

Contaminants in Coffee Could be Impacting Your Risk for Cardiovascular Disease

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INTRODUCTION

Coffee is an easily accessible stimulant that not many people think of as addictive, however, according to a study done by the Harvard School of Public Health, 54% of Americans over the age of 18 drink ~3.1 cups a day. Coffee/caffeine consumption has been linked to many diseases in epidemiologic studies. However, when looking at it from the atomic level, a contaminant called chlorogenic acid can be found. Recent studies show that this acid interacts with plasma homocysteine levels within the body. Homocysteine is an amino acid and breakdown product of protein metabolism that, when found in high concentrations, is correlated to an increased risk in cardiovascular disease (CVD). When the two come in contact, it has been shown that chlorogenic acid raises homocysteine levels in plasma.

METHOD

Data Collection

This study is a cross-sectional, mixed methods design of adult men and women (N=107) greater than 18 years of age consented; no exclusion criteria. There were two parts to this study.

Part One

- Electronic demographic assessment
- Completion of five validated questionnaires
- 3-day dietary food and beverage record* with self-reported affect assessment.

Part Two

- Completion of Part One
- 90-minute in-person clinical interview**
- 24-hour dietary recall*

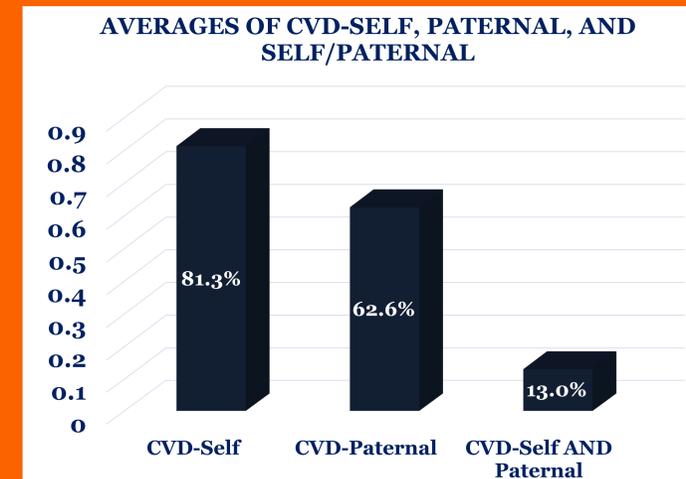
Dietary patterns and nutritional components were assessed using Nutrition Data System for Research (NDSR); University of Minnesota (2014 edition)

*Average caffeine intake was taken from these records

**Family history of CVD was taken during this time

RESULTS

AVERAGE CAFFEINE INTAKE TOTAL (n=107) (mg/day)	122.40 mg/day
AVERAGE CAFFEINE INTAKE CVD-SELF (n=20) (mg/day)	116.12 mg/day
AVERAGE CAFFEINE INTAKE CVD-PATERNAL (n=62) (mg/day)	124.32 mg/day



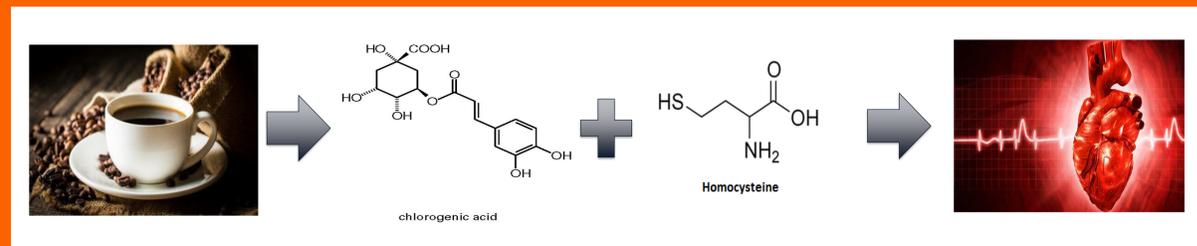
FUTURE RESEARCH

-Examining the interaction between chlorogenic acid and homocysteine at a molecular level and if it does increase risk for CVD.

Research Question

Do individuals who consume large amounts of coffee develop cardiovascular disease due to high amounts of chlorogenic acid interacting with homocysteine levels?

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CONCLUSION

A p-value of 0.056 indicated that there was no relationship between the amount of coffee consumption and cardiovascular diseases with the individual. A p-value of 0.095 was found when taking a look at paternal histories of CVD and caffeine consumption indicating there is a slight correlation. **In conclusion, there is no statistically significant correlation found between coffee consumption and CVD. However, this is a slight correlation between coffee consumption and CVD when taking a look at paternal history.**

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