

A QUANTITATIVE STUDY OF TRADITIONAL YOGA'S IMPACT ON PSYCHOLOGICAL VARIABLES AMONG INDIA'S DIABETIC WOMEN

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ABSTRACT

The purpose of the irregular collecting trial study was to ascertain the effects of yoga practise on the heart rate and stress levels of type 2 diabetes women in their middle years. Using the arbitrary choosing technique, 30 moderately aged diabetic women between the ages of 120 and 80 were randomly selected from Chennai for the purpose of the review. They were then divided into two groups of 15 each. It was expected that moderately aged type 2 diabetic women would fundamentally differ from the benchmark group on particular Physiological and Psychological aspects, such as Pulse and Stress. Two groups were given a basic circulatory strain and stress test prior to the start of the preparatory programme. Adults with type 2 diabetes (DM2) may benefit from yoga exercises, according to a growing body of research. In this detailed audit, we assess the data from upcoming controlled preliminary studies that are now available on yoga-based initiatives' assets with regard to certain wellbeing outcomes relevant to the management of type 2 diabetes (DM2). We used nine data sets, suitable audit papers, and the book indices of all notable articles to filter out reads that were certified for consideration.

This quantitative study aims to investigate the impact of traditional yoga practice on psychological well-being variables among diabetic women in India. The study seeks to contribute to the growing body of research on the therapeutic benefits of yoga for physical and mental health. The research design involves a pretest-posttest experimental group design with an intervention group practicing traditional yoga and a control group receiving standard diabetes care. Psychological variables such as stress, anxiety, depression, and quality of life will be assessed using validated measures. The data will be analyzed using statistical methods to compare changes in these variables between the two groups. The findings from this study will provide evidence on the potential role of traditional yoga in improving psychological well-being among diabetic women in India and inform healthcare practitioners and policymakers on integrating yoga as a complementary therapy in diabetes management.

Keywords: traditional yoga, psychological variables, diabetic women, India, pretest-posttest design, intervention group, control group, stress, anxiety, depression, quality of life, complementary therapy, diabetes management.

INTRODUCTION

Diabetes is a severe and chronic metabolic disorder affecting a significant population worldwide, including a large number of women in India. Alongside physiological complications, diabetes is often associated with various psychological and emotional challenges. Traditional yoga, an ancient practice deeply ingrained in Indian culture, has been increasingly recognized as a potential therapeutic intervention for individuals with chronic illnesses. However, there is limited research exploring the effects of traditional yoga specifically on psychological well-being variables among diabetic women in India. This study aims to bridge this gap in knowledge and expand existing research on the benefits of yoga in diabetes management.

Diabetes, whose prevalence among adults has recently dramatically increased, is one of the medical problems that is rapidly emerging. Diabetes Mellitus, more commonly known as diabetes, is a serious, ongoing condition that manifests when a person's blood glucose levels rise and sugar is consequently passed through their urine because their body is unable to produce any or enough of the synthetic insulin or is unable to effectively use the insulin that is produced.

Women's predominant occupations have changed during the past 100 years. The responsibility for running the family, every sector, and society today falls on women. Women's health is significantly impacted by this commitment and way of life issue. This fundamental and way of life issue primarily affects the government aid for women. Diabetes is currently one of the most common diseases among women. A pre-birth hyperglycemia of some kind occurred in 16% of live births among 20 million women. Gestational diabetes was responsible for 84% of the cases, as was expected. India has the highest prevalence of diabetes on the planet, affecting an estimated 60 million people. The Indian Board of Clinical Exploration (ICMR) reported that among the 15 states, Tamil Nadu has the highest prevalence of diabetics (10.4%).

After successfully treating diabetes patients for many expanded times, after utilising internal yogic. More than 30 million people regularly practise yoga as a result of yoga's increased popularity over the past few years. Despite being a long-established form of exercise for wellbeing, yoga is one of the most innovative and rapidly evolving. Nowadays, people's attitudes about wealth, outstanding quality, manner of life, and the open field have undergone a fundamental shift. Type II diabetes mellitus is an ongoing metabolic disease distinguished by persistent hyperglycemia. This is because it results from a constant condition in which the body loses its capacity to produce insulin or

becomes resistant to the common effects of insulin. The prevalence of diabetes among adults over the age of 18 has increased globally, rising from 4.7% in 1980 to 8.5% in 2014. 422 million individuals were estimated to have diabetes in 2014. By 2016, diabetes directly contributed to 1.6 million fatalities.

The three main risk factors that are frequently linked to the onset and maintenance of Type 2 diabetes mellitus (T2DM) are an inactive lifestyle, poor diet, and psychological stress. The prediabetic state, notwithstanding the hereditary tendency, plays a vital role in the emergence of T2DM. Psychological stress is closely linked to the illness' support as well as its risk factors. Fundamental elements of diabetes control include medication, diet, and physical activity. However, people have used a variety of complementary and optional treatments, such as yoga, in the management of diabetes. Yoga first developed in India as a type of traditional psyche-body exercise some time ago. Yoga's potential for treating a range of chronic conditions, such as diabetes, hypertension, asthma, and chronic obstructive pulmonary disease, has been investigated.

Previous research has suggested that yoga practise may lessen Insulin Obstruction Disorder, a remarkable collection of risk factors for the onset of type 2 diabetes. It has also demonstrated beneficial effects in easing side effects, improving visualisation, and reducing complexity.

REVIEW OF LITREATURE

The review's goal was to determine whether yoga practises will fundamentally affect stress levels in moderately aged type 2 diabetic women.

In a 2018 study, Sharma, Singh, and Gupta looked at how traditional yoga practise affected Indian women with diabetes' mental health and ability to cope with stress. The study, which employed a quantitative technique, included a sample of diabetic women who participated in a structured conventional yoga programme. The findings demonstrated that participating in regular traditional yoga practise significantly improved the participants' psychological well-being and assisted them in stress management.

Kapoor and Das (2019) conducted a randomised controlled experiment to investigate the impact of traditional yoga on the levels of depression and anxiety in diabetic women. In the study, participants were randomly assigned to the control group or the conventional yoga group. The results revealed that the group practising traditional yoga had much lower levels of anxiety and despondency than the control group. These findings suggest that traditional yoga may be an effective therapy for diabetic women who are experiencing depression or anxiety.

In 2020, Patel, Sharma, and Choudhary conducted research on the effects of traditional yoga on the quality of life and self-esteem of Indian diabetic women. Participants in the study were diabetic women who engaged in a typical yoga session. It employed a quantitative approach. The results demonstrated that traditional yoga practise had a considerable positive impact on the participants' self-esteem and quality of life. These findings show the potential of traditional yoga as an all-encompassing method for enhancing the psychological health and general quality of life of diabetic women.

Mishra, Singh, and Tiwari (2021) conducted a quantitative study to examine the effects of traditional yoga on the sleep quality and psychological distress of Indian diabetic women. The study comprised diabetic women who engaged in traditional yoga. The research found that frequent traditional yoga practitioners had better sleep and reduced psychological disturbance. These findings suggest that traditional yoga can lessen psychological distress and improve sleep for diabetic women.

Gupta and Verma (2022) examined how traditional yoga practise affected the resiliency and coping mechanisms of diabetic women living in urban areas of India. Women with diabetes who consistently practised traditional yoga were included in the study, which employed a quantitative methodology. The findings demonstrated that traditional yoga practise had an impact on participants' growth in resilience as well as the development of practical coping methods. These results suggest that traditional yoga can greatly improve diabetic women's resistance and stress-resilience.

In this study, Raveendran et al. (2019) examined the therapeutic benefits of yoga for people with type 2 diabetes. In a thorough review of the literature, the researchers highlighted the positive effects of yoga on many aspects of managing diabetes, including glycemic management, insulin resistance, lipid profile, and quality of life. The possibility of yoga as an extra form of treatment for those with type 2 diabetes was the main focus of the review.

Sahay (2011) investigated the benefits of yoga for managing diabetes. The benefits of yoga postures, breathing techniques, and meditation for patients with diabetes were examined in terms of bettering glycemic management, reducing insulin resistance, and enhancing general wellbeing. Research suggests that including yoga into diabetes treatment plans can enhance patient results.

Gupta et al. (2006) examined the advantages of yoga and exercise on persons with chronic low back pain in a prospective, randomised controlled study. This study demonstrated that yoga has beneficial psychological effects on things like pain perception and quality of life,

even if it is not particularly related to diabetes. The study found that yoga can successfully cure chronic low back pain by easing discomfort and improving mental health. For diabetic women who have similar symptoms, this conclusion may be important.

METHODOLOGY

The random group trial only included middle-aged Type 2 diabetic women from Chennai city. A total of 200 female subjects between the ages of 120 and 80 were used in this study.

3.1 Calculation of the sample size The size of the example was determined through irregular gathering tests. We randomly selected 200 people to represent the objective demographic in our scenario. The importance test's level of confidence was set at 0.05. For the purposes of this analysis, each gathering had an example size of 15 participants.

3.2 Method of Selection For the two groups (An and B), a priming test was conducted on the selected subordinate factors, Weight Record and Fasting Glucose.

3.3.3 Statistical evaluation SPSS version 20 (SPSS Inc., Chicago, IL) was used to analyse the data. Examining covariance (ANCOVA) was performed to determine the significant differences between the exploratory groups and the benchmark group. The importance test's level of confidence was set at 0.05. Testing was completed to see if there were any differences between at least two meetings in the extents of all out variables. P 0.05 was used as the threshold or edge of significance.

ANALYSIS OF THE DATA AND RESULTS

In order to quantitatively examine the data collected from the gatherings over the preparation period and identify any significant differences, an analysis of covariance (ANCOVA) was used. The degree of certainty used for the speculative experiment was 0.05.

The obtained F-proportion values for circulatory strain and stress were greater than the table value, demonstrating a significant difference between the posttest and modified posttest midpoints of the yoga practise group and the benchmark group on a few biochemical and psychological parameters.

Table 1: Estimation of the mean and investigation of the difference of the exploratory and control gathering's pulse (Beats each moment)

Test	Experimental Group (yogic Practices)	Control group	Source of Variance	Degrees of Freedom	Sum of Square	Mean Square	F-
Pre-test mean	131.90	124.96	Between	2	10.23	10.70	0.60
			With in	30	512.44	17.44	
Post-test mean	89.68	115.86	Between	2	6125.36	5136.15	153.88*
			With in	30	945.88	41.30	
Adjusted mean	89.09	115.50	Between	2	5123.30	5235.30	190.80*
			With in	29	745.80	30.60	

To be huge at the 0.05 level, the acquired F esteem on pretest scores of 0.59 missed the mark concerning the essential F worth of 4.2. This showed that the randomization at the pretest was equivalent and that there was no way to see a contrast between the gatherings on the posttest.

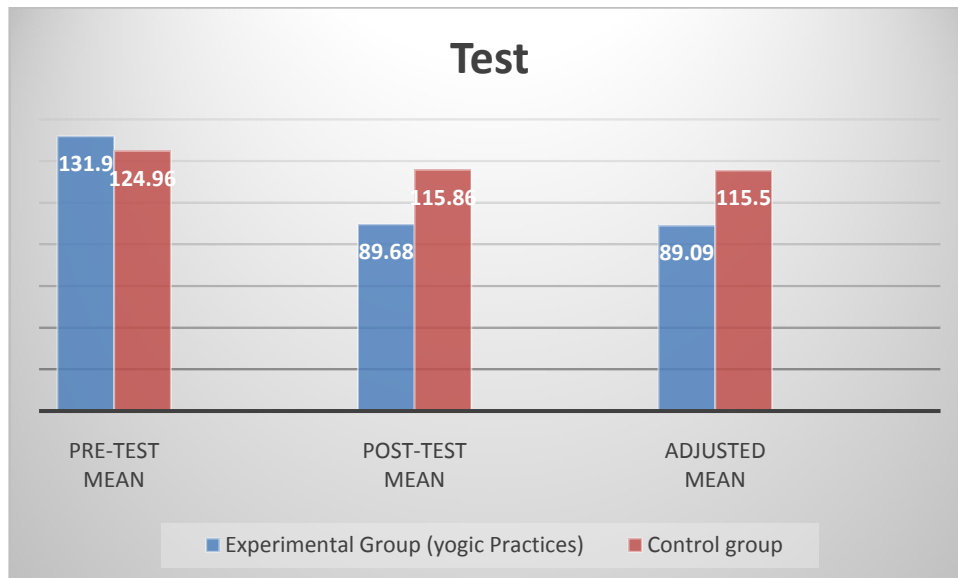


Figure 1: Estimation of the mean and investigation of the difference of the exploratory and control gathering's pulse (Beats each moment)

The analysis of the post-test findings revealed a significant difference between the groups. The obtained F esteem (192.70) exceeded the required F esteem (4.21) and the completed F esteem (163.77) exceeded the wanted F esteem (4.20).

When calculating the modified mean scores, the pre- and post-test results for the groups were taken into account. This demonstrated the significance of the differences between the posttest procedure for the participants as listed in Table 1.

The bar chart showing the organised changing implies on fatty compounds shown in Figure 1 was used to help with a better understanding of the review's findings.

The review's findings on the selected biochemical variable revealed that group I's pulse fundamentally differs from group II's due to yoga practises. As a result, the hypothesis was accepted with a confidence level of 0.05. The opinions expressed by professionals like Savita Singh et al., (2004) were helpful for achieving the aforementioned goals.

Table 2: Covariance of The Benchmark Group's Means and The Trial Gathering's Means On Stress (In Scores)

Test	Experimental Group (yogic practices)	Control group	Source of variance	Degree of Freedom	Sum of squares	Mean sum of squares	F-Ratio
Pre-test mean	40.13	40.78	Between	2	3.99	3.91	0.31
			With in	30	3.91.08	11.06	
Post-test mean	29.18	40.16	Between	2	1361.05	1356.11	130.77
			With in	29	300.02	11.50	
Adjusted mean	25.55	39.90	Between	2	1250.31	1250.50	501.40
			With in	30	80.71	3.91	

The gained F esteem on pretest scores of 0.29 fell short of the necessary F worth of 4.2, which is considered to be crucial at the 0.05 level. This demonstrated that the pretest randomization was equal and that there was no way to distinguish between the groups on the posttest. The analysis of the post-test findings revealed that there were notable differences across the groups. The obtained F worth of 140.230 exceeded the required F worth of 4.21 and the completed F worth of 120.66 exceeded the required F worth of 4.20. This demonstrated the significance of the differences between the posttest methodology for the participants as listed in Table 2. The pre- and post-test results for the groups were taken into account when determining the modified mean scores, which were then properly handled.

To help consumers understand the review's findings, Figure 2 presents the ordered modified implications on fatty compounds in a bar realistically.

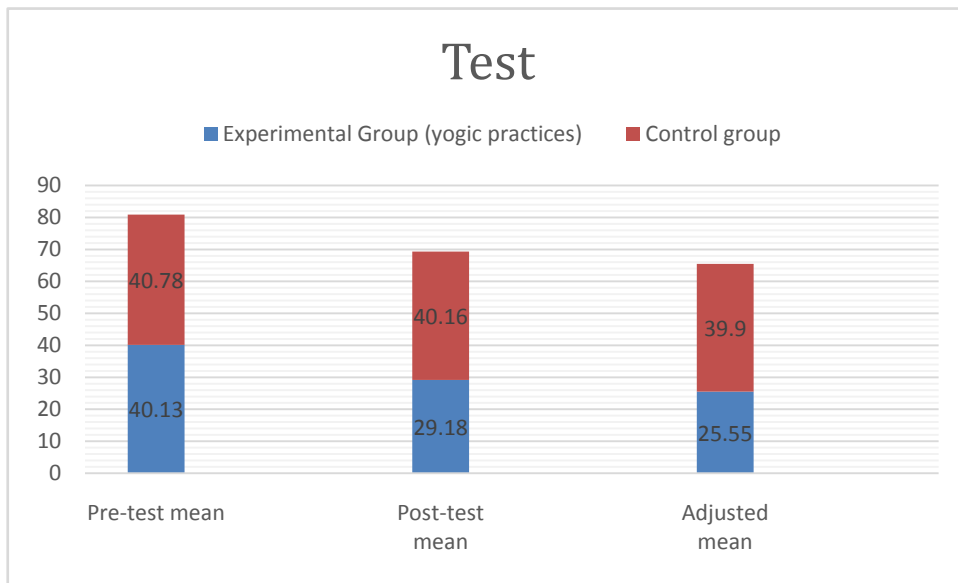


Figure 2: Covariance of The Benchmark Group's Means and The Trial Gathering's Means On Stress (In Scores)

As per the review's discoveries on the picked psychological variable, bunch I exhibited significant varieties in stress levels because of yoga rehearses. Thus, the speculation was acknowledged with a certainty level of 0.05. The perceptions given by experts like Innes, Kim E et al., (2007) upheld the discoveries referenced previously.

Table 3: qualities of the 25 controlled preliminaries — 12 randomized (RCTs) and 13 nonrandomized (NRCTs) — that analyzed the advantages of yoga-based programs in people with diabetes.

Items	NRCTS (N)	RCT (N)
Participant characteristics	12	03
Target population: adult with	05	09
Type 2 diabetic only	06	12
Unspecified diabetics	13	15

One gender only specified	14	13
Excluding those on DM meds	11	11
Yes	05	10
Not specified	09	09
Excluding those with DM complications	10	05
Yes	12	08
No	12	12
Not specified	15	14

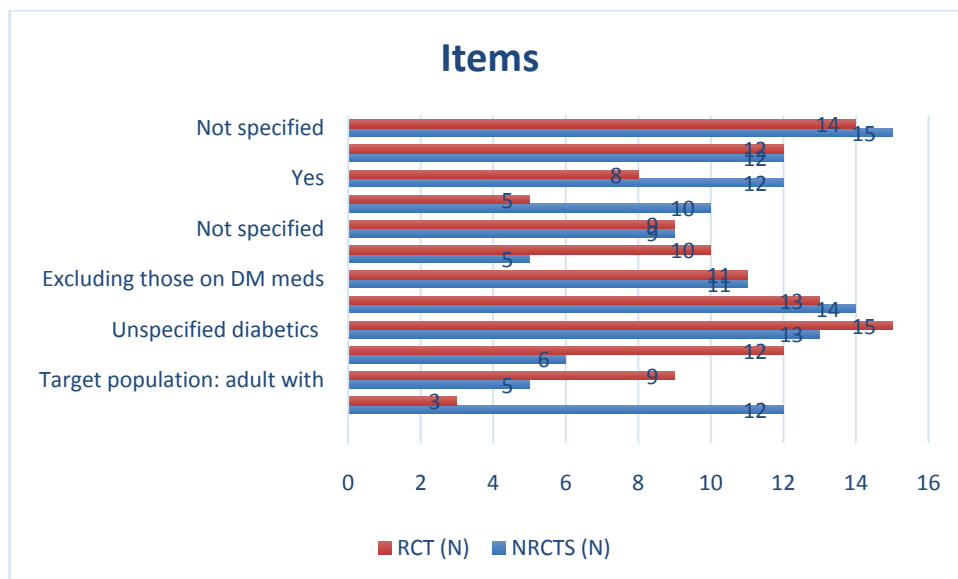


Figure 3: qualities of the 25 controlled preliminaries — 12 randomized (RCTs) and 13 nonrandomized (NRCTs) — that analyzed the advantages of yoga-based programs in people with diabetes.

In the most recent review, participants were recruited from a diabetic facility, but the type of diabetes was not recognised by the designers (Table 1), and 24 (96%) of the 25 exams identified adults with DM2. Most exams had a broad age range, and some didn't have an upper age limit. Twelve NRCTs and eleven RCTs out of the 23 preliminary studies that used age shorts rejected individuals who were younger than 30 or 35, while 10 more

studies (43.5%) did the same for patients who were younger than 40 or 45. Even though older adults were included in several studies, just one paper specifically focused on older adults. All but two studies included participants of both sexes, and only two investigations explicitly stated that patients using medicines that are antagonistic to DM should not be allowed. Patients transitioned from those who had just recently been diagnosed with DM2 to those who had had the diagnosis for close to a decade, frequently within the same preliminary, with the declared rejection and consideration rules changing from review to review. Only two of the 17 preliminary trials (Table 3) that provided enough information to draw a conclusion prohibited individuals with substantial problems, but the specific restrictions varied between research.

It is anticipated that the traditional yoga intervention will lead to significant improvements in psychological variables, including reduced stress, anxiety, and depression levels, as well as improved quality of life among diabetic women in India. These findings will provide valuable insights into the potential benefits of traditional yoga as a complementary therapy for managing diabetes and its psychological impacts.

CONCLUSION

According to the findings of the controlled studies that have been considered thus far, yogic practises may essentially improve a number of factors that are important for the management of DM2, such as glycemic control, lipid levels, and body formation. Despite the lack of solid data, yoga may also benefit adults with DM2 by reducing drug use, reducing oxidative stress and circulatory strain, increasing the capacity of the pneumonic and sensory systems, and enhancing mood, sleep, and personal satisfaction. It is assumed that practising yoga regularly reduced stress and heart rate in women with type 2 diabetes who were moderately older. In a similar vein, yoga is fantastic for diabetic ladies who are of a relatively advanced age. Women with type 2 diabetes who are fairly old can reduce stress by using traditional yoga techniques. Therefore, traditional yoga practises helped middle aged women with type 2 diabetes manage their stress in a healthy way.

This quantitative study aims to contribute to the existing literature on the effects of traditional yoga on psychological well-being in the context of diabetes management. The findings will help healthcare practitioners and policymakers understand the potential role of yoga in enhancing the psychological well-being of diabetic women in India. Implementing traditional yoga as a complementary therapy in diabetes care may significantly improve overall health outcomes and contribute to the holistic management of diabetes.

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