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Yoga Therapy for Rheumatoid Arthritis

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Abstract

As the prevalence and incidence of rheumatoid arthritis continues to rise, and current pharmaceutical interventions offered have been shown to elicit negative side effects, there has been a recent shift in the use of supportive and therapeutic medical modalities. In particular, functional treatments, like yoga therapy show great promise as a complement to traditional medicine. In this review, we provide a brief overview of yoga therapy, present the latest findings between the relationship of yoga therapy and Rheumatoid Arthritis, and discuss the future direction of this promising field.

Introduction

Rheumatoid Arthritis (RA) is a prevalent, chronic, systemic, inflammatory autoimmune disorder that affects more than 2 million adults in the United States and is characterized by swollen, stiff, and inflamed joints [1]. The onset of RA is commonly seen from the age of 30 to 50 and affects women three times more than men [2, 3]. Disease management for RA is predominantly based on drug therapies such as disease-modifying antirheumatic drugs (DMARDs) and nonsteroidal anti-inflammatory drugs (NSAIDs). Though these medications have proven clinical outcomes, some patients do experience negative side effects [4]. As the prevalence and incidence of RA continues to rise, it creates a burden on the individuals, their families, and society [5]. Currently, there is a lack of established, no pharmacologic treatment options [6] that can offer support while remaining affordable and minimizing the chance of side effects.

In the last decade, there has been an increase in attention brought to functional therapies as complements to pharmacologics that improve physical function, such as yoga [7,8]. The practice of yoga involves several mind-body exercises including physical postures, breathing exercises, and meditation techniques that have been shown to reduce stress and improve motor functions in various groups of people [9,10]. According to the International Association of Yoga Therapists (IAYT), "Yoga therapy is the process of empowering individuals to progress toward improved health and well-being through the application of the teachings and practices of Yoga" [11]. Yoga therapy is a specific field that integrates the ancient science of Yoga with modern medicine and is an evidence-based approach to support the needs and goals of an individual, while considering their limitations. In this review, we performed a literature search of clinical trials and observational studies involving yoga therapy and rheumatoid arthritis in the last 10 years to evaluate the effectiveness of this discipline.

Discussion

A variety of methodologies have been utilized to observe the effect that yoga therapy has on RA and other inflammatory conditions. A notable study, conducted by Greysen et al. assessed the practice of yoga in community settings [12]. Telephone interviews were conducted with 17 RA patients that regularly participated in yoga. A qualitative approach was implemented to document participants' practice characteristics and thoughts about yoga and how it relates to RA. It was found that yoga experiences unanimously had components including stretching, physical exertion, breathing, and meditation. Consistent themes found in the interview included: interest in improving physical fitness and psychological health, reduced cost of at-home practice, as well as flexibility in training plans [12]. Interestingly, though it was shown that participants had

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similar beliefs for practicing yoga and that their routines included similar components, this study highlighted the variance in different routines emphasizing the lack of an effective framework of yoga therapy for RA, a basis for further research.

Though observational studies can show associations, they lack the ability to draw causative conclusions. Middleton et al. performed a pilot study with 30 participants investigating the effectiveness of a yoga intervention on bilingual ethnic minorities, specifically Hispanic and Black/African-American adults, who were diagnosed with osteoarthritis (10%) or rheumatoid arthritis (90%) [13]. They utilized an 8-week yoga program consisting of group intervention which met biweekly for 60-minutes where participants practiced Hatha yoga and were encouraged to continue exercises at home. This type of study design allowed the researchers to draw more definitive conclusions. Significant improvements were seen in values for self-care, self-efficacy as well as physical measurements such as standing on a single leg, functional reach, and upper limb functionality through the DASH index. Results indicated that yoga can be effective in minority communities through improvements in physical and psychological aspects of individuals, and shows promise as a therapy form. Though this study provided insightful information in regards to yoga therapy, it did not separate the participants into groups, and was therefore unable to eliminate the possibility of the placebo effect.

There have been a few clinical research studies conducted that have shown how yoga can be used to support individuals with RA. However, there seems to be a disjointment in the techniques used across studies, and thus poses an issue for validating the effectiveness of the intervention. A randomized controlled trial conducted by Telles et al. enrolled 64 RA patients in a one-week yoga program where they practiced breathing, exercise, and yoga postures and were assessed before and after the one-week intervention [14]. The randomized study design resulted in a reduction in selection bias, that generated results with minimized bias. In this study, subjects reported improvements in dressing, arising, walking and grip strength, but had no changes in reported levels of pain. In addition, there was an improvement in the Health Assessment Questionnaire (HAQ) as well as a decrease in the Rheumatoid factor lab values, suggesting the benefits of incorporating yoga as a treatment option [14]. Yet, with only one week of treatment, this study leaves in question both the potential of yoga therapy as a continuous treatment for disease activity as well as its long-term benefits. Evans et al. investigated the effects of a six-week Iyengar Yoga program where patients were assessed at baseline and at the end of the program, in addition to two months after the program had concluded [15]. Twenty-four participants were split into two groups, with one group receiving yoga treatment immediately for six weeks, and the other group being initially prescribed standard of care followed by the yoga treatment. Researchers found that while the objective measurements of pain reporting did not significantly change through treatment, psychological benefits presented themselves with study subjects reporting more positive well-being directly after the intervention. The psychological benefits did not persist at the two-month post-intervention assessment raising the question of whether the treatment period of yoga may play a factor post-intervention [15]. Together, these studies emphasize the potential of yoga therapy in managing RA, yet more work in this field needs to be done to get a better understanding of the optimum method to implement yoga therapy as well as to solidify psychological and physical benefits of this treatment option.

Current RA and yoga studies have found that long term yoga has psychological benefits, but there have been no findings that support long term physical outcomes. Nevertheless, yoga therapy has been shown to have an analgesic effect in other conditions. Colgrove et al. prescribed a 12 week program to eight subjects who had lower back pain [16]. They found that participants reported significantly lower pain scores post-yoga intervention, suggesting that the therapeutic effects of yoga may emerge after a few months of a program [16]. A short term intervention was used by Ebnezar et al. as 250 participants who had knee osteoarthritis were separated into a control group which received a daily routine of electrical stimulation and ultrasound treatment for two weeks, and an intervention group that received a yoga program in addition to electrical stimulation and ultrasound [17]. Both groups were assessed before treatment, after two weeks, and at a 90 day follow up. Physical benefits, such as reduced resting pain, morning stiffness, blood pressure, and pulse rate were significantly better in the intervention group at both the two week and 90-day assessment [17]. These studies highlight the effectiveness of a yoga intervention to manage physical outcomes and pose the need to further investigate long term, standardized yoga therapy in RA to complement existing forms of standardized care.

Conclusion

Over the last 10 years, the practice of yoga has grown exponentially in the United States and has begun to make itself known as a non-pharmacologic therapy for several diseases. In RA, yoga has been shown to be beneficial with several studies indicating both short term physical and psychological benefits while also being cost-effective, making it a valuable addition alongside primary treatment options and worth promoting. However, across studies, there is a large amount of variability in the reported benefits of yoga which can be attributed to the limited amount of controlled research studies as well as a diverse range of protocols used to administer yoga treatment. Therefore, the future of yoga as a tool for disease management shows promise but more work currently needs to be done to solidify relevant findings. There is a need for well-constructed research studies with good methodology that follow patients for an appropriate period of time, to produce reliable results showing the effect that yoga therapy has on RA and other inflammatory conditions.

Reflection

There is interconnectivity of the mind-body-soul behind every human which translates into the fact that every patient has their

own level of complexity. With this in mind, it is key to develop modalities that honor the individuality and freedom of our patients. Given the current published research on this topic, it is evident that there is a need for well-designed clinical trials and observational studies that assess these progressive programs in order to offer the best care to patients with autoimmune diseases.

Acknowledgment

None.

Conflict of Interest

No authors have any conflicts of interest to disclose.

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