Eating Garlic Lowers Your Blood Pressure

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Healthcare Belief

Eating garlic is believed to be one method a person could use to lower his or her blood pressure.
# Initial Group Vote

<table>
<thead>
<tr>
<th>Fact</th>
<th>Fiction</th>
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Origin of Belief

- Garlic has been broadly used for its many medicinal properties for thousands of years.
- Has been used for treatment in many historical epidemics such as typhus and cholera.
- Sumerians from (2600-2100 BC) used garlic as medicine in ancient Chinese history.
- The Egyptians fed their slaves garlic to make them strong and capable of doing more work.
Origin of Belief

- Ancient Israelis were first documented to use garlic to treat blood pressure and overall blood ailments.
- Ancient Egyptians first used garlic for its antibacterial properties.
- In the 18th century, the British first used garlic for gastric infections.
1944

Adolphus Hohensee encouraged others to consume garlic in order to:

- maintain a healthy blood pressure
- kill and prevent germs
- cleanse the blood and intestines
2003

Two groups of rats are examined

- control group
- experimental group given 50 mg of garlic a day for four weeks

Results

- Blood pressure is significantly lower in garlic consuming rats
- Results not reliable because the initial blood pressures were significantly different
Background

Systolic versus Diastolic Blood Pressure

- **High**
  - Systolic 140 or above OR Diastolic 90 or above

- **Pre-High**
  - Systolic between 121-139 OR Diastolic between 81-89

- **Normal**
  - Systolic 120 or less AND Diastolic 80 or less
Background

Common causes of:

**Hypertension (High)**
- Smoking
- Being overweight
- Salty diet
- Stress
- Genetics

**Hypotension (Low)**
- Dehydration
- Trauma
- Medication
- Severe Infection
Background

• Garlic is a natural ACE inhibitor.
• Garlic lowers blood pressure by thinning the blood, by blocking angiotensin II, and by acting on the adrenal system.
• Garlic is a natural blood thinner and anticoagulant.
• Garlics contain glutamylcysteine and adenosine.
Hypothesis

If a form of garlic is taken over a period of time when a person has elevated systolic blood pressure, then it will lower the subject’s blood pressure.
Experiment

Study 1 - Effects of Garlic on Blood Pressure (BP) in Patients With or Without Systolic Hypertension: A Meta Analysis

- Elevated Systolic BP-top number, peak pressure
- Diastolic BP-bottom number, minimum pressure
- 10 trials total (3 had subjects with systolic BP)
- Patients were given either garlic in a pill form, or a placebo

RESULTS: Garlic lowered systolic and diastolic BP by 95%, yet it did nothing if the patients did not first have elevated systolic BP.
Experiment (continued)

Study 2 - Effects of Wild Vs. Cultivated Garlic on Blood Pressure (BP) and Other Parameters in Hypertensive Rats

- 2 studies
- First study: Wild garlic lowers blood pressure
- Second study: both wild garlic and cultivated garlic samples were used with different dosages; each method lowered systolic BP (SBP) in the rats
- Ex: more allicin (a pungent, oily liquid with antibacterial properties) was added to some samples, while less was given to others

RESULTS: Wild garlic was the most successful at lowering SBP. The samples with the lowest concentrations of allicin were not as effective.
Our Experimental Setup

- Baseline blood Pressure for two days
- Intervention
- Broken into three groups
  - Garlic Capsule
  - Garlic Bread
  - 1 crushed clove of garlic

Intervention Period: 8 days
Our Experimental Setup (continued)

- No control group!
- Controlled variables:
  - Garlic taken in morning
  - Blood pressure taken at same time every day
  - Eating same diet
  - Same amount of physical activity
  - No one is on any hypertension managing drugs
Data Analysis

- **Average Blood Pressure (Baseline) - Systolic**
- **Average Blood Pressure (After Consuming Garlic) - Systolic**
Data Analysis

- Average Blood Pressure (Baseline) - Diastolic
- Average Blood Pressure (After Consuming Garlic) - Diastolic
Data Analysis

- Systolic - 6/9 Interns had a decrease in systolic blood pressure, while 3/9 Interns had an increase in systolic blood pressure.
- Diastolic - 6/9 Interns had a decrease in diastolic blood pressure (1 stayed the same), while 3/9 Interns had an increase in diastolic blood pressure.
- In our experiment, $\frac{2}{3}$ of the tested group experienced a decrease in systolic blood pressure, and $\frac{2}{3}$ experienced a decrease in diastolic blood pressure.
Conclusion

In conclusion, garlic is capable of lowering blood pressure. It thins out the blood which causes the blood pressure to decrease. Garlic only shows a significant decrease if someone already has high blood pressure as a base line.

Both wild garlic and cultivated garlic are capable of lowering systolic blood pressure but wild garlic has been proven to give a better result. This then supports our hypothesis and supports that this is fact and not fiction.
References

- **Visual**

- **Web sites**