Coffee Consumption and Metabolic syndrome

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OBJECTIVE

Metabolism Syndrome is a large factor for diabetes mellitus type 2(DM 2) and Cardiovascular disease (CVD). It is known that the risk of DM 2 can be decreased by coffee consumption.Therefore, to determine if there is a relationship between coffee consumption and metabolic syndrome, this study examined the association between these two.

BUSINESS ISSUE

Most of these related studies focused on short term effects of coffee consumption.Therefore, in the present study, the associations between long term coffee consumption and the components of the metabolic syndrome were investigated.

METHOD

Two Stages LINEAR REGRESSION

Stage1 Analyse the effect of coffee consump -tion on the five components of the metabolic syndrome by gender. (linear regression)

Stage2 Explore the effect of coffee consumption and other risk factors on HDL in women. (multiple regression)

Description

1.In Men, coffee consumption was categorized in (≤2, >2 and ≤4, >4 and ≤6, >6 cups/day) . In Women, it was (≤2, >2 and ≤4, >4 cups/day) because group size on highest category was small.

2.To evaluate main effect, a 5% significance level was assumed.

LIMITATIONS

1.The result of data statistics is lower than other research, since its study population was relatively healthy.
- the prevalence of metabolic syndrome was only 3.5% (8% for men and 0% for women), compared to (15–22% for men and 9–15% for women) in the Netherlands.
- The average coffee consumption in the population was 4.5 cups/day for men and 3.1 cups/day for women, compared to (6 or 7 cups/day) in the existing literature.

2.Although it used energy intake (kcal/day) to represent coffee additives which are milk, cream and sugar, it's not possible to specialize the amount of additives by energy intake.

CONCLUSIONS

-Coffee consumption was inversely associated with HDL level in women.
-Furthermore, an almost significant inverse association was found between average coffee consumption and Mean Arterial Pressure(MAP).

DATA&PROCESS

DATA

-Metabolic Syndrome:
Data from a study from 1976 with 450 boys and girls over 15 years.
-Coffee Consumption:
A questionnaire at the ages of 27, 29, 32,36 and 42 years.

Varibles

-Five components
1.a systolic blood pressure
2.a high-density lipoprotein cholesterol level
3.a triglyceride level
4.a fasting plasma glucose levels
5.a waist circumference
-Coffee consumption
-Covariates

Data Initial Analysis

Coffee consumption &the prevalence of metabolic syndrome
-Men:4.5 cups/day
-Women:3.1 cups/day
-Prevalence:at the age of 42 years in the entire population was 3.5% (around 8% for men and 0% for women).

Results of Regression Analysis

-Men: no significant effect for any variables.
-Women: analyses show coffee consumption has a significant effect on HDL with the 5% significance level (P=0.06), and coffee consumption remains (significantly) related to HDL after Introduce 5 covariates.

https://www.ncbi.nlm.nih.gov/pubmed/19274481