

Chapter 16

Yoga and Weight Management: A Narrative Review

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ABSTRACT

A comprehensive lifestyle intervention that is effective, yet safe, for weight loss is recommended for weight management. Yoga is one such intervention that includes (1) increased physical activity and (2) suggestions about healthy eating and other behavioral changes. With this, there have been attempts to assess the effectiveness of yoga for weight management. The present review aimed at (1) evaluating studies assessing the effects of yoga on obesity and (2) grade them according to standard grading methods. Twenty-three studies, of which nine were RCTs, were included. The rating of RCTs was between 70.6 and 94.2, which can be considered fairly good. However the present review shows that there are fewer studies with (1) adequate sample sizes, (2) study designs, (3) long term follow up, and (4) adequate reporting of adverse events to conclude that yoga is an effective and safe intervention for weight loss. Hence, further studies with the points described above are required to conclude the safety and efficacy of yoga for weight loss.

INTRODUCTION

In 2016, the World Health Organization estimated that there are more than 1.9 billions overweight adults globally (39 percent of the world's adult population); of whom more than 650 million (13 percent of the world's adult population) are obese ("World Health Organization", 2018). It is known that overweight and obesity are associated with an increased risk of the diseases (viz. cardiovascular problems, type 2

DOI: 10.4018/978-1-7998-3254-6.ch016

diabetes mellitus, stroke, asthma, arthritis and certain cancers) (Telles et al., 2018). Apart from this, obesity is also known to impair the several aspects of quality of life (Telles et al., 2019).

Overweight and obesity places an enormous burden on economy through (i) direct cost (e.g., spending on diagnosis and treatment of medical conditions associated with obesity) and (ii) indirect costs (e.g., being overweight/or obese reduces productivity and negatively influences physical and mental well-being) (Dee et al., 2014). It is estimated that relative medical expenses of obese adults are 100 times higher than normal weight adults. Hence it is apparent that if the prevalence of obesity continues to rise, it will place a huge burden on health care sector as well as on economy.

Lifestyle interventions consisting of physical activity, dietary modifications and changes in thinking or perception are considered effective for the prevention and management of obesity (Galani & Schneider, 2007). Lifestyle interventions of different durations (8-24 weeks) have been reported to reduce 5-10 percent of initial body weight (Jensen et al., 2014). These changes in body weight through lifestyle interventions are considered of clinical importance as these changes in initially body weight are associated with a decrease in metabolic and cardiovascular risk factors which have been linked with obesity (Jensen et al., 2014).

However it has been reported that overweight and obese persons experience physical and psychological challenges, due to compromised physical and psychological health, which make it difficult for them to adhere to a lifestyle intervention that includes an increased level of physical activity and dietary modifications. Hence tailored behavioral interventions which are safe, yet effective, are recommended for overweight and obese persons.

Yoga is a comprehensive lifestyle intervention which includes an increased level of physical activity, dietary modifications, guided relaxation and changes in thinking and perception (Telles et al., 2014). The popularity of yoga, as a weight loss intervention, is increasing rapidly. The increase in popularity is primarily due to the fact that the practices of yoga can be modified according to the need of the persons with varied conditions associated with obesity; hence the practices are considered relatively safe for overweight and obese persons.

With this background the practice of yoga has been assessed for its effectiveness in the management of obesity with studies suggesting long term adherence (Yu et al., 2018). The aims of the present review were to (i) review the studies assessing the effects of yoga practices on obesity and (ii) grade them according to the level of evidence using standard grading method.

Methods

We searched PubMed and Google Scholar using the search words 'yoga, obesity'. Two authors performed the screening of the articles by title and abstract. After screening, potentially eligible articles were accessed. Twenty articles from PubMed and 3 from Google Scholar were found relevant to the present review. Original articles assessing the effects of yoga on overweight and obese adults were included in the review. Anecdotal or reported case histories and articles which were not written in English were excluded.

Methods of Grading

Grading of all the studies included in the review. Two individuals independently graded all the studies which are included in the review according to the levels of evidence recommended by the United States Department of Health and Human services (<https://www.ahrq.gov/>). The guideline states that randomized

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