

Chapter 11

Management of Obesity With Yoga: A Review

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ABSTRACT

A number of experimental studies have been carried out to assess the effectiveness of yoga to manage obesity. This review (1) examined studies assessing the effects of yoga practices on obesity and (2) graded them according to standard grading methods. Fifteen studies were reviewed of which 6 were randomized controlled trials (RCTs). The six RCTs had a moderately good rating (70.6 to 88.0 percent). Nonetheless this review showed that there are inadequate studies which have adequate sample sizes, rigorous study designs and conduct a long term follow up, to conclude that yoga can play a definite role in weight management. Nonetheless the evidence is encouraging though future studies should be designed more rigorously.

LIFESTYLE INTERVENTIONS AND THEIR EFFECTS

It is well known that comprehensive lifestyle interventions which consist of physical activity, dietary modifications and changes in thinking or perception are effective to prevent and manage obesity (Galani & Schneider, 2007). Comprehensive lifestyle modifications of different durations (8-24 weeks) have been reported to reduce the body weight by an average of 5-10 percent (Jensen, Ryan, & Apovian, 2014). These changes in body weight are clinically meaningful and are generally accompanied by favorable alterations in metabolic and cardiovascular risk factors associated with obesity (Jensen et al., 2014). For example, a decrease in body weight by 2.5-5.0 kg in overweight and obese adults considered at risk to develop type-2 diabetes mellitus (type2DM), minimizes the risk of type2DM by 30 to 60 percent. In addition to this, there is a dose-response relationship between the amount of weight loss achieved by lifestyle interventions and the improvement in lipid profile. Also, a decrease in body weight in obese

DOI: 10.4018/978-1-5225-2788-6.ch011

persons has been associated with a significant reduction in sleep apnea (Grunstein et al., 2007) and urinary incontinence (Subak, Wing, & West, 2009). The psychological benefits of weight loss using lifestyle interventions include reduction in anxiety, depression (Wadden, & Stunkard, 1993; Gladis et al., 1998) and an improvement in body image (Foster, Wadden, & Vogt, 1997).

Based on these benefits of weight loss achieved by adopting comprehensive lifestyle interventions, it has been recommended that weight loss interventions should have multiple components with a specific focus on physical activity and diet (Cavill & Eells, 2010). The recommended duration of physical activity is for 60–90 minutes/day while dietary interventions reduce total energy consumption along with an increased physical activity. Despite the fact that evidence based lifestyle interventions are widely beneficial, there are some population groups that may require specifically modified interventions (Cavill & Eells, 2010). For example, people of South Asian origin show high risk of co-morbidities associated with obesity at lower BMI and lower waist circumference levels than Caucasians.

YOGA AND WEIGHT MANAGEMENT

Yoga is an ancient Indian comprehensive lifestyle intervention which includes physical activity in the form of specific yoga postures (*asanas*) and voluntarily regulated breathing techniques (*pranayamas*), meditation, dietary changes and philosophical principles (Yadav, Magan, M. Mehta, N. Mehta, & Mahapatra, 2012). The popularity of yoga is rapidly increasing and the practice is considered relatively safe for persons with obesity. This is because several yoga practices including yoga postures (*asanas*), regulated breathing techniques (*pranayamas*) and meditation have been modified for use in therapy (Cramer et al., 2015; Jeter, Slutsky, Singh, & Khalsa, 2015). Hence yoga practices can be modified so as to be safely undertaken by persons who are obese and often unable to undertake most forms of exercise. A number of studies have been carried out to assess the efficacy of yoga for the management of obesity.

A REVIEW OF THE PUBLISHED LITERATURE COVERING YOGA AND WEIGHT MANAGEMENT

The aims of the present review were to (i) evaluate studies on the effects of yoga practices on obesity and (ii) grade the studies according to the level of evidence using standard grading. The review was carried out by searching the databases PubMed and Google Scholar using the search words 'yoga, obesity'. In PubMed this resulted in 71 citations while in Google Scholar there were 14 citations. To be included in the review studies had to be (i) original articles reporting experimental studies on obese adult populations, and (ii) the intervention had to include yoga. The criteria to exclude articles from the review were (i) articles which were anecdotal or reported case histories and (ii) articles which were not written in English. A total of 15 articles (12 from PubMed and 3 from Google Scholar) were included in the review. Out of these 15 articles, full papers of 13 articles were available.

All the articles included in the review were independently graded by two individuals according to the levels of evidence recommended by the United States Department of Health and Human services (Agency for Healthcare Research and Quality, 2013). According to this, randomized controlled trials which include quasi randomized-procedures such as alternate allocation are recommended for Level-1 evidence, while a non-randomized controlled trial with predetermined eligibility criteria are considered

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