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Effect Of Yogic Practices On Body Weight Management-An Experimental Study

Dr. Omprakash A. Wagh

Department of Yogashastra, Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati
Sambhajanagar, Maharashtra, India

Dr. Vandita Upadhyay

Department of Yogashastra, Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati
Sambhajanagar, Maharashtra, India

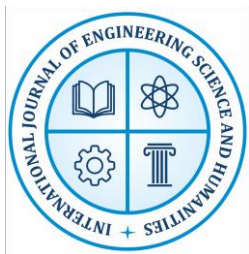
Abstract

Body weight management is an important component of health promotion, and yoga may be used as one element of a broader healthy-lifestyle programme. The present study examined changes in body weight among 30 adults aged 25–40 years (15 men and 15 women) who participated in a two-month yoga programme lasting 45 minutes per day. A single-group pre-test–post-test design was used; no control group was included. The supplied participant-level data showed a mean body weight of 79.23 kg before the programme (SD = 8.14) and 73.23 kg after the programme (SD = 8.13), representing a mean reduction of 6.00 kg. A paired-samples t-test indicated a statistically significant within-participant difference, $t(29) = 88.49$, $p < .001$, with a 95% confidence interval for the mean reduction of 5.86 to 6.14 kg. The mean reduction was 7.57% of the group's mean initial weight. These results describe the change observed in this sample; because the study did not include a control group and did not provide systematic dietary, activity, or adherence measures, the change cannot be attributed to yoga alone. The intervention sequence should be documented precisely from the original session records before publication. The findings provide preliminary local observations and support the need for larger controlled studies with transparent measurement and reporting.

Keywords: yoga, yogic practices, body weight management, pre-test–post-test design, paired-samples t-test, adults.

1. Introduction

Body weight is influenced by a combination of energy intake, energy expenditure, behavioural patterns, sleep, medications, health conditions, and social and environmental factors. Maintaining a healthy body weight is therefore not simply a matter of performing one exercise or following a single practice. It generally requires sustainable lifestyle behaviours and, where appropriate, professional health advice. The World Health Organization recommends regular



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physical activity for adults and emphasises its broad benefits for health, including benefits related to adiposity (WHO, 2020).

Yoga is a traditional Indian discipline that may combine physical postures (asanas), breathing practices (pranayama), relaxation, and meditation. Contemporary yoga programmes vary considerably in their content, intensity, duration, and instructor approach. Some programmes are gentle and emphasise flexibility or relaxation; others include dynamic sequences that require more muscular work and movement. This variation matters when interpreting research outcomes because a programme's physical demands may differ substantially from those of another programme.

Yoga may support weight management through several possible pathways. Dynamic movements may add to daily physical activity; practice may increase body awareness; relaxation may help some people manage stress; and participation may encourage attention to food choices, sleep, or other health behaviours. These pathways are plausible but should not be assumed to occur in every participant. Changes in body weight are affected by total dietary intake, other activity, adherence, baseline health, and the duration of follow-up.

Evidence concerning yoga and weight-related outcomes is mixed. Cramer and colleagues (2016), in a systematic review and meta-analysis of randomised controlled trials, found that results varied by population and outcome and noted methodological limitations in the evidence. The National Center for Complementary and Integrative Health (NCCIH, n.d.) summarises later evidence suggesting that yoga may help some people with overweight or obesity lose weight, while also noting that the type and structure of programmes differ. The evidence supports careful investigation rather than an assumption that a particular yoga routine will produce a fixed amount of weight loss.

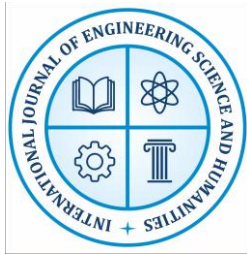
The present study documents changes in body weight among 30 adults aged 25–40 years in Chhatrapati Sambhajnagar, Maharashtra, following a two-month yoga programme. Participants reportedly practised for 45 minutes daily. The study uses a single-group pre-test–post-test design, comparing each participant's weight before and after the programme. The main purpose is to quantify the observed change and interpret it cautiously in light of the design and available data.

2. Statement of the Problem

The problem selected for the investigation is: “Effect of Yogic Practices on Body Weight Management: An Experimental Study.”

3. Need and Significance of the Study

Body weight management is relevant to preventive health, community wellness, and lifestyle education. Yoga is widely recognised as an adaptable practice that can include movement, breathing, and relaxation. Local studies can document how a programme is implemented and



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what changes are observed among participants. Such documentation may help formulate questions for future research, particularly when the intervention details, measurement procedures, and limitations are reported transparently.

The present study is significant because it focuses on adults aged 25–40 years, includes men and women, and records body weight before and after a two-month intervention. It also illustrates the importance of paired statistical analysis: each participant serves as their own reference point, reducing the influence of stable individual differences when estimating within-person change. However, without a comparison group, the design cannot determine how much of the observed change would have occurred without the yoga programme.

4. Objectives of the Study

- To examine the change in body weight among adults aged 25–40 years following a two-month yoga programme.
- To calculate the mean body weight before and after the programme.
- To test whether the mean within-participant change in body weight differs statistically from zero.
- To describe the magnitude and distribution of the recorded weight change.
- To identify methodological limitations and recommendations for future research.

5. Hypotheses

Null hypothesis (H_0): The mean difference between pre-intervention and post-intervention body weight is zero in the study population.

Alternative hypothesis (H_1): The mean difference between pre-intervention and post-intervention body weight is not zero in the study population.

The paired-samples t-test evaluates the mean of the individual differences. Statistical significance does not by itself establish causality, clinical importance, or the safety or sustainability of the observed change.

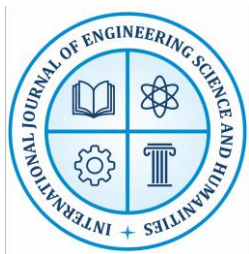
6. Review of Related Literature

6.1 Yoga as a Multicomponent Practice

Yoga programmes may include physical postures, controlled breathing, meditation, and relaxation. These components can have different immediate demands and outcomes. For research to be reproducible, investigators should record the exact practices, sequence, session duration, frequency, modifications, instructor qualifications, and attendance. A general label such as “yoga” is not sufficient to determine which elements were responsible for an observed result.

6.2 Yoga and Weight-Related Outcomes

Cramer et al. (2016) reviewed randomised controlled trials on yoga and weight-related outcomes. Their findings did not show uniform effects across all outcomes and populations; the authors



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highlighted limitations in the available evidence. This is an important caution against treating yoga as a guaranteed weight-loss intervention. More recent summaries from NCCIH indicate that some reviews have reported reductions in weight, body mass index, body fat, or waist size in populations with overweight or obesity, but studies differ in intervention content and quality (NCCIH, n.d.).

6.3 Physical Activity and Healthy Lifestyle

WHO (2020) recommends regular physical activity for adults and describes benefits across several health outcomes. Yoga can contribute to movement and may be suitable for some people, but its intensity varies. Weight management commonly requires a broader approach that considers dietary intake, physical activity across the day, sleep, and relevant clinical factors. A study of yoga should therefore avoid interpreting weight change without acknowledging these co-influences.

6.4 Research Gap and Rationale

The present investigation provides a local pre–post record from 30 adults participating in a two-month programme. Its value lies in describing the measured change and the programme context. Because the study is small and has no control group, it should be treated as preliminary rather than definitive evidence of causal effectiveness. Future research can build on this work by including a comparison group, a preregistered protocol, complete adherence records, and longer follow-up.

7. Operational Definitions

Yogic practices: A planned programme of yoga-related activities undertaken by participants during the intervention period. The exact sequence should be reported from the original programme record.

Body weight management: The process of monitoring and maintaining or moving towards an appropriate body weight through lifestyle and health-related behaviours. In this study, the primary measured outcome was body weight in kilograms.

Pre-test weight: The participant's body weight recorded before the two-month programme.

Post-test weight: The participant's body weight recorded after the two-month programme.

Weight reduction: Pre-test weight minus post-test weight. Positive values indicate a reduction in weight.

8. Research Methodology

8.1 Research Design

The study used a single-group pre-test–post-test design. The same 30 participants were measured before and after the yoga programme. No separate control group was included. Accordingly, the design can establish whether the recorded pre–post difference is statistically distinguishable from



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zero within this sample, but it cannot isolate the effect of yoga from other changes over the same period.

8.2 Population and Sample

The study sample comprised 30 adults aged 25–40 years from Chhatrapati Sambhajnagar, Maharashtra. The supplied dataset included 15 men and 15 women. The sampling method, recruitment setting, inclusion and exclusion criteria, and participant health characteristics were not provided in the study information and should be added from the original records if available.

8.3 Intervention Duration and Frequency

The programme lasted two months, with participants reportedly practising yoga for 45 minutes each day. The total planned exposure therefore depended on the actual number of days practised and attendance. For the final submission, the authors should specify the start and end dates, number of sessions offered, number attended by each participant, and whether home practice was included.

8.4 Yoga Programme Description

The researcher requested a programme relevant to body weight management. Commonly used components in such a programme may include Surya Namaskar, selected standing and floor postures, gentle pranayama, and relaxation. However, the exact sequence performed in this study was not supplied. To avoid misreporting, the final paper must list only the practices actually completed by participants and should provide the duration or repetitions for each practice. A possible structure for reporting the intervention is shown below; it is a reporting template, not proof that each listed practice was performed.

Component to report	Details to insert from session records
Warm-up / preparatory movements	Actual exercises and duration
Asanas / movement sequences	Exact asanas, sequence, repetitions or holds
Surya Namaskar, if used	Rounds, pace, rest intervals
Pranayama, if used	Technique, duration, supervision
Relaxation / meditation, if used	Technique and duration
Total session duration	45 minutes per day
Frequency and attendance	Daily plan; actual attendance records

8.5 Measurement of Body Weight

Body weight was recorded in kilograms before and after the intervention. For sound measurement practice, the same calibrated scale should be used at both time points, with measurements taken under comparable conditions, such as similar time of day and clothing. The information supplied did not specify the scale, calibration procedure, or measurement conditions; these should be documented if known.



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8.6 Statistical Techniques

Descriptive statistics included the mean and standard deviation of pre-test and post-test body weight. The individual weight reduction was calculated as pre-test weight minus post-test weight. A two-tailed paired-samples t-test was used to test whether the mean paired difference differed from zero. The significance level was set at $\alpha = .05$. The 95% confidence interval for the mean difference was calculated using the t distribution with $n - 1$ degrees of freedom.

The paired-samples t statistic is $t = \text{mean difference} / (\text{standard deviation of differences} / \sqrt{n})$. The test assumes independent participants and that the distribution of paired differences is approximately normal, particularly for a small sample. The data show a very narrow range of differences (5–7 kg); the original records should be checked for transcription or rounding patterns before journal submission.

8.7 Ethical Considerations

Research involving participants should include informed consent, protection of personal information, and appropriate screening for health conditions or injuries that may require modification of yoga practices. Institutional ethics approval should be reported if it was required or obtained. The study details supplied here do not specify consent procedures or ethics approval; the final manuscript should accurately state what was done and should not claim approval unless it was obtained.

9. Results and Statistical Analysis

The following analyses were calculated from the 30 participant-level pre-test and post-test values supplied for this manuscript.

Measure	Before yoga	After yoga
N	30	30
Mean body weight (kg)	79.23	73.23
Standard deviation (kg)	8.14	8.13
Minimum (kg)	65	59
Maximum (kg)	95	89

The mean pre-test body weight was 79.23 kg (SD = 8.14), while the mean post-test body weight was 73.23 kg (SD = 8.13). The average paired reduction was 6.00 kg (SD of paired differences = 0.37). This corresponds to approximately 7.57% of the group mean pre-test weight.

9.1 Paired-Samples t-Test

Statistic	Value
Sample size (n)	30
Mean paired reduction (kg)	6.00
SD of paired differences (kg)	0.371



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Standard error (kg)	0.068
t statistic	88.49
Degrees of freedom	29
Two-tailed p-value	$p < .001$
95% CI for mean reduction (kg)	5.86 to 6.14

The paired-samples t-test was statistically significant, $t(29) = 88.49$, $p < .001$. The 95% confidence interval for the mean reduction was 5.86 to 6.14 kg. Therefore, the null hypothesis of zero mean pre-post difference was rejected for this dataset. This statistical result does not demonstrate that yoga alone caused the reduction, because no control group was included and other relevant factors were not measured.

9.2 Distribution of Weight Reduction

Weight reduction	Number of participants	Percentage
5 kg	2	6.7%
6 kg	26	86.7%
7 kg	2	6.7%
Total	30	100.0%

In the supplied dataset, 26 participants had a recorded reduction of 6 kg, two had a reduction of 5 kg, and two had a reduction of 7 kg. Because the differences are unusually concentrated at exactly 5, 6, or 7 kg, these values should be cross-checked against the original measurement sheets and any rounding procedures before publication.

9.3 Gender-Descriptive Results

Group	n	Before mean (SD) kg	After mean (SD) kg	Mean reduction (kg)
Men	15	85.47 (5.64)	79.53 (5.50)	5.93
Women	15	73.00 (4.71)	66.93 (4.64)	6.07

The descriptive subgroup results show mean reductions of approximately 5.93 kg among men and 6.07 kg among women in the supplied data. These figures are descriptive only; the sample is small, and the study was not designed or powered to establish a difference in intervention response between genders.

10. Graphical Presentation

Figure 1 compares the group mean body weight before and after the programme. Mean body weight before and after the yoga programme.



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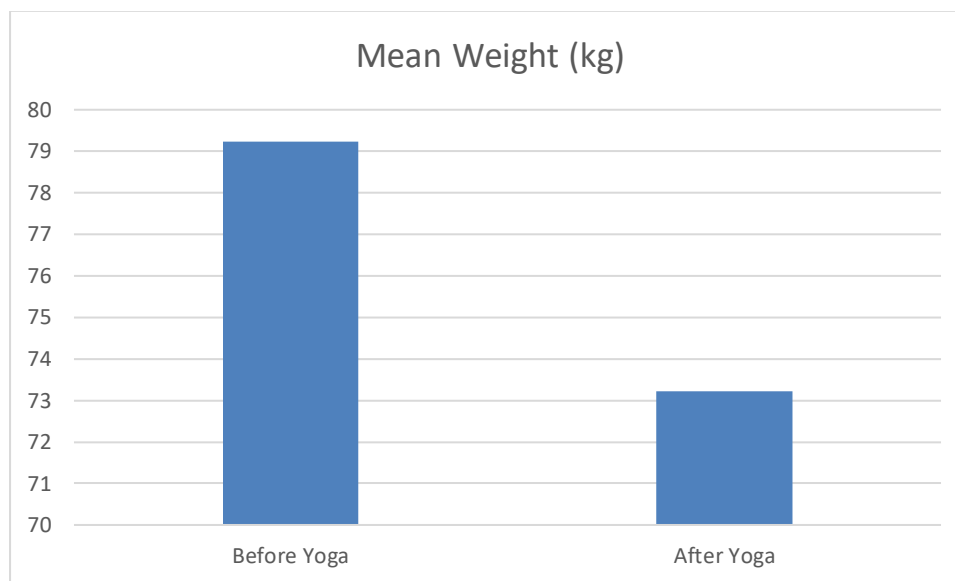


Figure 1. Mean body weight before and after the yoga programme.

Figure 2 displays the paired measurements for all 30 participants. Each participant's before and after values are connected by their participant number.

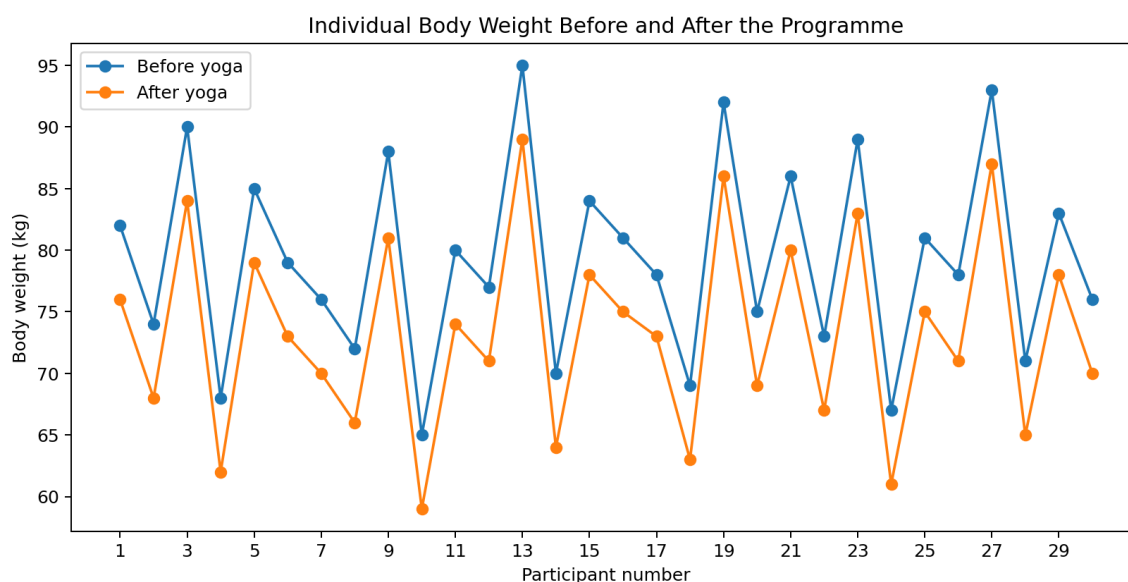
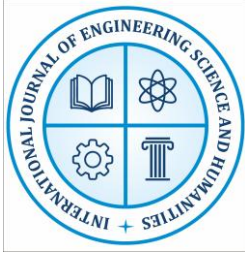


Figure 2. Individual body weight before and after the programme.

Figure 3 shows how frequently each recorded amount of weight reduction occurred.



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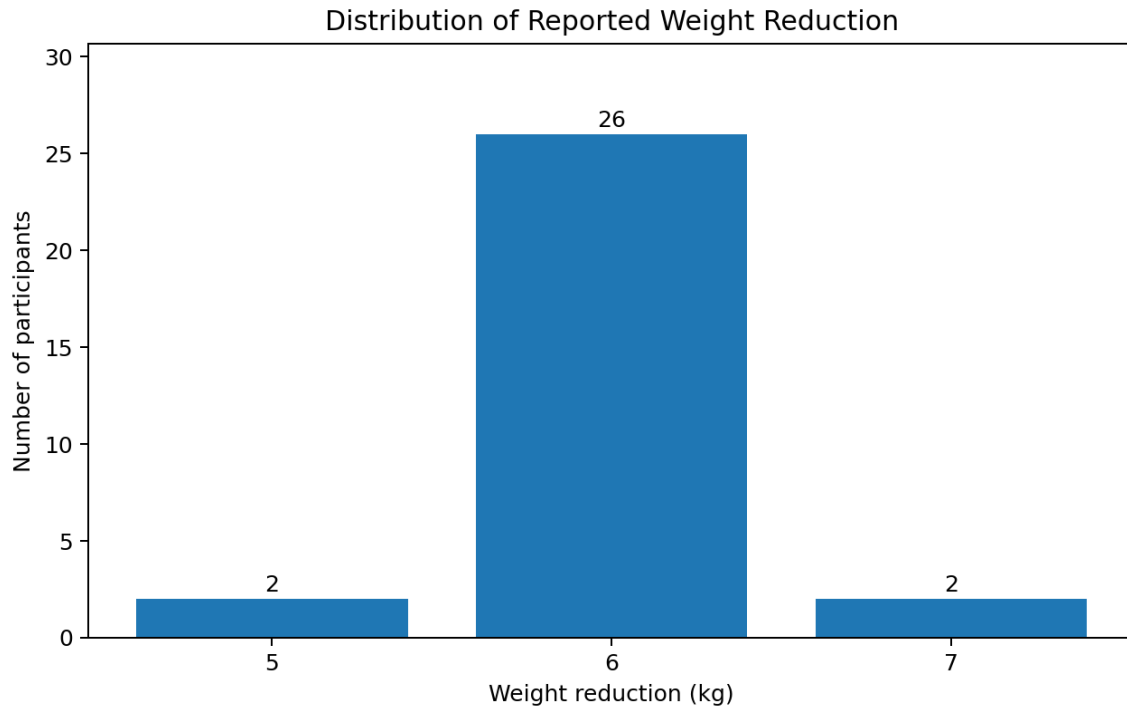


Figure 3. Frequency distribution of recorded weight reduction.

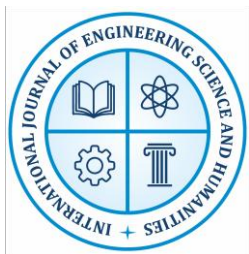
10.1 Interpretation of the Mean Difference

The mean paired difference is the average of the differences calculated separately for each participant. In this dataset, the differences are positive because the post-test value is lower than the pre-test value for every participant. The mean reduction of 6.00 kg therefore represents the average recorded decrease across the 30 paired observations. This is more informative than comparing two unrelated group averages because the analysis preserves the pairing between each person's initial and final measurements.

The 95% confidence interval of 5.86 to 6.14 kg describes the range of values compatible with the observed sample mean under the assumptions of the paired t-test. It is a confidence interval for the mean paired change, not a prediction interval for the change that any individual participant will experience. It should not be interpreted as evidence that every participant would lose between 5.86 and 6.14 kg in another programme.

10.2 Assumptions and Data Quality

A paired-samples t-test requires the observations to be paired correctly and the differences between paired measurements to be independent across participants. The method also assumes that the distribution of differences is sufficiently close to normal for the inferential result to be reliable. With 30 participants, it is good practice to inspect a histogram or Q-Q plot of the



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differences and to check the original records for data-entry errors, repeated values, and inconsistent rounding. Because the supplied differences are limited to 5, 6, and 7 kg, their distribution is unusually concentrated. The t-test can be calculated mathematically, but the source records should be reviewed and the restricted distribution explicitly acknowledged.

Measurement reliability is especially important in body-weight research. Scale calibration, clothing, time of day, recent food and fluid intake, and bathroom use can influence recorded values. The pre-test and post-test procedures should therefore be as similar as possible. If the source study used rounded values, the manuscript should state the rounding precision and should retain the underlying measurements where available. Data cleaning should never change a value merely to make the distribution appear more realistic; corrections should be made only when supported by the original record.

10.3 Practical Meaning of the Observed Change

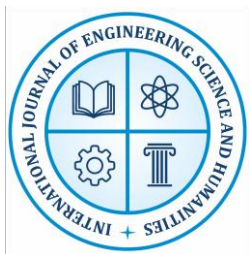
The group mean decreased by 6.00 kg, equivalent to approximately 7.57% of the mean initial body weight. This percentage is a descriptive calculation based on the group means; it is not the same as the average of each participant's individual percentage change. A participant-level percentage change would be calculated as (pre-test weight – post-test weight) divided by pre-test weight, multiplied by 100, and then summarised across participants. If percentage change is included in a future version of the paper, the calculation method should be specified.

Body weight is only one indicator of health. Without height, body mass index, waist circumference, body composition, medical history, or other clinical measures, it is not possible to determine whether the observed change represented an improvement in health status for every participant. A lower number on the scale is not automatically beneficial in all circumstances. Future studies should define an appropriate target population, consider baseline weight status, and report other outcomes that are relevant to the research question.

10.4 Reporting the Yoga Intervention

Intervention reporting allows readers to understand what participants actually did and allows other researchers to reproduce the programme. At a minimum, the report should identify each posture or sequence, breathing technique, relaxation component, order of practice, duration, number of repetitions or rounds, rest periods, instructor supervision, and adaptations. It should also state whether participants were asked to change their diet or undertake other physical activity. These details are particularly important because yoga programmes differ substantially in physical intensity and in the balance between movement, breathing, and relaxation.

The study information supplied for this manuscript confirms a duration of two months and a reported daily session length of 45 minutes. It does not specify the exact asanas and pranayama techniques that were performed. The final manuscript should therefore be completed using the



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original lesson plan or instructor's register. Practices such as Surya Namaskar, Tadasana, Trikonasana, Bhujangasana, Pavanamuktasana, Setu Bandhasana, Anulom Vilom, or relaxation should be named only if they were actually part of the programme. The intervention should not be retrospectively expanded to include practices that participants did not perform.

10.5 Participant Safety and Lifestyle Context

A yoga programme should be adapted to participants' physical capacity, health status, and experience. Participants with injuries, significant cardiovascular conditions, uncontrolled blood pressure, balance difficulties, or other relevant medical concerns may require clinical advice and modifications. Forceful breathing practices and advanced postures should not be prescribed indiscriminately. The instructor should explain that yoga is one element of health promotion and should not replace indicated medical care or individualised nutrition advice.

Lifestyle context should be considered when interpreting weight change. Dietary changes can alter energy intake; walking and other exercise can alter energy expenditure; and sleep, stress, illness, medication, and hydration can also influence weight. If these factors were not measured in the present study, they should be identified as unmeasured potential influences rather than assumed to have remained constant. This transparent approach strengthens the manuscript by distinguishing recorded findings from explanations that have not been tested.

10.6 Suggested Presentation of the Main Statistical Result

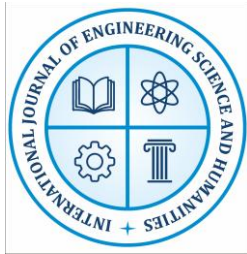
A concise statistical statement suitable for the Results section is: "Among 30 participants, mean body weight decreased from 79.23 kg (SD = 8.14) at pre-test to 73.23 kg (SD = 8.13) at post-test. The mean paired reduction was 6.00 kg (SD = 0.37). A two-tailed paired-samples t-test indicated a statistically significant pre–post difference, $t(29) = 88.49$, $p < .001$, 95% CI [5.86, 6.14] kg." This wording reports the statistical result without claiming that the programme alone caused the change.

10.7 Generalisability

The findings relate to this particular group of 30 adults and should not automatically be generalised to all adults, all people with overweight or obesity, or all yoga programmes. The sampling method is not specified, and participants may differ from people who did not volunteer or were not recruited. The age range is restricted to 25–40 years, and the study took place in one location. Larger studies with transparent recruitment, more varied participants, and comparison groups would provide a stronger basis for drawing wider conclusions.

10.8 Implications for Future Study Design

A subsequent study could recruit a larger sample and allocate participants to a yoga programme and a comparison condition using a clearly described procedure. Both groups should be measured at the same time points. Investigators should document the intervention manual,



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attendance, any additional home practice, and co-interventions. The analysis plan should be specified before the data are examined, including the primary outcome, handling of missing measurements, significance threshold, and whether subgroup analyses are planned. Reporting should include effect estimates and confidence intervals, not only p-values.

If the objective is to understand whether the programme is associated with broader health improvements, researchers may consider additional outcomes such as waist circumference, body mass index, physical activity, quality of life, or a validated measure of perceived stress. Each additional measure should have a clear rationale and a consistent collection protocol. A follow-up assessment after the programme ends can help establish whether changes persist. Researchers should also report any injuries, discomfort, withdrawals, or other adverse events so that both feasibility and safety can be evaluated.

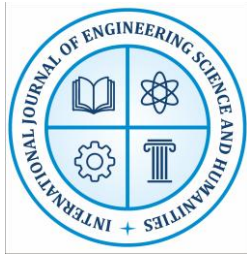
11. Discussion

The main finding in the supplied dataset is a mean reduction of 6.00 kg between pre-test and post-test measurements after a two-month period during which participants reportedly practised yoga for 45 minutes daily. The paired-samples t-test indicated that the observed within-participant change was statistically significant. The large t statistic reflects the combination of a 6 kg mean difference and very small variability in the recorded differences.

The statistical significance should be distinguished from causal evidence. In a single-group pre-test–post-test study, weight may change due to several factors besides the intervention, including dietary changes, walking or other exercise, changes in work routines, medication, illness, hydration, or measurement conditions. Since the study had no control group and the available records do not include systematic information on diet, additional physical activity, adherence, or relevant health factors, the effect attributable specifically to yoga cannot be estimated.

The narrow distribution of individual reductions also deserves attention. Twenty-six participants are recorded as losing exactly 6 kg, while four participants are recorded as losing either 5 or 7 kg. This may accurately reflect the underlying measurements, but it is sufficiently uniform that the original records and rounding conventions should be reviewed. Reporting exact values from source sheets and describing how measurements were taken would strengthen confidence in the analysis.

The findings can be considered alongside the wider literature, which suggests that yoga may support some weight-related outcomes but that results vary by programme, population, and research quality. Cramer et al. (2016) reported limitations and inconsistent findings across outcomes in randomised trials. NCCIH (n.d.) also notes potential benefits while emphasising variation between programmes and the need to interpret evidence carefully. The current study adds a local observation but cannot resolve questions about causality or generalisability.



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For future studies, investigators should document the exact intervention and attendance, measure weight using a consistent protocol, record height and waist circumference if these are outcomes of interest, and collect relevant information on diet and non-yoga physical activity. A comparison group, preferably allocated through a transparent method, would help determine whether changes exceed those observed over the same period in participants not receiving the yoga programme. Follow-up after the intervention would help establish whether any change is maintained.

12. Major Findings

1. The sample consisted of 30 adults aged 25–40 years, including 15 men and 15 women.
2. The reported yoga programme lasted two months, with 45 minutes of practice per day.
3. The mean pre-test body weight was 79.23 kg (SD = 8.14).
4. The mean post-test body weight was 73.23 kg (SD = 8.13).
5. The mean paired reduction was 6.00 kg (SD of differences = 0.37).
6. The paired-samples t-test was statistically significant, $t(29) = 88.49$, $p < .001$; the 95% confidence interval for the mean reduction was 5.86–6.14 kg.
7. The recorded reduction was 5 kg for two participants, 6 kg for 26 participants, and 7 kg for two participants.
8. Because there was no control group, the observed change cannot be attributed exclusively to yoga.

13. Conclusion

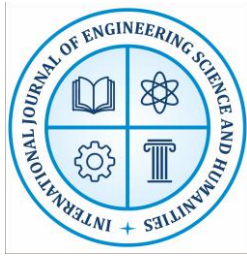
This study examined body weight changes in 30 adults aged 25–40 years following a two-month yoga programme reported to involve 45 minutes of practice daily. In the supplied data, mean body weight decreased from 79.23 kg to 73.23 kg, a mean paired reduction of 6.00 kg. A paired-samples t-test showed a statistically significant pre–post difference.

The results should be interpreted as an observed change during the programme rather than proof that yoga alone caused weight loss. The lack of a control group, absence of systematic diet and activity measures, and limited intervention details restrict causal interpretation. The exact yoga sequence and the source measurement records should be checked and documented before the manuscript is submitted for publication.

Yoga may be considered as one component of a broader healthy lifestyle that includes appropriate physical activity, balanced nutrition, sleep, and individualised health advice. Further studies with larger samples, comparison groups, standardised measurements, and longer follow-up are recommended.

14. Limitations of the Study

- The sample size was limited to 30 participants from one location.



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- No separate control group was included.
- The sampling method and participant health characteristics were not supplied.
- Information on dietary intake, other physical activity, medication, sleep, and adherence was not available in the data supplied for this manuscript.
- The exact sequence, intensity, and allocation of time to individual yogic practices must be confirmed from the original intervention records.
- Only body weight was provided; height, BMI, waist circumference, body composition, and long-term maintenance were not available.
- The recorded weight reductions are highly concentrated at 5–7 kg and require verification against the original source records.

15. Recommendations

1. Future studies should include a control or comparison group.
2. Researchers should describe each yogic practice, session sequence, duration, intensity, and modification in detail.
3. Body weight should be measured with a calibrated scale under comparable conditions before and after intervention.
4. Researchers should record attendance and practice adherence rather than relying only on the planned schedule.
5. Relevant factors such as dietary intake, non-yoga activity, sleep, and medication should be documented where ethically and practically appropriate.
6. Additional outcomes, such as BMI and waist circumference, may be included if they are measured using appropriate procedures.
7. Follow-up measurements should be collected to assess whether any observed changes are maintained.
8. All tables and statistical results should be checked against original source data before submission.

16. References

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Appendix A. Participant-Level Data Used in the Analysis

Sr. No.	Gender	Before yoga (kg)	After yoga (kg)	Reduction (kg)
1	Male	82	76	6
2	Female	74	68	6
3	Male	90	84	6
4	Female	68	62	6
5	Male	85	79	6
6	Female	79	73	6
7	Male	76	70	6
8	Female	72	66	6
9	Male	88	81	7
10	Female	65	59	6
11	Male	80	74	6
12	Female	77	71	6
13	Male	95	89	6
14	Female	70	64	6
15	Male	84	78	6
16	Female	81	75	6
17	Male	78	73	5
18	Female	69	63	6
19	Male	92	86	6
20	Female	75	69	6
21	Male	86	80	6
22	Female	73	67	6
23	Male	89	83	6
24	Female	67	61	6
25	Male	81	75	6
26	Female	78	71	7
27	Male	93	87	6
28	Female	71	65	6
29	Male	83	78	5
30	Female	76	70	6