



International Journal of Yoga and Allied Sciences

journal home page: www.indianyoga.org//

Frontiers

Yogic Intervention and its impact on general body weight of office going women: A control trial

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A B S T R A C T

The dramatic worldwide increase in obesity has been called a global epidemic by the World Health Organization. Obesity occurs in all population groups in children and adults (men and women); Indigenous and non-Indigenous people; and people from all socio-economic backgrounds - but Indigenous peoples and people from low socio-economic backgrounds are most susceptible. Studies done in India and abroad radiate that Obesity is the root cause of several common lifestyle disorders. Women in working field having multiple chalange with their physical and mental health. Working in the office keeps the body in rest because of more mental activities and very less physical work they became more prone to gain the weight.

The present study aims to observe the impact of Yogic intervention on the working women. To observe the effect of intervention a six week control group study was conducted on 100 participants (50 in experimental and 50 in control group). The study shows a significant difference in both the group after the intervention. Therefore it can be concluded that there is an impact of Yogic intervention on general body weight of women working in the offices.

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Article history:

Received 25 Nov 2020

Revised 16 Jan 2021

Accepted 10 Feb 2021.

Keywords:

Asana, Pranayama, Shatkarma, Meditation and Obesity.

Introduction:

In India men do not share on most of the household chores, it is women who have to cook, clean the house, do the dishes, wash clothes, get their children ready for school etc. Men just took care of few chores that are to be dealt outside the house. So the major burden of running the family is on the shoulders of women. It was alright for women to handle all the chores as long as they were homemakers. Now with their increasing need for getting some income for the family, they have to work all the more harder. They have to take up a 9 to 5 job plus handle all the household chores

that they handled as a homemaker. Men's role has not changed much. The increasing levels of overweight and obesity are of great concern because of their contributions to a variety of adverse health outcomes, including: cardiovascular disease, stroke, type 2 diabetes, some cancers, osteoarthritis and other musculoskeletal problems, kidney disorders, gall-bladder disease and respiratory problems as well, obesity can damage self-esteem and contribute to mental illness.

According to National Health and Medical Research Council (2000) the factors contributing to overweight and obesity among Indigenous peoples are varied and complex. The development of an obesogenic environment (factors that contribute to conditions that lead people to become overweight or obese) applies population-wide in Australia, but the situation is complicated for many Indigenous groups by various geographical, social, economic and infrastructure factors that affect food choices and availability.

As with many other aspects of Indigenous health, geographical, historical, social, economic and infrastructure factors are likely to be the major contributors to overweight and obesity among Indigenous peoples, but it has been suggested that physical activities as well as Yogic practices may play a preventive role in obesity. Initiatives to counter the growing prevalence of overweight and obesity have been introduced in most developed countries. Ross A, Friedmann E, Bevans M, Thomas S. (2013) Individuals who practice yoga are not free of health concerns, but most believe their health improved because of yoga. Yoga might be beneficial for a number of populations including elderly women and those with chronic health conditions.

Yoga appears to be an appropriate and potentially successful intervention for weight maintenance, prevention of obesity, and risk reduction for diseases in which obesity plays a significant causal role Rioux JG, Ritenbaugh C.(2013). Yoga is a systematic methodology for an all round personality development physical, mental, intellectual, emotional, spiritual components of human being.

A number of studies done in different part of the world indicates that Over weight is the thrust area of research and Yogic intervention may play a vital role in this concern. With this background the present study aims to observe the Effect of Yogic Interventions on some psychological and

some physiological parameters of Overweight people.

Review of the Literature:

Jayashree R, et al (2013) Antenatal integrated yoga from the twelfth week is safe and effective in promoting a healthy progression of platelets and uric acid in women with high-risk pregnancy, pointing to healthy hemodilution and better physiological adaptation. Dhananjai S, et al (2013) Incorporating yogic asana in the treatment protocol of patients suffering from anxiety and depression may prove beneficial in the long run.

Neumark-Sztainer D. (2012) Weight-related problems, including unhealthy weight control behaviors, binge eating, overweight and obesity, and eating disorders, are prevalent in youth. Furthermore, many young people exhibit more than one of these problems. Therefore, it is essential to consider how to simultaneously work toward the prevention of a broad range of weight-related problems in youth. Dieting, body dissatisfaction, weight talk, and weight-related teasing are commonly addressed risk factors within eating disorder prevention interventions, whereas low levels of physical activity and high intakes of foods high in fat and sugar are commonly addressed within interventions aimed at obesity prevention. Empirical data to be presented in this article demonstrate why risk factors such as dieting and body dissatisfaction, which are typically addressed within the eating disorder field, need to also be addressed within the obesity field. Although dieting and body dissatisfaction strongly predict weight gain over time, these findings are not always taken into account in the design of obesity interventions for youth. Possible reasons as to why risk factors such as dieting, body dissatisfaction, and weight stigmatization may be not adequately addressed within interventions addressing obesity are discussed. Suggestions for how physicians and other nonphysician clinicians might link

messages from the fields of both eating disorders and obesity into their work with youth are provided. Finally, the potential for work on mindfulness and yoga to decrease risk factors for both eating disorders and obesity are explored.

Balaji PA, Varne SR, Ali SS. (2012) Yoga is an ancient Indian way of life, which includes changes in mental attitude, diet, and the practice of specific techniques such as yoga asanas (postures), breathing practices (pranayamas), and meditation to attain the highest level of consciousness. Since a decade, there has been a surge in the research on yoga, but we do find very few reviews regarding yogic practices and transcendental meditation (TM) in health and disease. Keeping this in view, a Medline search was done to review relevant articles in English literature on evaluation of physiological effects of yogic practices and TM. Data were constructed; issues were reviewed and found that there were considerable health benefits, including improved cognition, respiration, reduced cardiovascular risk, body mass index, blood pressure, and diabetes. Yoga also influenced immunity and ameliorated joint disorders. Braun TD, Park CL, Conboy LA. (2012) states in their study that findings suggest a Kripalu yoga-based, residential weight loss program may foster psychological well-being, improved nutrition behaviors, and weight loss. Given the exploratory nature of this investigation, more rigorous work in this area is warranted.

Hawkins BL, Stegall JB, Weber MF, Ryan JB. (2012) indicated that percentage of exercise behavior and perceived exertion levels during yoga group exercise sharply increased with large effect sizes when compared to non-structured exercise sessions. Yadav RK, Magan D, Mehta N, Sharma R, Mahapatra SC. (2012) states that a brief yoga-based lifestyle intervention reduced the markers of stress and inflammation as early as 10 days in patients with chronic diseases; however, complete results of this study will confirm

whether this program has utility as complementary and alternative therapy. Seo DY, et al (2012) states that Our findings show that an 8-week of yoga training improves body composition and TC levels in obese adolescent boys, suggesting that yoga training may be effective in controlling some metabolic syndrome factors in obese adolescent boys.

Lee JA, Kim JW, Kim DY. (2012) concludes in their study that Our findings indicate that yoga exercise improves adiponectin level, serum lipids, and metabolic syndrome risk factors in obese postmenopausal women. Consequently, yoga exercise will be effective in preventing cardiovascular disease caused by obesity in obese postmenopausal Korean women. Moliver N, Mika E, Chartrand M, Burrus S, Hausmann R, Khalsa S. (2011) A long-term yoga practice was associated with little or no obesity in a non-probability sample of women over 45 years. Relationships showed a dose-response effect, with increased yoga experience predicting lower BMI and reduced medication use.

Mody BS. (2011) concludes after his study that Regular practice of Surya Namaskar may maintain or improve cardiorespiratory fitness, as well as promote weight management. Littman AJ, et al (2012) states that their study provides important information regarding recruitment, retention, and practice levels achieved during a 6-month, intensive yoga intervention in overweight and obese breast cancer survivors. Yoga may help decrease waist circumference and improve quality of life; future studies are needed to confirm these results.

In a study Telles S, Balkrishna A. (2010) observed that Yoga and diet change influence renal functions in the obese. In another study Telles S, Naveen VK, Balkrishna A, Kumar S. (2010) states that a 6-day yoga and diet change program

decreased the BMI and the fat-free mass. Total cholesterol also decreased due to reduced HDL levels. This suggests that a brief, intensive yoga program with a change in diet can pose certain risks. Benefits seen were better postural stability, grip strength (though a 'practice effect' was not ruled out), reduced waist and hip circumferences and a decrease in serum leptin levels.

Amita S, et al (2009) states that results of our study suggest that subjects on Yoga-nidra with drug regimen had better control in their fluctuating blood glucose and symptoms associated with diabetes, compared to those were on oral hypoglycaemics alone.

McIver S, McGartland M, O'Halloran P. (2009) concludes in their study that that the Yoga and lifestyle based program appeared to encourage a healthy reconnection to food, as well as the development of physical self-empowerment, through cultivating present-moment awareness. Specifically, women perceived an overall reduction in the quantity of food they consumed, decreased eating speed, and an improvement in food choices throughout the program. The women also reported feeling more connected to and positive about their physical well-being. These evolving outcomes were summarized through two major themes: the way their physicality changed, and the way their food consumption changed over time. Findings provide insights relevant to therapeutic processes that might occur within eating disorder interventions that draw on meditation-based approaches.

Ross A, Friedmann E, Bevans M, Thomas S. (2013) observed the Mental and physical health benefits of Yoga in obese person and find a significant result after his study. Rioux JG, Ritenbaugh C. (2013) in his review concluded that Yogic intervention play a significant role in weight reduction. Jayashree R, Malini A, Rakhshani A, Nagendra H, Gunasheela S, Nagarathna R. (2013) observed in his

study that effect of the integrated approach of yoga therapy on platelet count and uric acid level is highly positive in the case of pregnancy. Dhananjai S, Sadashiv, Tiwari S, Dutt K, Kumar R (2013) concluded in his study that Yoga can Reduce the psychological distress and obesity as well. Neumark-Sztainer D. (2012) states that there is a relation between Yoga and eating disorders as well as into obesity prevention. Balaji PA, Varne SR, Ali SS. (2012) also observed the Physiological effects of yogic practices and transcendental meditation in health and disease and found Yoga as a better tool for all health concern. Braun TD, Park CL, Conboy LA. (2012) states through their study “Psychological well-being, health behaviors, and weight loss among participants in a residential, Kripalu yoga-based weight loss program” that intervention plays a great role in all mentioned parameters. Hawkins BL, Stegall JB, Weber MF, Ryan JB. (2012) states that there is an influence of a yoga exercise program for young adults with intellectual disabilities.

Yadav RK, Magan D, Mehta N, Sharma R, Mahapatra SC. (2012) proves the efficacy of a short term yoga-based lifestyle intervention in reducing stress and inflammation. Seo DY, Lee S, Figueroa A, Kim HK, Baek YH, Kwak YS, Kim N, Choi TH, Rhee BD, Ko KS, Park BJ, Park SY, Han J. (2012) concludes their study as Yoga training improves metabolic parameters in obese boys. O'Neil ME, Fragala-Pinkham M, Ideishi RI, Ideishi SK. (2012) observed in their study “Community-based programs for children and youth: our experiences in design, implementation, and evaluation” that intervention can bring a change.. Speroni KG, Earley C, Seibert D, Kassem M, Shorter G, Ware CC, Kosak E, Atherton M. (2012) states after the study that the effect of exercise and nutrition intervention on body mass index in nurses is signifant.

Lee JA, Kim JW, Kim DY. (2012) there is

a significant effects of yoga exercise on serum adiponectin and metabolic syndrome factors in obese postmenopausal women. Moliver N, Mika E, Chartrand M, Burrus S, Hausmann R, Khalsa S. (2011) observed an Increased Hatha yoga experience predicts lower body mass index and reduced medication use in women over 45 years. Mody BS. (2011) there is an acute effect of Surya Namaskar on the cardiovascular & metabolic system. Amita S, Prabhakar S, Manoj I, Harminder S, Pavan T. (2009) there is a significant Effect of yoga-nidra on blood glucose level in diabetic patients. McIver S, McGartland M, O'Halloran P. (2009) Overeating is not about the food":

women describe their experience of a yoga treatment program for binge eating.

Methodology

A random sampling was done in the semi-urban area of Dehradun and Haridwar districts of Uttarakhand. 100 office working women having only health concern that they are having more body weight than usual. They further divided into two groups as experimental and control. The experimental group was introduced with the Yogic practices for six weeks whereas control group was in standby so that the data can be collected and will be introduced with Yoga after the observation of experimental group.

Table 1. – Yogic Intervention applied over the experimental group.

Sr.No	Practice	Physical Awareness	Rounds	Duration
1	Tadasana	Spine	5	120 sec.
2	Tiryak Tadasana	Wastes	5	120 sec
3	Kati chakrasana	Scapulas	5	120 sec
4	Surya Namaskar	All internal organs	2	180 sec
5	Shavasana	Whole muscles	-	300 sec
6	Kapalbhati	Abdomen	100-150	120 sec
7	Nadisodhan	Eyebrow centre	5	240 sec
8	Ujjai	Throat region	10	240 sec
9	Bhramari	Brain region	10	240 sec
10	Om chanting	Whole Head region	-	120 sec
			Total : 30 minutes	

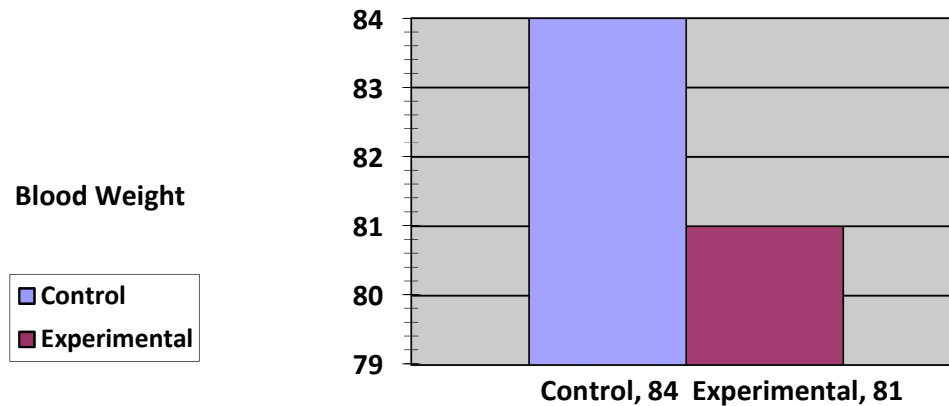
A 30 minutes Yogic intervention was applied on the experimental group as mentioned in the table for six weeks and the body weight was observed with a weighing machine. The post result was compared with mean, SD, SeD and ‘t’ Test.

The observation is mentioned in the Table 2 as below:

Table 2 - Results:

Group	Mean	SD	Sed	df	t-value	significance level
Control	84	2-82	0-44	99	6-81	0-01
Experimental	81	3-84				

Graph 1



Discussion

Yoga disciplines your mind and body, improves fitness and supports weight loss. Regular practice of yoga increases your energy level, improves your attitude and gives you a greater sense of control, all of which contribute to a healthy lifestyle. Combine yoga practice with a balanced diet and exercise program for more efficient weight loss.

Previous studies done by Kumar K (2015) and Kumar, K. & Patel, S. (2016) proves that there is a significant effect of Yogic intervention on weight reduction. Study done by Pokhariyal K P & Kumar K (2013) (a) and the another study by Patel, S. & Kumar, K. (2016) concludes that Yogic practices play a vital role on weight reduction. Pal A, et.al (2011) states in a study that effect of Yogic Practices has a positive impact on lipid profile and body fat composition in patients of coronary artery disease. In another study done by Pokhriyal K P & Kumar K (2013) (b) it has been seen that the effect of Shatkarma practices on serum glucose and serum cholesterol level of the Human subjects. Littman AJ, Bertram LC, Ceballos R, Ulrich CM, Ramaprasad J, McGregor B, McTiernan A. (2012) states in their study “Randomized controlled pilot trial of yoga in overweight and obese breast

cancer survivors: effects on quality of life and anthropometric measures” that intervention has a significance. Telles S, Balkrishna A. (2010) observed that Yoga and diet change influences the renal functions in the obese. Telles S, Naveen VK, Balkrishna A, Kumar S. (2010) there is Short term health impact of a yoga and diet change program on obesity.

How Yogic intervention significantly bring a change in the body weight, to understand this we have to understand the three fold mechanism of Yogic practices on our body and mind as well. Firstly stress finds its way into our daily lives through many sources – high aspirations, a fast paced life, chasing EMIs, long-distance relationships and more. These factors cause a huge strain on the body. To cope with these pressures some people turn to artificial solutions like alcohol, drugs, eating disorders and destructive relationships. Yet these measures fail to resolve the main cause of the stress. Studies done in a series proves that Practice of Yoga is an excellent stress reliever. It calms your mind and your nerves and can even bring your blood pressure under control, alleviating the symptoms of anxiety and panic attacks. Yoga poses help to stimulate glands in the brain, and will put the body into the Alpha state. The Alpha state will help increase the creative thought process, as well as

help the body heal itself. The Alpha state is often attained during shavasana (corpse pose), the final resting pose in yoga practice.

Yoga also helps clear the mind and spirit. Asanas, pranayam (breathing) and dhyana (meditation) will help release muscular tension which leads to better stress management and generates an overall feeling of well being. Yoga resting poses help to release abdominal tension, improving digestive functions. They also allow the body to enter into a relaxed,

calm state, which is free from the fight or flight stress. This helps the body to rejuvenate itself. Yoga helps create focus and allows our mind to zap away negative thoughts.

Conclusion

With the observation and on the basis of overall result and discussion it can be concluded at the end of this study that practice of Yoga play a vital role in reducing the body-weight of office going women.

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Cite this paper as: **Dr. Kamakhya Kumar, Yogic Intervention and its impact on general body weight of office going women: A control trial**, *International Journal of Yoga and Allied Science*, Volume: 10, Issue: 1 ; Jan-June 2021(5-12)