yoga slightly differently. Yoga was explained by participants as: exercise- and relaxation-based; a philosophy; having a mind-body connection; helping people move and breathe better; as well as gentle and slow movements. However, it was common for participants to clarify that yoga is not a religion, and they used metaphors to describe what yoga is and how it works. Most participants claimed that they also explained yoga through its benefits, tailoring them to the person they were with. As explained by Emma:

Its's not a religion, I always tell that to people. Because I think sometimes people do have that perception of yoga...So I just talk about the benefits a lot really. And I try to tailor the benefits, when I'm talking about them, to the client...if they have balance deficits I'll talk about the balance aspect of yoga versus the strength aspect. (Emma)

About half of the participants in this study reported not using the term 'yoga' or words related to it in their documentation. Others felt more comfortable with documenting yoga

specifically. Despite the wording they chose, all participants placed importance on explaining their use of yoga as it related to functional improvements and goals. Two participants shared:

I don't use the word 'yoga.' It's more descriptive. It's 'education on their breath quality.' I'll use the word 'diaphragmatic breathing' and with that giving them 'proprioceptive input'...it's a 'stretching protocol'...I'll describe how they were instructed in particular stretching. And then the strengthening component is really described more as modified closed-chain positions. And then I'll describe what the actual position was, how they were able to hold, how much assist they needed. And things of that nature. (Christy)

I do write in [documentation] that I am using yoga poses or yoga breaths or something like that and I will say in order to increase balance for functional tasks or increase strength for ADLs or increase balance for transfers...So I always put the function piece in my note as well. (Emma)

Lastly, when asked about billing, every participant stated that they bill yoga either as therapeutic activities or therapeutic exercise, depending on clients' needs and abilities. Some participants also billed their use of yoga under neuromuscular reeducation. As Emma shared:

It depends on what my purpose is behind why I'm doing it. So if I'm working on somebody's balance, per se, I might actually even bill it as neuro re-ed[ucation]...I might bill it as therapeutic exercise if I am doing it to work on strength or endurance. And if I'm using it to do self-regulation or just general, cooling breaths or things like that, I might bill it as therapeutic activity.

Yoga intervention. Similar to the discussion above, some OTs use a different word than 'yoga' to introduce the intervention. Participants also discussed how certain client factors would lead them to decide not to even introduce or use yoga. As three participants said:

I think, with the younger population, they've probably been more exposed to some version or awareness of yoga. I think the older population, maybe, it feels very foreign to them, especially if you use the word yoga...So I would say that I probably do not use the word 'yoga.' I use 'diaphragmatic breathing' and 'visualization,' and 'guided movement patterns.' (Christy)

Sometimes [I will say], 'okay we're just going to start with a couple of exercises, breathing.' I'll take them through two or three things and they'll be like, 'that was great.' And I'm like, 'okay, that was inspired by yoga!' And then they're onboard! (Zoey)

Sometimes I wouldn't even [introduce yoga] if I know the person wasn't going to be receptive to it, if other things they said tell me that. (Joan)

In addition to client factors, OTs' practice settings also influence the use of yoga.

Participants described their clinical environment as either supportive or unsupportive. The supportiveness of a setting was discussed in terms of physical surroundings, presence of equipment, timed duration of OT session, as well as the setting's administration. Nevertheless, in settings that were both supportive and less supportive, OTs adapted yoga to make it work for clients. As illustrated by four participants:

We started using [the client's] bed, because it's easier for him to get on versus getting all the way to the floor. So the home is somewhat limiting, these people don't have as much energy or activity tolerance. Moving furniture isn't really an option. But we make it work. And then it becomes: okay, can we teach something sitting on their chair, couch, or standing at their kitchen counter? (Zoey)

If you come to my office, there's nothing in it...The environment, everything is a little bit more cohesive. I have a special mat flooring that's not too thick so people lose their balance, but padding just in case. It's completely set up for the non-neurotypical. (Paige)

In the inpatient rehab type setting, or skilled nursing type setting, it lends itself to incorporating yoga because you have more time...it's not as easy to incorporate [yoga] in outpatient because I see people for half-hour appointments, so if we do a little bit of yoga, we're out of time for the other stuff. (Mandy)

[At the] adult day program they really encourage use of yoga because it's more of almost palliative care...So giving people alternative methods is very much encouraged. (Joan)

Discussion

The purpose of this study was to gain initial insight into how and why OTs use yoga for PwMS. After interviewing eight OTs and conducting inductive open coding and thematic data analysis, four key themes, each with two subthemes, emerged from the data. Key themes and subthemes were combined for a more succinct and cohesive understanding of how and why OTs use yoga for PwMS. Themes include: (1) OT and yoga are a natural and complementary fit, both in alignment of viewpoints and when integrating respective knowledge and skills; (2) Holistic benefits beyond therapy for client factors as well as activity and participation; (3) Leveraging

attachments to yoga, specifically OTs' personal yoga practices and clients' connections to yoga; (4) and Explanations of yoga as well as the yoga intervention are dependent on client factors and the clinical environment.

Yoga interventions have been found to improve holistic client factors for PwMS, including but not limited to: fatigue levels, balance, gait parameters, pain management, and quality of life (Ahmadi et al., 2010; Doulatabad et al., 2013; Guner & Inanici, 2015; Salgado et al., 2013). Similar benefits were discussed by the OTs interviewed in the current study. More importantly though, OTs in the current study discussed how the benefits of yoga were achieved and sustained as well as how yoga promoted activity and participation within and beyond the therapy session. The promotion of activity and participation in PwMS may be related to the finding that yoga reduced perceived activity constraints and increased activity levels in breast cancer survivors (Van Puymbroeck et al., 2011). For these reasons, future research could similarly assess quantitative and qualitative subjective outcomes for PwMS engaging in yoga with OTs.

The natural and complementary combination of OT and yoga has been recognized and studied in multiple conditions. Stroke and Parkinson's disease are chronic neurological disorders that affect individuals' cognitive, sensory, and motor functions similar to MS. Schmid and colleagues developed and tested the Merging Yoga and OT (MY-OT) eight-week standardized intervention and showed it to be feasible and beneficial for improving balance, falls, and fall risk in people with chronic stroke and Parkinson's disease (Schmid, Van Puymbroeck, Portz, Atler, & Fruhauf, 2016; Swink et al., 2019). In the MY-OT intervention, there are distinct group OT and group yoga sessions that take place back-to-back. Therefore MY-OT slightly differs from OTs' use of yoga in the current study, as yoga in MY-OT was not integrated into the OT session.

MY-OT participants with chronic stroke, reported they: acquired new knowledge; experienced improved relaxation; improved their abilities and capacities; experienced increased inspiration and confidence; and enhanced their engagement in activities (Atler et al., 2017). Additionally, MY-OT participants with Parkinson's disease reported improvements in: relationships with themselves and others; being mindful during daily activities; managing fatigue; as well as giving and receiving within a community (Hill et al., n.d.). Notably, OTs in the current study integrate yoga into clinical OT differently for PwMS, with results seeming to mirror MY-OT studies qualitative results. Additionally, MY-OT results may also provide insight into the objective and subjective experiences of living with a chronic neurological condition and engaging in a seamless combination of OT and yoga.

The American Occupational Therapy Association (AOTA; 2016) has approved yoga as a complementary health approach and integrative health (CHAIH) practice in OT. More specifically, yoga is a mind-body practice that may be used as a preparatory method, activity, or occupation to support clients' participation, health, and well-being. Importantly, AOTA (2016) states that yoga should be used within the scope of OT and integrated safely by OTs competent to use yoga. As shared by OTs in this current study, competent use of yoga in OT can be achieved through leveraging one's personal yoga practice. This viewpoint parallels Kim and colleagues' (2020) finding that rehabilitation professionals prescribe CHAIH practices that they personally use. Additionally, when a need for further knowledge and skills is recognized, OTs in the current study shared ways to fill this knowledge gap competently. To further build empirical knowledge and support for yoga in OT, future researchers should investigate the influence yoga has on different OT outcomes, such as PwMS' use of their sensory systems. As PwMS may rely

more heavily on visual and vestibular systems rather than proprioceptive feedback while maintaining balance (Fling et al., 2014).

While yoga is within the scope of OT practice, interestingly about half of the OTs in the current study did not feel comfortable using words related to yoga verbally with their clients or in their written documentation. This could be due to a lack of clinical evidence or resources, as Kim et al. (2020) found these to be some of the perceived hindrances to the use of CHAIH by rehabilitation professionals. In contrast, Van Puymbroeck et al. (2015) found that administrators and rehabilitation therapists had positive views towards yoga as it holistically met client needs and aligned with hospitals' missions. However, policy and programmatic issues, such as lack of an intervention space as well as clients' fluctuating endurance and schedules, were found to hinder the administration of yoga (Van Puymbroeck et al., 2015). This finding is similar to statements about space and resources available by OTs in the current study. Although one participant in the current study may have recommended a solution, "...you can do it in a chair, you can do it in your bed, you can pretty much do it anywhere," (Zoey).

Similarly, in a study by Schmid et al. (2015), participants in inpatient rehabilitation hospitals engaged in yoga guided by a yoga therapist while seated in a chair, wheelchair, or bed if appropriate. Yoga was adapted to meet each participants' needs and abilities. If an individual could not safely engage in physical postures, then yoga was more focused on breath work. Participants were satisfied with the intervention, wished for increased frequency of yoga, and 97% stated they would recommend the intervention to others (Schmid et al., 2015). Schmid et al.'s (2015) intervention closely parallels OTs description of yoga that 'looks non-traditional' to meet the abilities of PwMS in the current study. Therefore Schmid et al.'s (2015) findings, about

client satisfaction after engaging in adapted yoga, should be considered along with this current study to provide insight into the experience of PwMS engaging in yoga guided by OTs.

Similar to clients who have been admitted to inpatient rehabilitation, PwMS can present with extreme motor, sensory, and cognitive impairments. OTs in the current study often cited these impairments as reasons to adapt physical yoga poses or place more emphasis on engaging in yogic breath work. As Kezele et al. (2019) similarly explained in their study, PsMS experience fatigue resulting from respiratory dysfunction and decreased upper limb and respiratory muscle strength. Therefore, they created an exercise protocol that focused on increasing the strength of breathing and upper limb muscles. Kezele et al. (2019) concluded that their intervention showed significant positive changes and good feasibility for improving fatigue and QOL for both ambulatory and non-ambulatory PwMS. These findings are important, as Kezele et al.'s (2019) exercise protocol closely resembles how OTs in the current study explained engaging PwMS in breath work, with and without accessible movement. Future researchers may be interested in the specific use of yogic breath work by OTs for PwMS.

Limitations

A limitation of this study is that all participants were OTs residing in the United States. Interview data from OTs residing in other countries may have differed from the current study results. Additionally, many study participants were not using yoga with someone diagnosed with MS at the time of the interview, but had in the past. Therefore, another limitation of this study lies in the retrospective nature of recalled stories about participants' use of yoga with clients. Lastly, while qualitative research can provide rich descriptions of interventions and experiences, it is largely ungeneralizable. The results of this current study represent the thoughts and beliefs of eight OTs who participated in this study, rather than all personnel in the profession of OT.

Conclusion

In conclusion, the resulting themes of this study provide valuable information regarding OTs justification for, and unique application of, yoga in clinical practice. Future researchers should quantitatively assess OT related-outcomes for PwMS when yoga has been integrated by OTs in clinical practice. Additionally, researchers should qualitatively explore the experience of PwMS after yoga is integrated into OT sessions, rather than only the therapist perception, as was done in this study.

CHAPTER 5: CONCLUSION

Due to the progressive nature and increasing prevalence of multiple sclerosis (MS), additional research regarding complementary health approaches and integrative health (CHAIH) practices is needed for rehabilitation professionals to integrate these beneficial interventions into clinical practice. This need for research especially rings true for occupational therapy (OT), pertaining to the CHAIH practice of yoga. Therefore, the purpose of this study was to gain initial insight into how and why occupational therapists (OTs) use yoga for PwMS. Upon interviewing eight OTs and conducting thematic data analysis, the following key themes were found relating to how and why they use yoga for people with MS (PwMS): (1) OT and yoga are a natural and complementary fit; (2) holistic benefits for clients beyond therapy; (3) leveraging personal ties to yoga; and (4) use of yoga is dependent on client factors and clinical environment.

Implications for Occupational Therapy

Yoga is a CHAIH, approved by the American Occupational Therapy Association (AOTA; 2016), to improve clients' engagement and participation. However, AOTA (2016) acknowledges that more research is needed to describe and support the efficacy of CHAIH practices in OT. Importantly, the current study accomplishes the former, by providing initial details regarding how and why OTs use yoga in clinical practice for PwMS. Additionally, AOTA (2016) recommends OTs be competent in the administration of yoga prior to using it as a preparatory method, activity, or occupation in treatment. This current study did not seek detailed information pertaining to the competent use of yoga by OTs. However participants expressed a shared belief, that OTs need to have a personal yoga practice prior to integrating it into OT practice, as well as seek out additional and knowledge about the unknown in yogic literature.

Future research needs to establish the efficacy of the integration of yoga into OT for PwMS. More specifically, future researchers should look at the use of yoga as a sensory OT intervention for PwMS. As it has been suggested that PwMS may use less proprioceptive feedback and rely more heavily on their vestibular and visual symptoms when maintaining balance (Fling et al., 2014). Additionally, in the future, researchers should study the use of yogic breath work in OT to improve performance, participation, fatigue and quality of life (QOL). As it has been suggested that PwMS can improve their fatigue and QOL by strengthening upper limb and respiratory muscles to mitigate the effects of respiratory dysfunction on fatigue and subsequently QOL (Kezele et al., 2019).

In conclusion, yoga may be an appropriate modality within OT for PwMS because its use is context- and client-centered and allows for the use and sharing of a meaningful activity to OTs and/or clients. Furthermore, as the practices together are a natural and complementary fit, OTs use of yoga may be holistically beneficial to PwMS both within and outside of therapy.

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APPENDIX A

Interview Questions

- 1. What has influenced your choice to incorporate yoga into your practice, particularly with people who have MS?
 - a. What's your experience with yoga? How has that influenced you?
 - b. How do your experiences influence how you think about/administer yoga?
- 2. Describe what a treatment session looks like when using yoga with a client who has MS.
 - a. When do you decided to you use yoga with your clients who have MS?
 - b. How often do you use yoga with your clients who have MS?
 - c. How long in each treatment?
- 3. What has yoga done for people with multiple sclerosis? What are the short- and long-term outcomes that you've seen?
 - a. What are the potential benefits of incorporating yoga into treatment for individuals with MS?
 - b. What are the potential disadvantages of incorporating yoga into treatment for individuals with MS?
- 4. What have your clients stated are the benefits of engaging in yoga?
 - a. What have they liked about it?
 - b. What other areas in their life, outside of their condition, have improved?
 - c. Self-esteem and self-efficacy, ect.
- 5. How do your client's respond when you first bring up the idea of incorporating yoga into treatment?
 - a. How do you explain/describe what yoga is/how it works? Do you think explaining it is important?
 - b. How/when do you decide to use the word yoga or something more general?
- 6. What characteristics of yoga do you find most beneficial in treatment sessions with clients with multiple sclerosis (postures, breathing, meditation)? Why?
 - a. Are there certain aspects of yoga you use vs. don't use?
 - b. What leads you to make these decisions?
- 7. How does your practice setting influence your choice to use yoga?
 - a. Supports/barriers
 - b. How do you document and bill for therapy sessions when you have integrated yoga practices?
- 8. Do you prefer to implement yoga in group settings or one on one?
 - a. If they do both: which do you find more meaningful/impactful for your clients? Or are both the same?
 - b. If they do group setting: how does the influence of others change outcomes?
- 9. Describe your understanding of the connection between OT and yoga.
 - a. Body awareness, social participation, activity participation, ect.
 - b. Are there times you combine this with what occupational therapy is?
 - i. It is preparatory? Is it coping strategies? Is it developing a new occupation?
- 10. What (if any) knowledge or experience do you recommend practitioners have before incorporating yoga into therapy?
- 11. Do you think there is anything else we should know? Or do you have any tips for OTs using yoga in practice?