Yoga: A Complementary and Alternative Health Approach

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Introduction

Yoga is an ancient discipline with historical origins in Indian philosophy and has been practiced for many centuries. Today, yoga is widespread and utilized as a complementary health approach, with more than 13 million people practicing in the United States (National Center for Complementary and Alternative Medicine [NCCAM], 2013). According to NCCAM, the majority of people who practice yoga do so to maintain their health and wellbeing, while a small percentage are referred by their healthcare provider. Through our research, we will focus on the effects of yoga on those with prediabetes and diabetes to distinguish whether it is the physical activity involved in practicing yoga or its encompassing lifestyle, that promotes positive health outcomes.

History and Description

According to archeological finds, yoga has been said to originate from India as far back as 3000 BC (Sengupta, 2012). Traditionally, yoga has been a religious focus of the mind and body connection, providing a path to spiritual enlightenment. Yoga first made an appearance in the United States in 1893 when Swami Vivekananda introduced the practice at the World Parliament of Religions in Chicago. It did not see a rapid expansion until the 1970’s, when numerous centers and associations opened. Today, yoga is widespread and utilized not only as a complementary health approach but also as form of physical exercise.

Yoga means “yoking” or “joining” techniques, transforming the consciousness and attaining liberation from the soul (Sengupta, 2012). There are many different styles of yoga that are practiced. Some examples include: asana (physical postures), pranayama (breath control), pratyahara (control of the senses), dharana (concentration), dyana (meditation), and Bikram (hot). It is common to combine various elements of yoga together such as physical postures,
breathing techniques, and meditation or relaxation (NCCAM, 2013). Yoga practice is believed to strengthen the body, lower blood pressure, increase flexibility, improve digestion, and lower blood glucose levels, along with many other potential benefits (Mccall, 2007, p. 24). Research has examined the effectiveness of various styles of yoga on a variety of health related issues such as diabetes, cardiovascular disease, and hypertension, among others. Those suffering from lower back pain, diabetes, hypertension and depression have reported positive results.

**Uses and Doses**

Traditionally, yoga has been practiced as part of a complete lifestyle that provides a path to spiritual enlightenment. Part of this lifestyle includes using yoga as a form of meditation, which can occur between 30-60 minutes daily. In modern practice, yoga focuses more on health and wellbeing rather than spiritual enlightenment, and is based on five basic principles: proper relaxation, exercise, breathing, diet, and positive thinking & meditation (International Sivananda Yoga Vedanta Centres, 2010). Yoga now focuses on the practice as a form of physical activity to reduce stress, separate from its traditional spiritual roots (Ehrlich, 2013). Through research, it was found that doing yoga 2-3 times a week for 60-90 minute sessions was beneficial for individuals with risk factors for chronic disease (Yang, 2007). Most people practice yoga by taking a group class, usually lasting from 45 - 90 minutes with an experienced instructor. They start with warm-up exercises, move through a guided series of yoga poses designed to stretch and tone all areas of the body, and end with deep relaxation or meditation.

**Effectiveness**

Yoga, as a complementary alternative medicine has been questioned for its effectiveness in prevention and/or treatment of chronic diseases, such as diabetes, hypertension, and back pain. There is uncertainty in whether it is the increase in physical activity or the encompassed lifestyle
change that produces potential outcomes in those who partake in yoga practices. Research has been conducted to examine the effectiveness of yoga on various health issues and chronic diseases, but for the purpose of this paper, we will focus on its effects on those with prediabetes and diabetes.

Yang (2007) reviewed 32 articles to determine the effectiveness of different yoga programs on four leading risk factors of chronic disease: overweight, high blood pressure, high glucose and high cholesterol. Most were experimental studies that used yoga as an intervention, but some studies used it as a control to provide evidence in the effectiveness of yoga with the same risk factors. The results showed that yoga, as an intervention, was effective in reducing body weight, lowering blood glucose levels, decreasing blood pressure and improving cholesterol levels (Yang, 2007).

Hedge, Adhikari, Manjrekar and D’Souza (2013) used a randomized-control trial to investigate whether or not the prediabetics who received yoga as an intervention would have any reductions in chronic disease risk factors, compared to the control group that was put on a waiting list to receive treatment. The intervention consisted of 75-90 minute sessions, three days a week, interrupted by a two day weekend break, over a three month period of time. Results showed a significant decline in postprandial glucose levels in the yoga group vs. the control group with a 95% confidence interval.

Mcdermott et al. (2014) used yoga as an intervention to determine if yoga reduces risk factors such as weight, waist circumference, and fasting blood glucose (FBG), for type 2 diabetes. In this research, participants were asked to either attend yoga classes (experimental group) or complete monitored walking (control group) for 3–6 days per week for eight weeks. They found a significant reduction in weight, waist circumference and BMI, systolic and
diastolic blood pressure and total cholesterol in the yoga group as compared to the control group (Mcdermott et al., 2014).

Innes et al. (2006) conducted a systematic review of 25 studies performed in India, Europe, and USA to assess risk factors for adults with type 2 diabetes mellitus. Some of the risks factors were BMI, blood pressure, impaired glucose tolerance, and oxidative stress. Yoga-based interventions used in the studies ranged from two days to 12 months. Each eligible study was classified into one of five design categories: randomized controlled trials, nonrandomized controlled trials, uncontrolled (pre and post) trials, cross-sectional (observational) studies, and studies assessing dynamic change in specific physiological indices during one or two yoga sessions. Innes et al. (2006) concluded that most of the studies reported a reduction in fasting and postprandial blood glucose, insulin, and blood pressure.

**Risks and Side Effects**

Yoga is considered a safe form of exercise when practiced appropriately under the guidance of a well-trained instructor (NCAM, 2013). Along with many other forms of exercise, those with serious medical conditions should take precaution by consulting with a doctor beforehand. Although yoga is relatively low-risk, it is important to consider the type of yoga that is being practiced and the level of intensity and technique required to achieve certain poses. For instance, Bikram yoga is a vigorous form of yoga that is practiced in a very warm and humid room (usually between 95° and 105°F), which may be harmful for those who are pregnant, ill, or dehydrated (American Cancer Society [ACS], 2008). In other words, some yoga poses may need to be modified or avoided according to one’s health condition.

Those who have mobility issues, such as the elderly population or those with arthritis, should take caution due to the fact that some yoga poses are strenuous on joints and ligaments.
Extreme care should be taken with people who are at high-risk for fractures, such as those with osteopenia or osteoporosis (Smith & Boser, 2013). Poses that require doing headstands may increase pressure in the eyes, which can be risky for those with glaucoma (ACS, 2008). Certain types of strokes, as well as pain from nerve damage are also among some of the rare possible negative side effects of practicing yoga (NCAM, 2013).

**Discussion**

Yoga has been used in research as a tool for the reduction of chronic disease risk factors. Although there were limitations to these studies, there were also notable positive health benefits for some participants. As previously stated, research has found a connection between yoga and reducing BMI, waist circumference, and blood glucose levels. However, most of the research had limitations and thus failed to show a direct correlation between yoga and its health benefits. For example, in McDermott et al. (2014) some individuals were not eligible to participate in the study due to lack of preliminary testing, and some participants were mistakenly accepted into the study without meeting requirements.

Other limitations and confounding variables that were found in additional studies include: small sample sizes, participants’ diet, selection bias, lack of appropriate control group, multiple intervention strategies and other methodological limitations (Hedge et al., 2003; Yang, 2007; Innes et al., 2006). Studies also lacked focus on the type of yoga practice, sequence of poses, and precise dosages. Furthermore, many of the studies were conducted in India where yoga is ingrained in the culture, whereas in the U.S. yoga is not. Therefore, we cannot generalize the findings to other populations, making it difficult to identify whether it was yoga or other confounding factors that contributed to the results.
Besides the limitations of the research studies, there were also concerns regarding the effectiveness of yoga as a complementary and alternative medicine. Yoga alone — as a body, mind and spirit practice may have promoted positive health outcomes in participants with prediabetes and diabetes. Therefore, improvement may have been due to the increased level of movement and physical activity. With limited empirical evidence, we cannot conclude that yoga is solely responsible for decreasing risk factors associated with prediabetes and diabetes.

**Conclusion**

Through exploration of research, we were not able to identify whether it is solely the physical activity, or the lifestyle of yoga practice that contributes to the positive health outcomes in our focus population. Although studies are not yet profound, yoga’s potential health benefits outweigh its risks. With its widespread use in the United States, yoga can be designed to suite individual needs whether it is practiced as a form of exercise or acquired as part of a complete lifestyle. Yoga, as a complementary and alternative medicine may not be fully understood at this moment, yet its power to captivate millions is undeniable.
References


