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To Compare the Effects of Green Tea and Blue Tea On Blood Pressure Levels in Sedentary Workers in Selected Area of Indore City.

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ABSTRACT

Hypertension is a serious condition that affects both industrialized and developing nations' public health. It is an important medical condition that can raise the chance of developing heart, brain, kidney, and other problems. this study demonstrates that both green tea and blue tea significantly reduce systolic and diastolic blood pressure levels in sedentary workers after 30 days of daily consumption. Paired t-test results showed a statistically significant reduction in both systolic and diastolic blood pressure within each group ($p < 0.001$), confirming the effectiveness of both teas as non-pharmacological interventions for managing elevated blood pressure. an independent t-test revealed that the reduction in systolic blood pressure was significantly greater in the blue tea group as compared to the green tea group, with a p-value of 0.045, indicating a slightly stronger hypotensive effect of blue tea on systolic pressure. the difference in diastolic blood pressure reduction between the two groups was not statistically significant ($p > 0.05$), suggesting similar effects from both teas on diastolic pressure. both green tea and blue tea are effective in lowering blood pressure among sedentary individuals, with blue tea showing a slightly greater impact on systolic pressure.

KEY WORDS: - Green tea, blue tea, blood pressure, effects, , hypertensive patients, SBP (Systolic Blood Pressure), DBP (Diastolic Blood Pressure).

1. BACKGROUND OF THE STUDY

Hypertension, or high blood pressure, is a major global health issue, contributing to the increasing prevalence of cardiovascular diseases, strokes, and kidney problems. Hypertension is a serious condition that affects both industrialized and developing nations' public health. It is an important medical condition that can raise the chance of developing heart, brain, kidney, and other problems. a rising public health problem is hypertension, particularly among sedentary workers who are more vulnerable as a result of their inactivity. It has long been thought that herbal teas, like blue and green tea, can affect blood pressure levels. There is little comparison data regarding their effectiveness.

2. NEED OF THE STUDY

The study on green and blue tea effects on blood pressure in sedentary workers is needed because of the high prevalence of hypertension and the sedentary lifestyle of many workers, which can increase their risk of cardiovascular disease. known as the "silent killer," hypertension is one of the most common non-communicable disorders in the world. Recent estimates indicate that a sizable percentage of adults in metropolitan India suffer from high blood pressure, with lifestyle choices including stress, poor eating habits, and sedentary behaviour accelerating the condition's onset. Due to extended periods of sitting and little physical movement, sedentary workers especially those in desk-based jobs are more vulnerable.

PROBLEM STATEMENT

To compare the effects of green tea and blue tea on blood pressure levels in sedentary workers in selected area of Indore city.

OBJECTIVE

- To evaluate the effect of green tea and blue tea on blood pressure.
- To compare the level of blood pressure among green tea and blue tea consuming hypertensive patient
- To find out the association between effects of green tea- and blue tea-consuming hypertensive patients with selected demographic variables.

HYPOTHESIS

RH_0 - There is no significant difference in blood pressure levels between sedentary workers who consume green tea and those who consume blue tea.

RH_1- There is a significant difference in blood pressure levels between sedentary workers who consume green tea and those who consume blue tea.

3. METHODOLOGY

- A quasi-experimental study was conducted on 60 sedentary workers divided equally into two groups: one group consumed green tea and the other consumed blue tea daily for 30 days. Blood pressure levels were measured before and after the intervention. Data were analysed using paired and independent t-tests.

4. RESULTS

Both green tea and blue tea significantly reduced systolic and diastolic blood pressure levels after 30 days ($p < 0.001$). The post-test systolic blood pressure was significantly lower in the blue tea group (mean = 126.1 mmHg) compared to the green tea group (mean = 129.3 mmHg; $p = 0.045$). The difference in diastolic pressure reduction between the two groups was not statistically significant. **Blue Tea** shows about

50.65% effectiveness Green Tea shows about **49.35% effectiveness.** blue tea is slightly more effective in reducing systolic blood pressure because it has a lower mean systolic blood pressure post-intervention.

- **Blood Pressure Levels: Pre- and Post-Test Comparison Within Groups**

Group	Mean SBP (mmHg)	SD	Mean DBP (mmHg)	SD
Green Tea	Pre: 138.6	7.1	Pre: 88.4	5.2
	Post: 129.3	6.8	Post: 81.2	4.6
Blue Tea	Pre: 137.9	6.7	Pre: 89.1	5.0
	Post: 126.1	6.2	Post: 79.5	4.3

- **Comparison Between Green Tea and Blue Tea (Post-Test Values)**

Variable	Green Tea (Mean ± SD)	Blue Tea (Mean ± SD)	t-value	p-value
Post SBP (mmHg)	129.3 ± 6.8	126.1 ± 6.2	2.04	**0.045**
Post DBP (mmHg)	81.2 ± 4.6	79.5 ± 4.3	1.45	**0.152**

Blue tea resulted in a statistically significantly greater reduction in **systolic** blood pressure compared to green tea ($p = 0.045$), but the difference in **diastolic** pressure was not statistically significant.

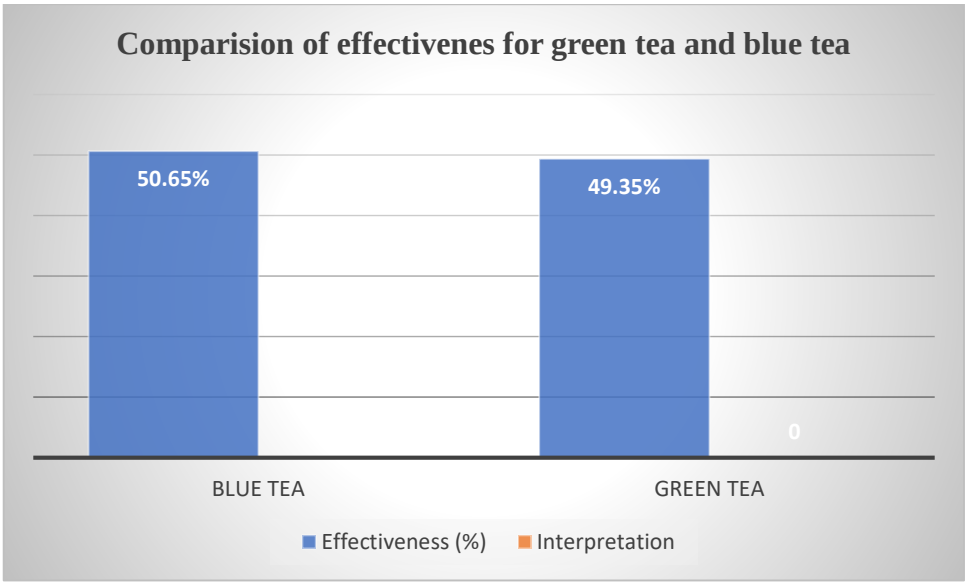

Table with your interpretation of the effectiveness of Blue Tea and Green Tea based on the percentage calculation.

5. INTERPRETATION AND CONCLUSION-

The findings of this study demonstrate that both green tea and blue tea significantly reduce systolic and diastolic blood pressure levels in sedentary workers after 30 days of daily consumption. The paired t-test results showed a statistically significant reduction in both systolic and diastolic blood pressure within each group (**$p < 0.001$**), confirming the effectiveness of both teas as non-pharmacological interventions for managing elevated blood pressure.

When comparing the two groups post-intervention, the independent t-test revealed that the reduction in **systolic blood pressure** was significantly greater in the **blue tea group** (mean SBP: 126.1 mmHg) compared to the **green tea group** (mean SBP: 129.3 mmHg), with a **p-value of 0.045**. This indicates that blue tea may have a slightly stronger hypotensive effect on systolic pressure than green tea. the difference in **diastolic blood pressure** between the two groups was not statistically significant (**$p > 0.05$**), suggesting that both teas have a similar effect on diastolic pressure. both **green tea and blue tea are effective** in lowering blood pressure among sedentary workers. **blue tea showed a slightly greater reduction** in systolic blood pressure, which was statistically significant. There is **no significant difference** in diastolic blood pressure reduction between the two groups. Both green tea and blue tea significantly reduced systolic and diastolic blood pressure levels after 30 days.

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