

Research

An Individualized Yoga Programme for Multiple Sclerosis: A Case Study

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Abstract

Purpose: Despite the evidence that yoga is beneficial for people with multiple sclerosis (MS), substantial in-depth qualitative studies of yoga and MS—and individualized yoga programmes (IYP), in particular—are lacking. The aims of this paper are (a) to conduct a case study on an IYP for one participant with MS in terms of her experience of yoga and how yoga affected her particular symptoms of MS, and (b) to better understand the unique and changing needs of someone with MS in the context of an IYP.

Design and Method: Data collected for this study were sourced from a qualitative case study design with data collected via a participant diary completed over the 24-week duration of an IYP; an exit interview after the final IYP session; and weekly records completed by the yoga teacher. Data were analysed using thematic analysis.

Findings: Over the course of the IYP, the female participant experienced an increased awareness of negative thoughts and feelings about MS and how it affected her and her body. As the programme progressed, she began to work through these feelings and, by the end of the programme, reported experiencing improvements in muscle tone, strength, balance, psychological wellbeing, and confidence.

Conclusion: Our findings highlight the importance of a programme individualized to meet the complex health and psychological needs of individuals with MS.

Introduction

Multiple sclerosis (MS) is the most common neurological condition and affects approximately 100,000 people in the UK. MS can cause a variety of symptoms that vary between individuals and across the duration of an individual's illness. Symptoms typically include fatigue, pain, muscle spasms and stiffness; the condition can affect balance, memory, sensory systems, bladder and bowel functioning, emotions, speech, swallowing, vision, and women's health problems (e.g., menstruation and menopause). There is currently no cure for MS but symptoms can be managed through medication, diet, exercise, and complementary therapy.

Yoga is commonly used by people with MS and these practitioners often report it as being extremely helpful for their condition (Esmonde & Long, 2008; Page, Verhoef, Stebbins, Metz, & Levy, 2003; Yadav et al., 2006). For example, a UK survey found that yoga was one of the most popular complementary and alternative medicine (CAM) therapies used by people with MS; 31% of participants had used it over the past year and over 80% of them rated it as either “helpful” or “extremely helpful” (Esmonde & Long, 2008). Specific benefits of yoga described by participants included enhanced ability to relax; physical symptom relief such as improved balance, mobility, flexibility, muscle strength, and reduced spasticity; and increased social contact (Esmonde & Long, 2008). A US survey of 2026 people with MS found that 23% had used yoga and 16% had tried meditation. Yoga and meditation were considered the most beneficial CAM therapies with 52% and 46% of participants, respectively, rating the therapy as “very beneficial” (Yadav et al., 2006). It is important to note that MS, in addition to being a neurological condition, is chronic, progressive, or remissive, and each individual may present with different symptoms such as flares, tremors, and depression that can fluctuate daily. This variability has important implications for yoga therapists working with people with MS and any similar condition in respect of being flexible in their approaches and sometimes working impromptu to reflect the unique needs of each individual when choosing the appropriate asanas, breath awareness exercises, pranayama, relaxation, and meditation techniques.

The amount of research that has been conducted on yoga and MS does not reflect the high level of use and the potential benefits for people with MS. Two small randomized controlled trials (RCT) have been conducted to date. Oken et al. (2004) randomized 57 people with MS to one of three groups for six months. Group 1 attended a weekly yoga class with home practice, Group 2 attended a weekly exercise class using a stationary bicycle with home practice, and Group 3 were allocated to a wait-list control group. Both active interventions produced an improvement in fatigue compared to the control group, but not in attention, alertness, or mood. However, the authors concluded that

because of the small sample size the study was underpowered; thus, the absence of statistically significant effects for mood and cognition needs to be interpreted cautiously. No adverse events related to the interventions were reported. Velikonja, Curic, Ozura and Jazbec (2010) conducted an even smaller RCT, with 20 people with MS receiving either sports climbing or Hatha yoga for 10 weeks. Results showed that compared with the climbing group participants practising yoga experienced an improvement in their selective attention. However, there were no improvements in mood, spasticity, or fatigue.

Physical exercise has been shown to alleviate MS symptoms (Rietberg, Brooks, Uitdehaag, & Kwakkel, 2004) and its use is recommended in the UK's NICE (National Institute for Health and Care Excellence, 2004) guidelines for managing MS. Research also suggests that yoga can be considered an equivalent to conventional exercise (Yadav & Bourdette, 2006) and may be more acceptable than exercise to people with MS (Yadav et al., 2006). A recent review of the literature comparing exercise and yoga indicated that yoga may be as effective as or better than exercise at improving a variety of health-related outcome measures for both healthy and diseased populations (Ross & Thomas, 2010). Finally, meditation (an integral part of yoga) has been shown to reduce perceived stress among people with both MS and cancer (Pritchard, Elison-Bower & Birdsall, 2010). This is important for people with MS given that 78% report that stress intensifies their symptoms (Simmons, Ponsonby, van der Mei, & Sheridan, (2004).

Substantial in-depth qualitative studies of yoga and MS and studies of individualized yoga programmes (IYP; one-to-one sessions between teacher and client) are lacking. RCTs in this area are small and have only focused on a limited number of outcomes. Studies suggest the benefits of yoga to people with MS may be far more rich and complex than the limited outcome measures that have been used to date in RCTs. Benefits may include improved flexibility and self-management, valued relationship with practitioner, increased awareness of body and stress levels aiding stress and symptom management, pain reduction, spiritual experiences, and peacefulness (Franklin, 2002; Mayer, 1990). Further, few studies have explored the experience of yoga in the context of emotional and psychological wellbeing among people diagnosed with MS.

A systematic review of the research evidence on the effectiveness of yoga for MS recommended that qualitative studies should now be conducted in order to understand the experience of people with MS who use yoga and to assess the feasibility of yoga as an intervention for people with MS (Richardson, Freeman, Smith, & Pilkington, 2005). Exploratory qualitative studies are essential in order to understand the subjective meanings of yoga to each individ-

ual (e.g., yoga as stress relief, symptom management, or a life philosophy), individual perceptions of how yoga affects their MS, what it's like to practice yoga with MS, and the limitations of yoga. Gaining an understanding of these issues will have multiple benefits including providing information for people with MS (and yoga teachers) on how yoga may be helpful to them, as well as what they can expect from practicing yoga and the limitations of yoga. The experiences associated with behaviour can provide new insights that may impact the efficacy of future individualized yoga programmes for people with MS (Bulley, Payne, & Mutrie, 2009). Gaining an understanding of these issues will have multiple benefits for people with MS, yoga therapists, and others working with and for people with MS.

The aims of this paper are to report the case study results of an IYP for one participant with MS, in terms of her experience of yoga, how yoga affected her particular symptoms of MS, and to better understand the unique and changing needs of someone with MS in the context of yoga delivered on a one-to-one basis. It is important to note that yoga, including the IYP, is not a cure for MS; rather, it may help people to cope with life and to help manage their MS symptoms more effectively.

Methods

The Individualized Yoga Programme (IYP)

The IYP is based on hatha yoga using guidance from Fishman and Small (2007) and influenced by the teachings of the renowned B.K.S. Iyengar. Hatha yoga emphasizes the development of strength, stamina, suppleness, balance, concentration, and relaxation. It helps to promote general physical, psychological, and spiritual health and wellbeing. As with all forms of yoga, it addresses the whole person. The IYP for this case study was delivered over a six-month period with 24 weekly sessions each of 60-minute duration. The first session was an initial consultation. Each weekly session that followed included a series of postures (asanas) that were individualized according to the participant's needs, symptoms, and ability, and ending with relaxation. In addition, sessions incorporated breath awareness and meditation. A programme of home practice to complement each session was provided. An IYP (as opposed to a class programme) ensures that asanas, relaxation, breath work, and meditation meet individual needs and enable the home practice information to be tailored to the individual participant. The yoga sessions for this case study were conducted at the yoga teacher's (author LP) home.

Case Study: A Humanistic Approach

This paper presents a qualitative case study design with data analysed using thematic analysis to provide a rich source of

data about a person experiencing the varied and fluctuating symptoms brought on by MS in the context of an IYP. Giving priority to the human meaning of the experience has the potential to highlight challenges and offer new insights that cannot be identified by quantitative and standardised quality of life outcome measures alone.

The participant's demographic information, medical history, and aims of attending the IYP were collected at the first IYP session (i.e., Week 1). Data on the participant's experience of each session were collected using weekly progress records completed by LP at the beginning of each session, a participant diary, and an exit interview conducted at the end of the final IYP session (i.e., Week 24). The purpose of the weekly progress records were to record the asanas, relaxation, breath work, and meditation techniques used, the teacher-observed changes in the participant, and the reported changes by the participant. The participant completed a diary of home practice for the duration of the study (i.e., Week 1 to Week 24). The purpose of the diary was to gain the participant's narrative of her experience of yoga during the IYP. Finally, the participant interview was conducted by LP after the final session and lasted approximately 30 minutes. The purpose of the interview was to gain the participant's overall experience of the IYP.

Data from the diary provided a rich narrative of one person's experience of yoga in the context of the IYP. Using narrative as a method of data collection is essential to gain the subjective, self-reflective, and personal experience of participants; it allows participants to tell their story without influence of specific questions or theoretical bias (Murray, 2000). Using narrative in this way reduces potential interpretation bias and provides a window to observe and gain insight into the personal reflections, changes, and emotions that may otherwise be lost.

Data from the weekly progress records, participant diary, and exit interview were analysed using thematic analysis (Braun & Clarke, 2006). Thematic analysis was chosen for its flexibility in data coding, analysis, and interpretation, and how it could simultaneously enable the researcher to identify patterns and themes within the data set. Using an inductive approach (i.e., bottom-up) ensured that the themes were data driven, which allowed for patterns and themes to be identified for the purpose of disseminating information (e.g., in specialised training of yoga teachers who wish to work with people with MS, to relevant organisations, and to gain a better understanding of the benefits of using a IYP for people with MS). Data from the weekly progress records, participant diary, and exit interview were read and re-read to gain familiarity of the data and then coded using the primary aims of the study [i.e., experience of the IYP for people with MS, physical and psychological/emotional changes, yoga methods used]. Each

subset of coded data was then grouped into themes for further analysis and interpretation.

Data from the consultation (Week 1) provided descriptive information and formed a baseline from which changes could be monitored. The participant's name has been changed below to protect anonymity. Consent was obtained from the participant for undertaking and publishing this case study.

All qualitative data collected was analysed manually using colour coding, annotations of scripts, and pen diagrams to help organise data and identify themes and sub-themes.

Results

Demographics

At the time of the case study, Mary was aged 37, single, and worked full time. She had been diagnosed with relapsing-remitting multiple sclerosis (MS) at the age of 26 by a senior medical specialist in MS. Mary was taking a weekly injection of beta interferon (Avonex) to keep relapses under control and to lessen the attacks; she had been on this medication for three years. Mary's MS may be considered as mild in severity and remissive in nature.

Mary had been treated for depression with a six-month course of antidepressants and had periodically experienced irritable bowel syndrome. No symptoms or side effects were reported as a consequence of the antidepressants or beta interferon. Due to the MS, Mary reported experiencing difficulties with stool movements and often felt "uncomfortable." Although Mary reported that her general physical health was "okay," with no hearing, vision, bone, or spinal concerns at the time, she expressed concern that her energy level was low (felt constantly tired) and was compounded by twitching in both legs at night that kept her awake. She also reported that her left leg felt heavy; after walking short distances it tended to "drag" and often felt unsteady when going up and coming down stairs. Overall, Mary was quite conscious of these limitations in mobility and how they impacted her social activities and social life. Mary's biggest fear was that her situation would continue for the rest of her life.

Aims of Participation in the IYP

Mary's aims of participating in the IYP were physically oriented. They included helping to increase strength in her legs, improve balance, become generally more active, and lose some weight. In Mary's case, balance was described as weakness of the muscles worsened by walking too far, dragging leg, tiredness, and tremors.

Although Mary had attempted to go to a local fitness centre for exercise, these efforts had been sporadic. Mary

had tried Ashtanga Yoga one year prior to attending the IYP. However, she had stopped going after two classes because she was unable to move through the postures as quickly as other attendees; subsequently, this reduced her confidence in the ability to participate in any yoga class.

Mary's Story

Enhanced Awareness: Physical, Emotional, Cognitive

During the first month of her IYP, Mary began to develop an enhanced awareness of her body's physical limitations and of the emotions and thought processes in relation to her body. She acknowledged the difficulty in accepting MS, the anger felt towards her body, and resentment of how these feelings and thoughts affected her body image. This enhanced awareness of the physical limitations imposed by MS seemed to reveal the degree to which MS was impacting her psychological and physical health and wellbeing and her general approach to life, as she quite succinctly described:

"Just a continual feeling of being depressed and wanting to cut my body in half and squash it!"

During the first month of attending the IYP, Mary felt challenged and experienced a setback with MS; she described her legs as being *"very wobbly and feeling heavy,"* which impeded her mobility. She began to identify other areas of her body that she described as being *"weak"*—particularly arms and shoulders. In addition to the enhanced physical limitations, Mary experienced emotional challenges too. She described becoming aware of the anger and frustration felt towards her body that affected her whole body image, persona, and general health and wellbeing.

Enhanced Knowledge: Adaptations, Breath Awareness, and Affirmations

Mary's attitude and determination enabled her to view this enhanced awareness positively by helping her to understand ways to improve the practice of yoga. Taking on the advice and encouragement provided at each yoga session, Mary was able to turn her anger into action, making subtle adjustments to her body to become more relaxed and comfortable in an asana. For example, in response to Mary's anger and frustration with her body and its limitations when moving in and out of postures, LP encouraged her to *"be kind to her legs, her body, and herself,"* and to *"transform feelings of anger into love,"* and at the end of each session, *"thanking her body for being co-operative."*

During this period, gentle encouragement was given to Mary to raise awareness of the breath to enter and exit each asana and when in the final position. This helped Mary to

recognise when she was holding her breath, notably during the postures she *"disliked,"* such as Trikonasana, Warrior, and Vkrasana; these postures highlighted what she described as the *"imbalances"* and *"weaknesses"* in her body, emotions, and mind. As the IYP progressed, Mary was able to continue with making adjustments. For example, she compensated for the *"wobbliness"* she experienced by hyper-extension of the knee joints as this helped her balance. Thus, Mary was requested to *"soften her knees"* during postures (which actually accentuated the *"wobbliness"*) and to re-focus her energy flowing toward her feet rather than directly to her knees and the sense of *"wobbliness."* Repeating postures using this strategy appeared to work well for Mary; she noticed that her legs were less *"wobbly"* and less likely to *"collapse"* during a posture.

"Understanding my disability enabled Lesley to break down the postures in a simplistic way that allowed me to achieve each posture in a safe and confident manner. Analysing my body's strengths and weaknesses, Lesley created an effective monthly program of yoga, enabling me to practise postures at home to increase strength and flexibility on a daily basis, which has been fundamental in my progression in yoga... Through Lesley's dedication and knowledge of teaching yoga for specific needs and addressing personal goals, I have seen a vast improvement in my body."

This awareness was the precursor to improving her practice. On acknowledging the issues, she was able to re-focus and make the necessary changes to her thought processes and to her breath when entering, holding, and exiting postures with *"relaxed"* effort (key to yoga practice). As a result, the anger and frustration with her body she had previously experienced lessened.

Table 1 presents Mary's experience of the IYP ordered around the themes presented in the Results section.

Home Practice

Mary's home practice during the first three months was intermittent. However, this process of irregular yoga home practice served to increase her awareness of the differences between when yoga was practiced and when it was not practiced. As a result, Mary's home practice became more consistent, forming part of her daily morning routine. This regular home practice combined with the continued progression on the IYP was rewarded with a noticeable improvement in her body tone, posture, strength, and balance. Other benefits included self and social confidence to undertake another activity—swimming, and to take more rests when out with friends.

Themes	Subthemes	Key Words
Enhanced awareness	Physical limitations Emotional feelings/thought processes Cognitive	Wobbly/heavy legs, fatigue, weakness Anger, resentment, body image Persona, general health
Enhanced knowledge	Adapting asanas Breath awareness Affirmations, encouragement	Moving slowly and in stages into/ out of asanas Dislike of asanas Re-directing negative energy
Regular home practice	Social confidence Social activities	Taking rests, self-pacing Swimming

Table 1. Results showing key themes, subthemes, and keywords.

“When yoga is practiced (with awareness) there is a sense of feeling better physically, emotionally, and mentally with a sense of calm that filters into daily activities... climbing up, and coming down stairs, walking for longer distances, yet recognising when to stop and rest rather than struggle on and wanting to hide. I have joined a fitness centre and started to go swimming, and now acknowledge the need to stop and take short rest breaks when out shopping with friends. ...I have seen a vast improvement in my body when medical opinions said that my decline was a natural progression of the disease.”

Although Mary admitted to still *“getting angry”* with her body and particularly toward her legs when they felt like *“collapsing,”* she remembered the advice given to her in the sessions: to re-focus this energy to her feet and concentrate on developing strength and steadiness. This altered mind state and re-focusing of energy appeared to help overcome any feelings of anger and resentment towards her body.

By the end of the IYP, Mary was surprised and pleased to observe noticeable improvements in her physical strength, stamina, and balance, all of which were personal goals for participation in the IYP.

“Altogether, the yoga sessions have helped boost my morale, attitude, and outlook on life.”

As well as being valuable to the case study, self-reflection and keeping a record of changes as they became apparent was an important part of the process. Having the space to reflect on changes proved to be insightful and part of the healing journey that takes place during any yoga practice (swadhaya—the act of self-study). Importantly, knowing when to stop in any activity, including yoga, is essential for both the teacher and pupil to recognise.

Discussion

The aim of the case study reported here was to discover the experiences of one person with MS participating in an individualized yoga programme (IYP) in terms of physical and psychological health and wellbeing. Mary's primary goal of attending the IYP was physical in nature, and although initially home practice was intermittent and challenging, often dictated by her social and work life, as Mary began to experience physical improvements she was encouraged to include yoga as part of her daily routine. The increased body awareness that Mary developed has been observed in other studies on people with multiple sclerosis who practice yoga (Franklin, 2002; Mayer, 1990) as has the improvement in MS symptoms (Yadav et al., 2006).

In addition to the physical goals achieved, Mary reported that the IYP raised awareness to the negative emotions of anger, frustration, and resentment felt toward her body, and subsequently her negative body image that inhibited her social life and activities. By the same token, this awareness also helped Mary to overcome them, thus illustrating the psychological gains experienced during the IYP that enabled Mary to initiate making changes to her daily routine and social life in general. As a result of the gentle encouragement and support offered by her teacher during the IYP, Mary was able to re-focus her anger and become more mindful of her approach to each asana and to yoga, further illustrating some of cognitive benefits gained over the course of the IYP. The importance of such self-evaluation and reflection are essential in the process of change. As Prochaska and DiClemente (1983) and Prochaska and Velicer (1997) have suggested in the process of change model, increased awareness, emotional arousal, social reappraisal, environmental opportunities (yoga), and self-reappraisal are the experiential aspects of this change process from which the more

overt behavioural changes can begin to take place. Interestingly, keeping a participant diary for the research also became a valuable self-reflection tool for Mary. As Kolb (1984) described, we learn through experience, but only if we process that experience and make sense of it.

Denial and avoidance of the more negative and sometimes painful aspects of life are in the longer term neither helpful nor healthy. The fact that Mary began to realise that since receiving the diagnosis of MS she had a total disregard for her body, living primarily in her mind and being very self-critical, suggested the beginning of a healing journey. The acknowledgement of inwardly held emotions, such as anger and fear, is a remarkable insight about how MS can affect individuals and about the importance of the yoga teacher's support during this critical stage of growth and awareness, and throughout the healing process. Yoga is a transformative practice, as opposed to solely an exercise practice, and with correct use of postures, breath awareness, relaxation, and support, can be a gentle way to overcome our deepest fears and deeply held emotions. This apparent personal growth combined with the improvements Mary reported in physical health and improved symptoms (e.g., strength and balance) suggest there is potential value for yoga to help overcome some of the challenges faced by MS. Previous research has shown that exercise alone may help to improve functional impairment though not quality of life. In contrast, yoga may serve to provide an "all round" means to help overcome some of the emotional and physical symptoms associated with MS (Franklin, 2002; Mayer, 1990).

Clearly, regular home practice proved to be beneficial to Mary. Ultimately, it was her persistence and self-determination that improved her situation, health, and wellbeing. It also suggests the importance of gaining trust and respect between yoga therapist and participant and developing a good relationship within the context of an individualized yoga programme, as has been suggested by Franklin (2002) and Mayer (1990). MS is a complex condition with many symptoms that can vary daily and affect people in different ways. Yoga therapists need to be aware of potential side effect/symptoms that any prescribed drug can cause within a therapy context. Further, with regard to balance, understanding the probable cause and primary concern is important. Balance for people with MS is a complex symptom; can vary daily; may be the result of multiple causes such as weakness, tremors, tiredness, or infection; and may involve sensory input, processing, and output.

It was not the aim of this case study to undergo a thorough medical examination; rather, the intention was to listen to the participant's experiences of MS as part of a qualitative study. In terms of any physical and psychological concerns expressed by the participant it is important to understand what these concerns are and what they mean to

the person—that is, how they are affected, how they currently manage the concerns, and what makes them worse or better (i.e., walking too far, trying to keep up with friends, and not taking rest stops). People that experience MS may require encouragement; as such, yoga practice may be better when tailored to any physical limitations. Further, people with MS may need patience in waiting for improvements from regular yoga practice. The development of enhanced mind-body awareness is an important component of an IYP.

Cautions and Limitations

The study is based on one person's story and therefore cannot be generalised to all people diagnosed with multiple sclerosis. Six months is a very short term in yogic terms; yoga is a lifelong study. This study was done without external funding, using the experience of LP as a researcher, and available resources (with willing participant). Therefore, there are limitations to sample size, duration, and methodology, and cost considerations and time to analyse all the data manually. The first author, LP, implemented the IYP and conducted the qualitative data collection, analysis, and interpretation; therefore, a potential bias of results was introduced. Thus, research evidence using a more rigorous design and mixed methods (qualitative and quantitative) is necessary to ascertain the essential benefits of yoga for people with MS, types of MS, and stages of MS, and to determine whether an IYP is beneficial indefinitely for people with MS.

Conclusion

With regard to yoga, the study supports the literature that suggests that yoga has potential physical benefits for people with MS and may be a means to help cope and manage some of the symptoms associated with MS. With regard to evaluation, research continues to favour the medical model of evaluating interventions with specific physiological outcome measures such as depressed mood and symptomology. A humanistic approach allows those diagnosed with MS and who participate in yoga research to elucidate their views and experiences that may be omitted from RCTs yet may provide valuable insights to the process of change. Future research may benefit from using both qualitative and quantitative methodologies with specific outcome measures to determine the value of yoga for people experiencing MS, particularly in the longer term. The more research that is undertaken, the more likely it will be that external funding bodies will support larger and broader research projects.

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